

The End of Acquired Immunodeficiency Syndrome (AIDS) in Singapore – Are We There Yet?

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World AIDS (acquired immunodeficiency syndrome) Day was first commemorated in 1988. It has since taken place on 1 December annually, and is a reminder of the ongoing challenges faced by persons living with human immunodeficiency virus (HIV) and their care providers. Over the years, the landscape of HIV worldwide has changed dramatically with the availability of effective antiretroviral therapy (ART) and widespread use of evidence-based preventative measures. Today, the diagnosis of HIV is no longer the death sentence that it was once thought to be, as persons living with HIV on effective ART who are virologically suppressed have a life expectancy comparable to those without the virus.¹

In 2014, the United Nations proposed an ambitious 90-90-90 treatment target—that by the year 2020, 90% of all people living with HIV will know their HIV status, 90% of all people with diagnosed HIV infection will receive sustained ART, and 90% of all people receiving ART will have complete viral suppression.² This has galvanised considerable political will and roused communities into action in the quest to end AIDS. At the most recent 9th International AIDS Society Conference on HIV Science, Joint United Nations Programme on HIV and AIDS (UNAIDS) Executive Director Michel Sidibé reported strong progress globally with more than half of all persons living with HIV on treatment.³ The state of HIV epidemic in Singapore is not so clear despite outstanding HIV care in our public and private healthcare institutions and the widespread availability of almost the entire range of state-of-the-art testing and treatment options.

The first case of HIV reported in Singapore was in 1985. Since then, the number of reported HIV diagnoses initially rapidly increased, only plateauing over the recent decade.⁴ The Ministry of Health (MOH) reported that in 2016, there were 408 new cases reported—a reduction in number compared to previous years.⁵ Despite this reassuring statistic, what remains troubling is that 40% of these patients had late-stage HIV infection, and the majority of these infections were diagnosed in heterosexual men in the course of medical provision—in other words when they were already ill with

opportunistic infections.⁵ The same report noted that only 5% of heterosexual men with HIV were detected through voluntary HIV screening programmes. Typically, patients infected with HIV take up to 8 to 10 years to present with symptoms of opportunistic infections. Recently, it was found that older age, lower socioeconomic income status and having sex workers and social escorts as sexual partners were epidemiological risk factors for late-stage HIV diagnosis in Singapore.⁶ This group is hard to reach with voluntary screening programmes. Thus, the reported figures for HIV infections in heterosexuals in Singapore may actually represent only the tip of the iceberg of the current HIV epidemic in heterosexuals.

This possibility is supported by data on the rate of undiagnosed HIV in Singapore from seroprevalence studies. Locally, 2 sentinel populations have been monitored through unlinked anonymous testing. Discarded blood from patients with sexually transmitted infections (STIs) attending the Department of STI Control clinic and from inpatients at a tertiary restructured hospital (not known to be infected) were tested anonymously for HIV. Comparing data from 2014 and 2015, the HIV seroprevalence among STI attendees had risen from 1.2% to 1.5%,⁴—both figures are considerably higher than the 1.0% figure reported at the beginning of the millennium. The corresponding figures for adult inpatients were 0.9% in 2014 and 0.5% in 2015, again both higher than the 0.2% in 2000. These figures are a reminder of the importance of increasing testing to better understand the state of the epidemic here and improve care for our patients.

The benefit of early initiation of ART, regardless of immune status (i.e. CD4 count) is now universally accepted and part of all World Health Organization (WHO) recommendations to improve patient outcomes. The effectiveness of ART in preventing transmission of the virus, where “undetectable equals untransmittable”,⁷ also highlights the critical importance of early diagnosis and ART initiation if we are to end the HIV epidemic. We can only achieve this through increased awareness of individuals at risk, improving access to testing, and public education on the natural history of disease. We have to remind the

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public that persons may be asymptomatic in early stages of the illness, and also that if they are treated when they are still asymptomatic, they may actually never become symptomatic and live normal lives.

The stigma and discrimination faced by persons living with HIV are often cited as reasons for fear of coming forward for testing. Anonymous testing has mitigated some of this stigma, and is currently available at several healthcare providers regulated by the MOH locally. Action for AIDS, a pioneer in the field of anonymous testing in Singapore, even has mobile vans which bring testing to the community on a regular basis. Despite greater access to testing, at the moment no ART are included in any of the MOH standard drugs lists. This means that patients with HIV who are financially needy are required to undergo means testing for medication assistance fund subsidies and Medifund assistance. This is unique for any class of drugs on the WHO's standard drug lists. This is in contrast to other countries such as Denmark and Taiwan with universal healthcare models, in which citizens are given free access to ART, that has contributed to the control of the HIV epidemic.^{8,9} It will take greater advocacy for policies to change in order to be able to treat more and test more.

Understanding socio-behavioural factors driving the epidemic locally is also going to be critical. In recent years, young men who have sex with men (MSM) have come into the spotlight as key drivers of the HIV epidemic worldwide. In Asia and the Pacific region, HIV prevalence among MSM in 2015 was higher than 5% in 9 of the 19 countries that reported data.¹⁰ The ease of travel between countries in the region given our geographic interconnectivity and socioeconomic intimacy provides fertile ground for the HIV infection to cross borders. In 2014, a molecular epidemiological study that investigated the outbreak of a novel strain of HIV among MSM in Malaysia was traced back to a heterosexual Malaysian living in Singapore.¹¹ This underscores the fact that greater collaborative effort with our regional counterparts is crucial if we want to make the end of AIDS a reality in Singapore.

How have we done well? The local climate of fear towards HIV has improved somewhat. Healthcare workers (HCWs) infected with blood-borne viruses, including HIV, were once restricted from all patient contact for fear of risk of transmission. Under the latest MOH regulations, these HCWs may now be offered employment or specialty training positions, as long as they do not perform exposure-prone procedures that could result in patient exposure to the HCW's blood or body fluids.¹² The quiet lifting of the travel ban on foreigners with HIV entering Singapore on short-term visit passes is a small but significant move towards removing the discrimination that persons with HIV face.¹³ There is still some way to go in creating a more inclusive society that

will remove any apprehension that persons with HIV may have in seeking treatment. In a world without AIDS, there will be widespread acknowledgement that persons living with HIV are indeed our fellow residents with the same dreams, aspirations and rights as the rest of the population.

The struggle towards the end of the HIV epidemic in Singapore is clearly not won and despite the considerable successes that have been notched up by both public health and infectious diseases practitioners over the years, there is still much work to be done. Hopefully there will be a time in the not too distant future, when we may speak with our children about how we used to commemorate the 1st of December, as AIDS would have become a disease of the past.

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