

An Initiative Of



COMMUNITY BLUEPRINT

**Ending HIV Transmission and AIDS
in Singapore by 2030**

ABBREVIATIONS

AIDS	-	Acquired Immune Deficiency Syndrome
ART	-	Antiretroviral Treatment
ATS	-	Anonymous Test Site
GBQ	-	Gay, Bisexual and Queer/Questioning
GPs	-	General Practitioners
HAART	-	Highly Active Antiretroviral Treatment
HIV	-	Human Immunodeficiency Virus
HIVST	-	Human Immunodeficiency Virus Self Testing
HSM	-	Heterosexual Male
IVDU	-	Intravenous Drug User
LGBTQ	-	Lesbian, Gay, Bisexual, Transgender & Queer Questioning
MSM	-	Men who have Sex with Men
NACP	-	National AIDS Control Programme
PEP	-	Post Exposure Prophylaxis
PLHIV	-	Persons Living with HIV
PLWHA	-	Persons Living with HIV/AIDS
PrEP	-	Pre-Exposure Prophylaxis
PUDs	-	Person Who Use Drugs
SNEF	-	Singapore National Employer Federation
STI	-	Sexually Transmitted Infections
UNAIDS	-	The Joint United Nations Programme on HIV and AIDS

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EXECUTIVE SUMMARY

HIV/AIDS has been one of the most devastating and challenging public health issues in modern times. The first cases of HIV infection in Singapore were reported in 1985. As in many other countries at that time, Singapore had no ready response to this new fatal disease that was affecting increasing numbers of persons, and which had no obvious cause or treatment. With a paucity of information, the public response was one of fear and ignorance leading to shunning and stigmatizing individuals and groups infected and affected by HIV. As a response, the government set up the Advisory Committee on AIDS that formulated the National AIDS Control Programme (NACP) which was a multi-pronged approach to control AIDS. However, with little experience and knowledge of sexuality, sexual behaviours and attitudes, the programme was unable to reach vulnerable communities and individuals effectively and quickly with information and services that were needed and the number of HIV-positive cases in Singapore continued to rise. Key populations such as men-who-have-sex-with-men (MSM), sex workers, and clients of sex workers were infected disproportionately. This lacuna prompted a small group of concerned citizens to set up Action for AIDS (AfA) in 1988 to tackle HIV and AIDS in Singapore. AfA quickly rolled out several initiatives including educational outreach for groups at greatest risk of contracting HIV, anonymous HIV testing, linkage to care, financial subsidies for persons living with HIV (PLHIV) and advocacy for persons infected and affected by HIV among others.

The AIDS movement globally and in Singapore is one of activism and community mobilization, with close collaboration between scientists, physicians, advocates, PLHIVs and affected communities that catalysed investments and advances in HIV prevention and management. Today HIV infection can be managed as a chronic condition. Over the past 10 years, more people infected with HIV have started to receive antiretroviral treatment. The rates of new HIV infections have slowed and the number of people dying of AIDS related causes each year has decreased.

Though these achievements must be lauded, nevertheless new infections continue to occur globally. In Singapore, in 2017, 434 persons were diagnosed with HIV. 96% of infections were contracted through sexual intercourse, 93% were males, 50% were homosexuals, 10% bisexuals and 36% heterosexuals. More heterosexuals are diagnosed in late stages compared to homosexuals/bisexuals and more homosexuals/ bisexuals (33%) had their HIV infection detected via voluntary testing compared to heterosexuals (8%)^[1].

Given the advances that have been made in HIV prevention and treatment we have never been in a better situation than now to stop new infections and every effort should be made to do so. Towards this end, in 2014, the Joint United Nations Programme on HIV/AIDS (UNAIDS) announced its ambitious treatment target to end AIDS as a major public health epidemic by

2030^[2]. To achieve this, countries were asked to work towards the goal of “90-90-90” by the year 2020. This means that 90% of people living with HIV should know their HIV status; 90% of those who know their HIV-positive status should be on treatment; and 90% of people on treatment should have suppressed viral loads. When these 3 targets are achieved globally; it is estimated that at least 73% of all people living with HIV globally will be virally suppressed. Modelling exercises predict that achieving these targets by 2020 will enable the world to end AIDS as a major global health issue by 2030.

HIV experts are unanimous in their view that though HIV treatment is a critical tool towards ending the AIDS epidemic, it alone will not be enough to prevent new infections. While taking action to maximize the prevention effects of HIV treatment, urgent efforts are similarly needed to scale up other core prevention strategies especially at a time when the impact of efforts to prevent HIV have plateaued and condom use for anal intercourse among MSM remain at around 50 to 60% despite best efforts. This is due to many reasons for example safer sex and condom fatigue, AIDS fatigue and most importantly the changing sexual landscape in the era of the Internet and mobile apps. In the midst of these realities, globally, several cities have adopted plans to reduce/eliminate HIV by scaling-up both HIV prevention and treatment initiatives simultaneously.

The Fast Track Cities Initiative ^{[3][4]} was launched in Paris on World AIDS Day in 2014. Today, more than 70 cities around the world have signed the Paris Declaration on Fast-Track Cities Ending AIDS, engaging political leadership, affected communities, civil society, city health officials, clinical and service providers, and other stakeholders to accelerate their local AIDS responses. Cities with clear commitment towards fighting HIV include Amsterdam, Paris and San Francisco. They have taken a leadership role to share their experiences and strategies to end HIV

transmission. Many cities are now recording significant reductions not only in the number of cases of AIDS, but also in the number of new HIV infections.

Cities that have joined this movement have put in place effective partnerships between government, community, and local health departments. Their programmes have clear objectives and measurable targets to ensure HIV services and resources are optimally utilized and directed towards those most in need, have the greatest impact, are the most cost-effective, and have the goal of not only preventing HIV-infected persons from developing AIDS, but also stopping HIV transmission altogether.

Singapore with its small and highly literate population, world class healthcare system and relatively well funded HIV programme is in a good position to join the ranks of cities that can end the HIV epidemic by 2030.

It is to this end that a group of interested persons began initial discussions on drafting a Community Blueprint to End HIV transmission in Singapore. Drawing inspiration from a similar blueprint produced by the Australian Federation of AIDS Organisations (AFAO); AfA had discussions with AFAO on the process and research that went into the development of their blueprint including the cost calculations and modelling for resource needs and number of infections averted as a result. Subsequently, in April 2018, AfA with Ministry of Health's facilitation, convened key stakeholders to have a discussion on developing a blueprint for Singapore to end HIV. The meeting attendees included representatives from AfA, the Saw Swee Hock School of Public Health, and

healthcare workers from all the major hospitals providing HIV services in Singapore. At the meeting there was widespread support for the development of the blueprint.

The next step in the development of the blueprint was to bring key community groups together to get their buy-in to lead and develop specific sections of the blueprint. This was achieved in June 2018 at a meeting attended by over 60 individuals representing 30 Organisations. The meeting was significant as it led to an agreement on the development of the community sections of the blueprint to end HIV in Singapore. It was agreed that the blueprint would have ten thematic areas reflecting the realities of Singapore and each area would be led by a lead focal Organisation supported by a team representative of individual interests and Organisations. Individuals volunteered themselves to lead and co-lead the writing of specific thematic areas aligned to their Organisational priorities.

Following months of deliberations and drafting of the sections, the thematic leads came together at the 11th Singapore AIDS Conference in December 2018 and presented their respective sections of the blueprint. The blueprint thereafter went through several iterations and edits and has now been woven into its current form.

The community blueprint focuses on the following themes:

- ❖ Populations affected by HIV:
 - ❖ Key populations in Singapore, namely Heterosexual men with multiple partners and Men who have sex with Men (MSM);
 - ❖ Hidden populations comprising of Unregulated sex workers, Transgender Persons, and Persons who use drugs (PUDs)
- ❖ Late Presenters

- ❖ Tackling HIV Related Stigma and Discrimination
- ❖ The Community Workforce: General Practitioners and Community Groups Providing HIV Services to Affected Populations
- ❖ Normalizing and Scaling up the use of PrEP (HIV Pre-exposure prophylaxis)
- ❖ Monitoring & Evaluation of HIV Prevention Programmes

The blueprint examines the current state of the epidemic in detail and the populations most affected by it including MSM, high risk heterosexual males, sex workers, transgender and persons who use drugs. It reviews the estimated size of each of the population segments at risk of HIV infection and the reach of current services. It further assesses existing programmes, estimates the gaps including other strategies and programmes required to broaden reach and the additional resources that will be needed to close the gap. Additionally, it examines the group of late presenters to understand more deeply why they presented late and recommend ways to increase reach and effectiveness of educational and testing programmes.

Stigma is a key barrier to both HIV prevention and treatment with PLHIVs having to deal with stigma and the ensuing discrimination at multiple levels (relationships, education and employment among others). The section on tackling stigma and discrimination in the blueprint underlines many of the issues, including structural factors that perpetuate stigma and strategies that are needed to educate, raise awareness and create a protective environment for PLHIVs in addition to building their resilience. It also discusses stigma reduction strategies across all levels including updating laws and policies that are more reflective of scientific advances.

The blueprint also examines ways to scale up the use of PrEP for those at highest risk of HIV infection. Cities like Seattle, San Francisco, London and Sydney that have all introduced PrEP programmes have registered significant declines in HIV notifications, and Singapore can achieve the same. For this we need to strengthen the workforce needed, both clinical and community-based and address issues of accessibility.

The community blueprint finally ends with a chapter on Monitoring and Evaluating HIV programmes and the requirements for a robust national M&E framework to measure programme outcomes and impact. There are two other key pieces which are currently being worked on and will subsequently be integrated into the blueprint. One is to estimate by mathematical modelling the number of HIV infections that could be averted if we can improve prevention programmes by increasing condom use and scaling up PrEP. The other is to calculate the savings for each of these infections averted, based on present-day costs of treatment and care, on a per annum and lifetime basis.

The community blueprint is a roadmap on what communities delivering HIV programmes and services feel needs to be done to end HIV in Singapore. It is envisioned to be a living document to be updated and refreshed as new information and strategies become available.

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INTRODUCTION

Singapore has come a long way since the first case of HIV was reported in 1985. The number of reported cases of HIV among Singapore residents rose from two in 1985 to 456 in 2008. Since 2008 the number of newly reported HIV cases in Singapore has stabilised at about 450 per year. The number of people living with HIV (PLHIV) in Singapore as of 2017 is 6022, and 1960 died from the disease between 1985 and 2017^[1]. The notification rate of HIV among Singapore residents reached its peak in 2007, with a gradual decline thereafter. However, 434 cases were notified in 2017^[2], an increase from 408 cases the previous year. About two thirds (60%) were attributed to homosexual/bisexual transmission, and only one third (33.0%) of these cases were diagnosed through voluntary HIV testing^[3].

The National AIDS Control Programme which began in 1985 along with non-governmental organisations such as Action for AIDS (AfA) which was formed in 1988, have been successful in moderating the spread of the epidemic through education, counselling and improving access to testing and treatment services. The time is now ripe to embark on the next stage which is to eliminate new HIV infections in Singapore. This is in tandem with UNAIDS goal of eradicating the AIDS epidemic by 2030. As a crucial step towards achieving this goal, UNAIDS launched the 90-90-90 target in 2014 which aims to diagnose 90% of all HIV positive people, provide anti-retroviral therapy to 90% of those diagnosed, and achieve viral suppression for 90% of those treated by 2020.

As has been demonstrated in many countries which are on target towards achieving the 90-90-90 goals such as Australia, Netherlands, Denmark and Botswana; the community plays a vital role in reducing HIV transmission rates. By community we include all those who have a stake in the HIV response including PLHIV, HIV community Organisations, clinicians, researchers, social service workers and advocates. The community is critical in ensuring the effectiveness and sustainability of the response to the HIV epidemic; they fulfil a range of functions including identifying at-risk individuals, linking them to prevention education and testing facilities, facilitating social support groups and ensuring that PLHIV have access to and stay on their treatment. In addition, they mitigate the stigma and discrimination associated with HIV through public outreach and education initiatives.

This community blueprint identifies and analyses (i) *key HIV-related issues faced by target population groups*, (ii) *proposes mitigating measures and solutions needed to address the issues identified* and (iii) *resources needed to achieve the desired outcomes*. The target populations include:

- ❖ Key Populations: High risk heterosexual men with multiple partners and Men who have sex with men
- ❖ Hidden Populations: Unregulated Sex Workers, Persons who use Drugs and Transgender Persons
- ❖ Late Presenters

In addition, issues and challenges related to (i) *combating stigma and discrimination associated with HIV and AIDS*, (ii) *prevention technologies such as PrEP* (iii) *the community workforce including General Practitioners and community groups providing services to affected populations* and (iv) *monitoring and evaluation efforts that are needed to analyse the effectiveness of HIV prevention programmes* are also analysed with some recommendations.

Key populations at risk of acquiring and transmitting HIV and STIs in Singapore

Based on surveillance data, research studies and discussion among local HIV experts, key populations at higher risk for acquiring and transmitting HIV and STIs include men who have sex with men (n = 210,000) ^[4], heterosexual men engaging in casual (n = 288,155) ^[5] and paid sex (n = 72,000) ^[4] and indirect sex workers such as female entertainment workers (n = 4,200) ^[4]. The population size for each group was estimated using the network scale up approach ^[4]. These are the priority groups for intervention.

Men who have sex with men (MSM)

The number of HIV cases diagnosed among MSM has increased from 247 in 2013 to 262 in 2017. Their HIV prevalence was estimated to be 67-fold higher than that in the general population (8% vs 0.12%) ^[6]. Risk behaviours include having multiple partners and low condom use which was found to be associated with low perceived risk, chem sex, condom messaging fatigue and psychosocial issues with gay identity. These risk behaviours are also influenced by structural factors such as difficulty in accessing sexual health education, social and health services because of criminalization of MSM in Singapore.

Heterosexual men engaging in casual or paid sex

The percentage of heterosexual Singapore residents engaging in commercial and/or casual sexual exposures has increased, with the predominant increase in casual sex (2.1%

in 1989 vs 22.5% in 2007) ^[5]. Further, condom use is much lower for casual sex than for commercial sex (15.7% vs. 68.2%) ^[7]. This is of concern because female casual partners are cited much more frequently than female sex workers as primary contacts of STIs in Singapore. Other factors that are reported for no condom use included reduced pleasure, non-availability of condoms, alcohol influence at the time of sex and low perceived risk with casual partners. In addition, HIV testing rate among them was low. Only one third had undergone voluntary HIV testing in the past year which is much lower than the 66% rate reported among MSM. Moreover, about half (45%) of HIV cases were detected in the late-stage HIV infection ^[1]. The top reasons for not going for HIV testing were self-reported low perceived risk and stigma.

Hidden Populations

Indirect sex workers

Sex work can be classified as direct or indirect. Direct sex workers are typically those who define themselves as sex workers and are regulated in Singapore. Indirect sex workers are those who do not openly identify themselves as sex workers and are not regulated. The latter come under hidden populations due to the difficulty to reach them with HIV information and services.

A study found that sex work has shifted from brothels to entertainment establishments with more than three quarters of the latter providing sexual services. About half of the female entertainment workers sold sex and one quarter engaged in casual sex. Condom use was found to be very low with casual sex (23%) as compared with paid sex (52%) ^[8]. Only one quarter had ever undergone screening for STIs. These risk factors could be attributed to the lack of education, screening and treatment services targeting them because of criminalization of sex work in entertainment establishments.

Persons who use Drugs (PUDs)

There is lack of research in Singapore to estimate the number of persons who use drugs due to stringent laws around drug use. While the incidence of HIV infection declined globally by 22% between 2011 and 2017, HIV infections among people who inject drugs appear to be rising^[9]. Although the incidence of HIV transmission among injecting drug users remain low in Singapore; sexualized substance use or chem sex is a major issue especially among gay, bisexual and other MSM which increases their risk of HIV and STIs. Substance use is also associated with poor adherence to treatment regimens increasing the risk of HIV transmission.

Transgender Persons

Transgender is an umbrella term used to describe people whose gender identity differs from the sex they were assigned at birth. Transgender persons face social and legal exclusion, economic vulnerability, and are at an increased risk of experiencing violence. HIV-related stigma along with transphobia create barriers to the access of HIV services by transgender people. Though at increased risk of HIV infection, prevalence of HIV among the transgender population remains low in Singapore.

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KEY POPULATION:

HIGH RISK HETEROSEXUAL MEN



Objective

To broaden the reach and strengthen the effectiveness of HIV prevention, testing and treatment education among heterosexual men who engage in casual and/or paid sex.



Current Issues and Challenges

1. Inadequate reach

❖ The estimated number of high-risk heterosexual men in Singapore is 360,155. This comprises heterosexual men who engage in casual sex (n = 288,155)^[1] and paid sex (n = 72,000)^[2]. Of these, only approximately 25% have received HIV prevention information and services provided by AfA^[3].

2. Inconsistent condom use

- ❖ Approximately 48% of HIV cases in heterosexual males were acquired through sexual contact with sex workers^[4].
- ❖ Inconsistent condom use continues to be a common occurrence among heterosexual males engaging in both casual and paid sex.
 - ❖ Mature clients of sex workers, particularly those who experience erectile dysfunction, commonly avoid using condoms as it is perceived to interfere with sexual function and are often willing to pay more for unprotected sex^[5].

❖ Inconsistent condom use has also been recorded among sexually active adolescent heterosexual males aged between 10 and 19 years who engage with sex workers^[6].

❖ Inconsistent condom use has also been recorded among heterosexual male patrons of entertainment establishments such as karaoke lounges, bars, pubs, nightclubs, discotheques and massage parlours. Male clients who patronise entertainment establishments are typically younger, more likely to be single, and more educated and affluent than men who patronise brothels. However, rates of condom use are consistently lower for patrons of entertainment establishments^[7].

3. Low uptake of voluntary testing

- ❖ In 2017, only 8% of heterosexuals newly diagnosed with HIV, were through voluntary testing compared to 64% who were diagnosed through medical care. Lack of knowledge on HIV transmission and treatment availability along with the stigma associated with HIV are major barriers to testing. Associated with this, MOH data from 2017 also indicates that there has been an increase in the number of late-stage HIV infections among heterosexual men in Singapore rising from 43.2% in 2012 to 65.6% in 2017^[4].
- ❖ The data also indicated that the percentage of late stage HIV infection was higher among those with the following characteristics: education levels of 'O' Level

and below, blue collar workers, unemployed, those without prior HIV test, those with sex worker social escorts as sexual partners ^[4].

- ❖ This is attested by AfA's own survey results where many at risk clients of sex workers are older, and justify their lack of testing by their age, i.e. it is alright to have HIV since they are already old, and hence there is no need for testing.

4. HIV and Travellers

- ❖ Travel is a recognised risk factor in the spread of HIV and sexually transmitted infections ("STIs"). Away from the routine and any restrictions associated with a home environment, travellers (whether or not the objective of the travel was for sex only, business or otherwise) may be more easily enticed to engage in high risk sexual activity which they might not have engaged in were they to be in their home environment.
- ❖ In 2017, of the 155 new HIV cases among heterosexual males, approximately 50% reported to have had engaged in high risk behaviours both in Singapore and overseas ^[4].



Proposed Activities

1. Expansion of educational and awareness raising initiatives

- ❖ To broaden the reach of educational and awareness initiatives targeted at high-risk heterosexual males from the current 25% HIV awareness and testing rate to at least 60% over the next three years by adopting the following measures:
 - ❖ Continue existing HIV prevention programmes to raise general awareness about the modes of HIV transmission, the availability of PrEP and the purpose of early diagnosis and treatment and consider leveraging on popular digital platforms such as Facebook, YouTube and WhatsApp for broader reach.

- ❖ Target outreach initiatives at entertainment establishments, coffee shops at Singapore's red-light districts, Getai events during the seventh month and travel departure points such as ferry terminals and coach stations.

- ❖ Expand condom messaging to consider issues of erectile dysfunction among older clients of sex workers.

- ❖ Create appropriate educational programmes for out-of-school and at-risk adolescents and young people.

- ❖ Launch a campaign focusing on blue collar workers to raise awareness about HIV transmission, prevention and testing.

- ❖ Partner with other sexual healthcare service providers in the region to develop a network that can be accessed by clients and HIV patients who travel overseas. This would facilitate referrals, clinical support (access to PEP and PrEP, for example) and potential public health interventions at a regional level where required.

2. Increase uptake of HIV voluntary testing and counselling

- ❖ To end HIV, voluntary testing rates among heterosexual men must be increased and strategies to promote testing will need commitment and support. The proposed activities to achieve this include:
 - ❖ Increase accessibility to HIV testing services through more anonymous on-site testing programmes.
 - ❖ Use communication channels such as targeted radio-shows, TV commercials and on-line platforms to promote anonymous HIV testing and communicate the importance and benefits of early diagnosis and treatment.
 - ❖ Where possible, provide complimentary or subsidised HIV testing.

- ❖ Undertake efforts to destigmatise HIV and promote testing through national campaigns that highlight biomedical advances in HIV treatment (see section titled “Tackling HIV-Related Stigma and Discrimination”).
- ❖ Promote voluntary HIV counselling and testing at workplaces and higher educational institutions to normalise HIV testing.



Impact

The proposed activities described above will help to target high-risk heterosexual men and lower new HIV infection rates among them. In turn, this is likely to reduce the burden on the healthcare system and healthcare costs, and indirectly contribute to better healthcare available to PLHIV.

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KEY POPULATION:

MEN WHO HAVE SEX WITH MEN



Objective

To broaden the reach and strengthen the effectiveness of HIV prevention, testing and treatment education among Men who have Sex with Men (MSM).



Current Issues and Challenges

1. A disproportionate number of MSM are infected by HIV in Singapore

- ❖ According to data from the Ministry of Health, Gay, Bisexual and Queer Men made up 60% of new infections in 2017^[1].
- ❖ Current intervention efforts are reaching only 30% of the estimated 210,000 MSMs in Singapore^{[2][3]}. This is based on HIV programmes and services delivered by AfA and accessed by MSM on a yearly basis^[2].
- ❖ MSM under the age of 30 made up more than 30% of new HIV infections over the last 3 years^[4].
- ❖ In 2017, of all MSM diagnosed with HIV, 33% were diagnosed through voluntary HIV testing^[4].

2. Consistent condom use remains low among MSM

- ❖ Data from the DSC Clinic shows that of the 1929 MSM patients, 30% reported having condom-less anal sex and 33% had

bacterial STIs^[5]. This points to the need to redouble efforts to promote condom use and to diversify prevention strategies, especially for those engaging in high risk behaviours.

3. The demand for PrEP and PEP among the local MSM population is substantially underserved by current resources available in the country^[6]

- ❖ The uptake of PrEP at official institutions (DSC, TTSH and NUH) has been very low due to the high cost of medication and poor awareness of available services locally^[7].
- ❖ According to research, MSMs are accessing PrEP overseas or online, often at a lower cost and without proper screening procedure or guidance^[8].
- ❖ Out of the 121 PrEP users who accessed AfA's anonymous test site in 2018, 59 (49%) reported engaging in unprotected anal sex during the last 6 months^[2].
- ❖ Low awareness of PEP among at-risk MSM also continues to be a contributing factor to HIV infection rates^[9].

4. HIV and MSM Travellers

- ❖ In 2017, according to MOH, 60% of MSM diagnosed with HIV were likely to have acquired the infection locally. Where travel risk is cited as source of infection, risk activities are often in South East Asian countries^[4].

5. HIV-related stigma and discrimination among the MSM population

- ❖ MSM who have experienced stigma and discrimination due to societal prejudice, internalised homophobia and rejection often do not access available healthcare services ^[10].
- ❖ The criminalisation of sex between men in Singapore also perpetuates stigma and discrimination against MSM, and acts as a deterrent to MSM accessing HIV healthcare services. This is further compounded by a lack of safe spaces for MSM both online and offline to access accurate information and services.



Proposed Activities

1. Increase reach and coverage from 30% to 60% of the MSM population over 3 Years

- ❖ Expand existing educational outreach efforts and develop new content targeted at the MSM population to keep materials current and relevant.
- ❖ Develop evidence-informed communication package with healthcare and research specialists to strengthen the impact of HIV prevention and testing campaigns.
- ❖ Use digital media platforms (for example, online dating applications and social media accounts) that are popular among the MSM community to disseminate information about HIV prevention, testing and treatment.

2. Improve voluntary testing uptake and condom use

- ❖ Increase the proportion of MSM diagnosed through voluntary testing from the current 33% to 60% over the next three years. To achieve this, there should be community-led clinics for the provision of sexual and mental health services (for example, HIV prevention counselling and testing)
- ❖ Increase condom use for anal sex from 39% to 50% over the next three years

by adapting and promoting simple risk assessment tools such as the U.S CDC HIV Risk Estimator / Reduction Calculator ^[11].

3. Increase PrEP Adoption Rate and PEP Awareness

- ❖ PrEP is an evidence-based prevention tool that has the potential to break the cycle of HIV transmission among MSMs.
- ❖ To end HIV, there should be ready and affordable access to PrEP for MSMs.
 - ❖ Address high costs:
 - » The patented drug used for PrEP, Truvada, is available but it is prohibitively expensive for most. The registration of two existing generic versions, which are significantly more affordable compared to Truvada, will dramatically lower the cost barrier for users and encourage uptake, but is currently not permitted as the patent for Truvada is still valid.
 - » Towards this end, overseas and online PrEP suppliers should be actively engaged so international guidelines can be adopted to ensure proper screening and safety standards.

4. Encouraging and normalising the use of PrEP among MSMs

- ❖ Consider working with a programme sponsor to initiate pilot PrEP trials for high-risk MSMs and young MSMs.

Also see section titled "Normalising and Scaling-Up the Use of PrEP".



Impact

The proposed activities described above will help to target the at-risk MSM population and lower new HIV infection rates among them. A decrease in prevalence of undiagnosed HIV infection and the pool of untreated HIV infections will reduce health care costs. Further early diagnosis will improve the quality of life for PLHIVs.

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642 unique individuals with bacterial STIs
1929 HIV negative/unknown MSM seen
 $642/1929 \times 100 = 33\%$

Condom-less anal sex
 $593/1929 \times 100 = 31\%$
6. SP Round 8 - High-Risk Population Size Estimate
<https://afa.org.sg/portfolio-item/msm-outreach-hiv-testing-project-round-8/>
1245 HIV negative MSM

Condom-less anal sex with casual partners
 $333/852 \times 100 = 39\%$

Used party drugs (e.g. ice/ecstasy/ketamine/GHB) in the last year
 $210/1245 \times 100 = 17\%$
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HIDDEN POPULATION:

TRANSGENDER PERSONS



Objective

Increase access to HIV prevention and testing, for the transgender population.



Current Issues and Challenges

There are currently no targeted HIV programmes for the Transgender Persons ^[1].

1. Limited research and knowledge about the diversity and needs of the transgender community

❖ Transgender is an umbrella term used to describe people whose gender identity differs from the sex they were assigned at birth ^[2]. The community is very diverse, including transgender men and women, both pre and post gender reassignment procedures, and gender queer people. With this diversity, there is an even wider diversity in sexual behaviour and sexual organs that differ from cisgender people. Transgender people can be exposed to HIV through unconventional routes, making it difficult to identify primary routes of transmission. Transgender people are 49 times more likely to be living with HIV and an estimated 19% of transgender women are living with HIV, making them a key population with much higher risk of HIV infection ^[3].

❖ This diversity, coupled with lack of research and programmes in Singapore to provide a deeper and better understanding

of HIV transmission in the small transgender community, has contributed to a lack of quality healthcare programmes available to transgender people ^[4] ^[5].

2. Stigma and discrimination towards transgender people are highly prevalent

❖ Whether because of discrimination from society or secrecy about their gender identity, transgender people tend to delay or avoid seeking help or information about sexual health from local healthcare providers ^[6].

❖ With limited access to relevant and accurate sexual health information, transgender individuals may be ill-equipped to negotiate safe sex and make informed decisions. The discrimination stemming from prejudice and lack of understanding also contributes to low self-esteem and resilience, making it difficult for transgender individuals to insist on condom use to protect themselves against the risk of HIV infection ^[7].

3. Healthcare providers are not trained to work with transgender people

Most healthcare institutions still do not have proper resources, training and protocols in place to adequately serve transgender patients. With healthcare providers' lack of knowledge and understanding about the sexual and mental health concerns faced by transgender individuals, many may choose to avoid or delay HIV testing and treatment ^[8] ^[9] ^[10].

Ineffective outreach efforts to the transgender community due to lack of resources and stigma and discrimination towards transgender people ^[1].



Proposed Activities

1. Improve Access to Information and Resources

- ❖ Develop an evidence-based educational package specifically for transgender people that is:
 - ❖ Comprehensive and containing information that addresses sexual and mental healthcare issues including where help can be obtained^[11].
 - ❖ Easily understood and sensitive to the needs of transgender individuals (bearing in mind the need to use respectful terminologies).
 - ❖ Information should be readily available online (ideally maintained by a trusted healthcare agency) to reduce barriers to accurate and reliable information.

2. Develop interventions that are transgender specific

- ❖ Train transgender individuals to be healthcare providers or community partners so that screening programmes and interventions can be peer-led rather than clinician-driven.

- ❖ Transgender healthcare providers and community partners can be the bridge between transgender patients and cisgender providers, encouraging more trust and openness during HIV testing or treatment.

3. Enhance Existing Infrastructure in HIV Healthcare Services for Transgender Patients

- ❖ Provide healthcare providers with formal training about the needs, concerns and sensitivities of transgender patients^[12].
- ❖ Provide holistic healthcare services dedicated to transgender patients^[13].

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HIDDEN POPULATION:

UNREGULATED SEX WORKERS



Objective

To broaden the reach and strengthen the effectiveness of HIV prevention, testing and treatment education for sex workers, in particular, unlicensed sex workers and entertainment workers.



Current Issues and Challenges

- ❖ Significant numbers of sex workers are not reached despite the success of existing HIV prevention, testing and treatment efforts.
 - ❖ One factor which contributes to this low penetration rate is the dispersion of sex work from traditional red-light districts to all parts of Singapore due to the heavy policing of traditional spaces by enforcement authorities^[1]. Studies have shown that there has been a major shift in sex work from traditional brothel settings to entertainment establishments such as karaoke lounges, bars, pubs, nightclubs, discotheques and massage parlours, hotels and private apartments^[2].
 - ❖ Additionally, due to stigma and the criminalisation of illicit sex work, the population of sex workers is highly mobile, ill-defined, transient, and distrustful of outsiders, making it exceptionally difficult for healthcare and community organisations to reach out to them^[4].
- ❖ Inconsistent condom use reported amongst sex workers and heterosexual male clients with multiple factors contributing to this problem that include^{[1] [3] [4]}:
 - ❖ Low awareness about HIV prevention methods, lack of negotiation skills and imbalance in power dynamics between clients and sex workers.
 - ❖ Fear of police using condom as circumstantial evidence.
 - ❖ Gatekeepers consisting of agents, entertainment establishments owners, 'mama-sans' and staff of entertainment establishments such as bouncers pose as first-line barriers to community workers gaining access to sex workers^[2].
- ❖ Multiple barriers to testing including reasons that are similar to the general population and others that are unique to sex workers:
 - ❖ Poor awareness of available HIV prevention and treatment services, distance to facilities, transportation costs, opportunity costs, time constraints, and fear of a positive result with resultant discrimination and loss of income^[5].
 - ❖ Additional barriers unique to sex workers include fear of authorities, illegality of sex work, and confidentiality concerns, particularly status disclosure to other sex workers or potential clients^[6].
 - ❖ Many of the unlicensed sex workers in Singapore are foreigners, who are

more vulnerable to HIV than their local counterparts as they experience additional barriers that limit their ability to seek preventative care services. Such additional barriers include fear of identity exposure, cost and language differences.

❖ Economic vulnerability of sex workers increases their susceptibility to HIV:

❖ Research has shown that the economic vulnerability of women makes it more likely that they will exchange sex for money or favours, less likely that they will succeed in negotiating protection, and less likely that they will leave a relationship that they perceive to be risky^[7].

❖ Violence against sex workers undermines HIV prevention efforts and increases the vulnerability of sex workers in several ways:

❖ Rape, forceful acceptance of unprotected sex and violence related to illicit drug could result in sex workers giving higher priority to their physical safety and survival compared to HIV prevention^{[5] [6] [8]}

❖ Sex work is criminalised except in licensed brothels. As such, intervention efforts like providing access to free condoms and HIV testing pose challenges to the whole entertainment establishment industry

❖ Develop capacity of peer educators to deliver workshops and training to sex workers^[10].

2. Develop comprehensive digital strategies

❖ Given a shift of the sex industry from traditional brothels to digital platforms, a comprehensive digital strategy to deliver HIV education to sex workers should be considered^[11].

3. Outreach to gatekeepers and clients

❖ Consider regular roundtables with the various community organisations and, where possible, trusted community leaders of the entertainment establishments, to compare notes, share strategy and resources to reduce HIV risks and transmission rates^[12].



Impact

The proposed activities will help to expand the reach of existing HIV prevention programmes and target sex workers more effectively. A decrease in the prevalence of undiagnosed HIV infection and the pool of untreated HIV infections will reduce healthcare costs.



Proposed Activities

1. Peer-led education intervention

❖ Peer-led outreach is aimed at educating sex workers about HIV prevention, testing, treatment and, where required, promoting adherence to treatment courses^{[2] [9]}.

❖ Peer educators are current and/or former sex workers, share a similar cultural background and speak the same language, and are motivated to help their own community.

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HIDDEN POPULATION:

PERSONS WHO USE DRUGS



Objectives

To prevent onward transmission of HIV among Persons who use Drugs (PUDs) who are HIV-positive.

To address the lack of knowledge and comprehensive sex education for PUDs who are HIV-negative but at risk of HIV infection.



Current Issues and Challenges

1. Poor knowledge of HIV transmission pathways among Intravenous Drug Users (“IVDU”)

❖ Research has shown that HIV is widespread among IVDU across many settings around the world^[1]. Although the incidence of HIV transmission via the sharing of needles remain low in Singapore, there remains a gap in such knowledge among IVDU due to the lack of harm reduction education^[2].

2. Gay, Bisexual and other MSM are especially vulnerable to HIV when engaging in sexualised substance use (also known as ‘chemsex’)

❖ Recreational drug use is more prevalent in gay and bisexual male populations compared to heterosexual male populations and is often rooted in a sexualised context^[3]
^[4] ^[5].

❖ Studies have shown that chemsex ‘parties’ typically involve the use of drugs

and unprotected sex with multiple sexual partners, transactional sex, the sharing of sex toys, and are of longer duration, all of which increase the risk of transmitting HIV and other STIs^[6] ^[7] ^[8].

3. Poor adherence to medication and engagement in care with PUDs

❖ Substance use has been found to be associated with poor adherence to medication, or adherence failure, among PLHIV^[9] ^[10]. This has strong implications for the transmission of HIV either among IVDU or MSM who engage in chemsex^[11] ^[12].



Proposed Activities

1. Capacity building of community-based and peer-led programmes

❖ Create safe space for people who use drugs to enable them to share experiences with other members of the community and persons vulnerable to substance use (e.g. IVDU, sub-populations within the LGBTQ community).

❖ Support peer-support groups that serve as platforms for group-based therapy.

❖ Train existing healthcare workers, volunteers and community stakeholders who work with PUDs to gain a better understanding of the population’s perspectives and experiences relating to substance use

2. Develop evidence-based education packages that support the needs of PUDs

❖ Education package should include information about: modes of HIV transmission; PrEP and PEP; where to get tested for HIV; risks relating to sharing of drugs and needles; risks relating to chemsex parties and substance overdose; HIV transmission risks for sexual activities that are common in the chemsex subculture (e.g. fisting, BDSM etc).

3. Develop integrated models of care that addresses substance use and HIV risks / treatment

- ❖ Integrated models of care for HIV and substance use have been found to be effective in addressing access to mental health and social services among PLHIV^[13].
- ❖ Allow PLHIV a means of safely indicating their use of substances with their healthcare providers without any fear of repercussions, given that existing regulations require healthcare providers to report any persons suspected of using substances to the authorities.

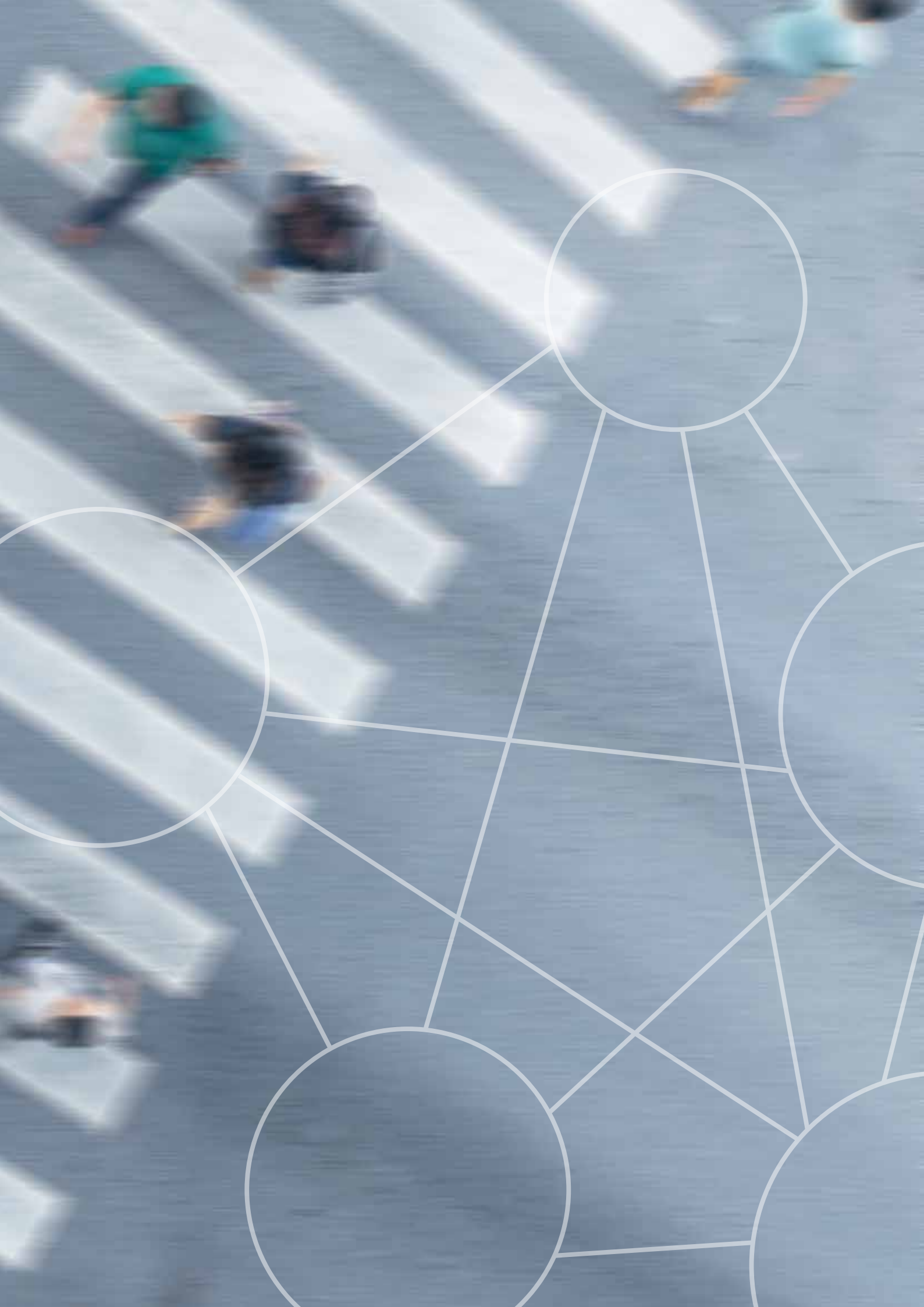


Impact

The above suggestions will help to increase awareness about HIV transmission, testing and treatment among IVDU and MSM who engage in chemsex.

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POPULATION SEGMENT:

LATE PRESENTERS



Objective

To maximise the reach and relevance of HIV prevention, testing and treatment education to late presenters including people with unsuspected HIV.



Current Issues & Challenges

Although newly diagnosed HIV infections have stabilized in Singapore to approximately 500 new cases annually since 2007; the proportion of late-stage cases of the total yearly incidence remains stagnant at about 50% since 1994. This indicates that there are groups of individuals within the general population who are either not accessing or enjoying the benefits of current prevention and treatment science. These populations include criminalised communities such as men-who-have-sex-with-men (including bisexual), drug users, illegal sex workers (part-time or full-time), minors, people from culturally and linguistically diverse backgrounds, and marginalised people with HIV who have not been linked to care (e.g. female partners of at-risk men) or have been lost to care.

Improving sexual health literacy is fundamental because a lowered risk-perception will lead to delay in testing or linkage to care, and eventually poorer long-term health outcomes for the at-risk individual.

Despite the increase in the number of anonymous HIV test sites which are easily

accessible and managed by General Practitioners or community-led organisations to facilitate voluntary testing, these populations (excluding those that may be criminalised) may have been intentionally avoiding testing mainly due to several reasons:

- ❖ With the high cost and standard of living in Singapore, persons from lower socioeconomic strata and with low health literacy may still prioritise the immediate financial / employment needs before their healthcare. The urgency to be self-sufficient and to meet immediate basic survival needs deters an individual from allocating his / her time or finances to go for testing and/or seeking treatment (which will be long-term).
- ❖ Low health literacy (e.g. amongst blue collar workers or older MSM and heterosexual men) may also lead to misconceptions about HIV transmission or risk. Some population may not perceive themselves at risk due to misconceptions that only “certain people” (e.g. people who visit CSW, people who have multiple sex partners) acquire HIV.
- ❖ Low literacy may also mean outdated knowledge or lack of information about HIV treatment and psychosocial care. This may hinder an individual from taking the first step towards testing and/or seeking treatment, out of fear that there will be no one to guide them in the process.
- ❖ The prevalence of stigma and discrimination (of both HIV and marginalised groups) typically present in an Asian country

reinforces the deterrence of an individual to go for testing and/or seek treatment, for fear of disclosure, ostracism and losing both his / her social and economic statuses.

- ❖ In addition, the criminalisation of persons with HIV through *Section 23 of Infectious Diseases Act* may act as a barrier that deters people from wanting to know their status.

Reaching these populations will require highly nuanced programming, by using social and behavioural sciences in ascertaining the needs of each sub-population. Stratified and differentiated interventions may be necessary to target the range of hidden populations, while avoiding potential duplication of efforts.



Proposed Activities

Develop a nationally coordinated and evidence-based package of HIV education resources for local implementation. This package should include identification of the modes of communication most relevant for each population, development of messaging that has both reach and impact in those populations, and support for the capacity of local services to conduct local activities and assist individuals who require education, testing and support as a result of the campaigns.

A 3-pronged strategy is proposed to reach and 'manage' the hidden populations.

1. Normalising HIV testing and increasing accessibility to testing

- ❖ Promote and increase access to self-testing kit.
- ❖ Integrate and offer HIV testing at primary care level in public settings by packaging it with general health screening to be offered to individuals who are sexually active.
- ❖ Establish 'online' (i.e. self-testing) to 'offline' linkage to care to encourage uptake of HIV testing and treatment

2. Increase population literacy on sexual health & HIV

- ❖ Promote HIV-friendly public messaging to 'sanitise' the general population
- ❖ Build capacity of individuals (e.g. self-help groups and resources).
- ❖ Introduce customised education programmes for broad-based outreach (e.g. mainstream media) and through each sub-population.

3. Debunk stigma and discrimination

Run national level campaigns to educate and foster an inclusive society with no HIV-related stigma or discrimination.

See Stigma and Discrimination Section of Community Blueprint



Impact

Normalisation of HIV testing as part of regular screening and increasing accessibility to HIV testing through availability of self-testing kits should increase uptake of testing and reduce delay in time between HIV infection and diagnosis. As many of the hidden populations (e.g blue collar heterosexual men) may not belong to a distinct sub-group, broad-based educational strategies and assimilation of HIV testing into regular health screening at the population health level may address (i) *the issue of low risk-perception*, (ii) *promote testing among these members*. Strategies to address sexual health literacy at the population health level should promote awareness about HIV modes of transmission, prevention, testing, treatment as well as psychosocial care. Strategies to reduce stigma at the national level through public campaigns and to explore decriminalisation of persons with HIV should increase acceptance towards persons with HIV and reduce the fear of people getting a HIV diagnosis

This investment will reduce the prevalence of undiagnosed HIV infection and the pool of

untreated HIV infection. Earlier diagnosis and treatment would reduce number of new HIV infections.



TACKLING HIV-RELATED STIGMA AND DISCRIMINATION



Objective

To reduce HIV-related stigma and discrimination which are barriers to the uptake of HIV prevention, testing, treatment and care services.



Current Issues and Challenges

1. HIV-related stigma and discrimination undermine the success of HIV education efforts, and act as a barrier to the treatment, care and support of PLHIVs

Research has shown that stigma and discrimination associated with HIV undermine prevention efforts by discouraging individuals from seeking sexual health information and services lest these actions raise suspicion about their HIV status^{[1] [2] [3]}. These factors in turn pose a risk to the public health goals of reducing HIV transmission.

In addition, studies on stigma and discrimination and health-seeking behaviours show that PLHIV who perceive high levels of HIV-related stigma are 2.4 times more likely to delay treatment until they are very ill^[4]. The fear of stigma and discrimination, which can also be linked to fear of violence, has been shown to discourage PLHIV from disclosing their status even to family

members and sexual partners, and undermines their willingness to access and adhere to treatment^[4].

Policy and legislation that perpetuate stigma and discrimination in Singapore include^[5]:

- ❖ Criminalisation of HIV transmission and non-disclosure of HIV status
- ❖ Employment restrictions on PLHIV who are foreigners
- ❖ Mandatory notification of HIV infection
- ❖ General lack of anti-discriminatory laws that protect PLHIV and LGBTQ individuals

2. Stigma and poor acceptance within healthcare setting

HIV is well-understood from a medical perspective within the healthcare setting but the social stigma and discrimination associated with HIV are not well-understood and addressed in the delivery of healthcare services.

In addition, inconsistent (and sometimes inappropriate) approaches towards the handling of PLHIV's confidential information and privacy have been reported at healthcare settings such as involuntarily disclosing the HIV status to family members when medical records or files are left in plain view and taking unnecessary precautions when handling and interacting with patients^[2].

3. Support system for infected and affected persons is fragmented, resulting in lower resilience and self-worth among PLHIV

The existing support system for PLHIV, healthcare professionals (comprising social workers, nurses, and mental and sexual health workers) and their immediate support network (comprising friends, families, employers and colleagues) is fragmented.

While several hospitals and community groups organise support groups for PLHIV, low attendance rates and/or poor programme follow through by PLHIV are cited as reasons for not running these groups more regularly. Research has shown that attendance has decreased following the introduction of HAART (highly active antiretroviral therapy) ^[4], and that heterosexual men are not keen on participating in support groups and feel more marginalised than MSM ^{[6] [7]}.

- ❖ These support groups also tend to operate in silos, and do not effectively promote further support networks to be formed.
- ❖ An overburdened support network coupled with mismatched expectations result in higher levels of burn out within caregivers.
- ❖ The fear of loss of social networks also discourages PLHIV from reaching out to friends and family for support or disclosing their status.

4. Securing and sustaining employment are major concerns of PLHIV in Singapore ^[8]

Discriminatory hiring practices such as pre-employment screening, unlawful termination, segregation and hindered promotion continue to plague PLHIV. No formal legislation had been enacted to protect PLHIV against workplace discrimination based on HIV status.

5. Meaningful participation of PLHIV in programme planning and implementation remain low

- ❖ While some programmes and support systems include PLHIV at the planning and implementation level, participation rates remain very low. As a result, access to important data that can be used to inform peer-led programmes has been difficult.
- ❖ Representation of PLHIV across all levels of decision-making process is also often treated as an after-thought, rather than part of a meaningful involvement and engagement practice
- ❖ PLHIV also lack the skills and confidence to be part of this process and no programmes are in place to build their capacity to meaningfully participate.



Proposed Activities

1. Establish baselines to develop programmes to reduce stigma

- ❖ Expand on current research to establish a baseline for PLHIV's quality of life, including mental health, and issues related to access and retention in care. The research can be based on the contextualised HIV stigma index, and used as a guideline for improving resource allocation, programme planning and implementation.
- ❖ Research must also be undertaken periodically to measure knowledge, attitudes and behaviour of the general public towards PLHIV.

2. Review of current HIV care services, programmes and policies

- ❖ A systematic review of current programmes and policies needs to be undertaken to (i) *identify gaps in services for PLHIV, caregivers and support networks* and (ii) *identify those that perpetuate stigma and discrimination so that steps can be taken to mitigate or eliminate them.* Matters

that should be reviewed include regulations concerning the mandatory disclosure of HIV status to sexual partners and employers, the automatic repatriation of foreigners diagnosed with HIV, the criminalisation of HIV transmission, and the requirement for HIV screening for long-term visas and PR applications.

3. Improve acceptance of PLHIV within healthcare settings

- ❖ Healthcare providers and the community workforce at large must be able to provide a safe, non-stigmatising and tolerant space for at-risk individuals to learn about HIV prevention methods and make use of HIV testing and PrEP services. Information delivery in all stages of the prevention, testing and treatment cascade has to be done in a non-judgmental and non-discriminatory manner ^[9]. At all times members of the community workforce have to protect privacy, prevent discrimination and promote tolerance.

- ❖ In order to ensure uniformity in competence, methods, procedures and communication methods, there needs to be formal and systematic training for all members of the community workforce including expert members like doctors and healthcare workers and non-expert members like healthcare volunteers and lay providers. Necessarily, training has to be tailored to differing roles and background training and knowledge.

4. Normalise HIV testing and increase accessibility to testing

- ❖ Promote HIV testing as part of regular health screening.
- ❖ Commission a study to evaluate the benefits of availing HIV self-testing (“HIVST”) kits in Singapore. HIVST is a crucial part of HIV testing programmes in resource poor countries where access to healthcare can be daunting. In such countries, studies have shown that the benefits of giving more people

access to testing outweigh the risks of inaccurate results. Fortunately, Singapore is relatively resource rich. There is easy access to healthcare services and HIV testing is relatively low cost compared to the standard of living and average wage.

- ❖ HIVST will benefit a population of at-risk individuals who will not otherwise test.

- ❖ Before the roll out of self-testing, issues of access to counselling, STD screening and linkage to care including social support will need to be addressed.

5. Organisation of PLHIV

- ❖ Formation and capacity development of a national network of PLHIV to (i) *act as a collective voice to support PLHIV*, (ii) *actively engage with stakeholders in policies and decision-making that impact PLHIV*, (iii) *undertake HIV research*, (iv) *encourage partnership with, participation in and ownership of programmes and* (v) *conceptualise, implement and review programmes*.

- ❖ Conscious efforts must be made to ensure women and ethnic minority groups are represented at all stages of HIV programme and policy design, implementation and review, where possible.

6. Tackle discrimination against PLHIV at the workplace

- ❖ Continuation of the Singapore National Employer Federation's (SNEF) framework to establish good workplace policies pertaining to the management of HIV at workplaces. The framework consists of three tiers, leading with implementing workplace education to achieving a supportive environment and ultimately, implementing policies that promote equality, and provide sufficient protection to persons living with HIV ^[10].

- ❖ Engage employers to provide PLHIV with gainful employment and provide a safe and non-discriminatory work environment.

- ❖ Identify and address systemic factors that perpetuate stigma and discrimination against PLHIV, including hiring policies and laws that have an adverse impact on key populations. For example, HIV status should remain confidential, and be provided directly by employees to health insurance providers, by-passing the employer.

7. Build sustainable support networks and increase personal resilience

- ❖ Developing stigma reduction or resistance strategies and interventions that build resilience and self-acceptance among PLHIV, while reducing shame and guilt associated with living with HIV.
- ❖ Start support programmes for caregivers including healthcare providers, social workers, friends and families of PLHIV.
- ❖ Integrate mental health and psychosocial programmes where possible for newly diagnosed individuals and PLHIV to reduce cost and barriers.

8. Awareness raising in the general population about HIV

- ❖ Develop an evidence-based programmatic response to HIV-related stigma and discrimination. This includes:
 - ❖ Engaging communications specialists to design an integrated communications package targeting community settings including community centres, streets, transit and immigration points, educational institutions, employers, mainstream media and online channels
 - ❖ Large-scale broad-based campaigns to run once every 3 years to educate, raise awareness and develop acceptance of PLHIVs
 - ❖ Smaller, context-specific campaigns to run in the off years for workplaces, healthcare settings and local support networks.



Impact

The proposed activities and investment will reduce stigma and discrimination associated with HIV, thereby benefitting the quality of life for PLHIV. Further, it will facilitate early and timely diagnosis and treatment adherence, which will improve health outcomes of PLHIV in the long term.

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THE COMMUNITY WORKFORCE:

GENERAL PRACTITIONERS AND COMMUNITY GROUPS

PROVIDING SERVICES TO AFFECTED POPULATIONS



Objective

To build the capacity of the HIV community-based medical workforce in Singapore and develop policies, guidelines and backbone resources to focus on expanding HIV anonymous testing facilities, education and outreach, expanding access to PrEP and support treatment for PLHIV.



Current Issues and Challenges

1. Relative Paucity of Facilities Offering HIV Testing and PrEP

Identifying HIV-positive individuals is the first key step in the care cascade. In order to be able to link at-risk individuals to testing services, we need to increase awareness, reduce barriers to testing, and ensure sufficient and easily

accessible testing facilities. Currently, only 23% of HIV cases are detected via voluntary screening and 41% of HIV cases are diagnosed in a late stage^[1].

HIV testing is technically available at any medical service provider in Singapore including private GP clinics, private specialist clinics, polyclinics, government hospitals, private hospitals, health screening centres and medical centres. However, resources for anonymous and more dedicated HIV testing currently comprise: (i) *Action for AIDS Anonymous HIV testing Centre and Mobile Testing Service* and (ii) *9 Private GP clinics designated as Anonymous HIV testing Sites by MOH.*

2. Lack of Common Policies, Guidelines and Backbone Resources

For the community workforce to be effective, it is crucial that the messaging to at-risk individuals is accurate, uniform and consistent. Oversight of private medical clinics offering

HIV services will ensure consistent messaging across all service providers in the prevention, testing and treatment cascade, and will serve to reinforce the key messages to at-risk individuals.



Proposed Activities

- ❖ Set up a Medical Advisory Committee to develop policies, guidelines and backbone resources, conduct audits and provide formal and structured training for medical practitioners to provide HIV services to their patients.
- ❖ Train a pool of Medical Directors to oversee medical providers, conduct audits and ensure quality of care.
- ❖ Increase the number of clinics designated to be HIV anonymous testing sites to 30 over the next 3 years (additional 20 clinics).
- ❖ Provide formal and structured training for more GPs to be able to dispense PrEP and co-manage PLHIV with their specialists.



Impact

- ❖ An additional 20 medical clinics offering anonymous HIV testing and counselling, reaching out to more than 400,000 at-risk individuals greatly increasing the rate of voluntary testing, early diagnosis, and linkage to care.
- ❖ An additional 5 GP clinics offering PrEP, with the rest to be seen by DSC / TTSH / NUH / other hospitals, supporting more than 20,000 high-risk MSM leading to greatly reduced rates of HIV incidence ^[2].
- ❖ An increase in the number of GPs trained and able to co-manage PLHIV with their specialists, reducing the patient load on the public sector and improving adherence to follow up and treatment.

❖ An established tiered medical governance system allowing for greater oversight as well as expansion of the capacity for more private medical practitioners to provide HIV related services while ensuring a high standard quality of care, with common policies and uniform materials, methods, procedures and competencies.

❖ More consistent messaging and standard of care among private medical practitioners providing HIV related services, leading to better patient outcomes, experience, and retention

❖ A greater public awareness of HIV resulting in reduced stigma and negative associations surrounding HIV, leading to increased rates of voluntary testing and PrEP uptake.

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NORMALISING AND SCALING UP OF THE USE OF PREP



Objective

To scale-up the adoption of PrEP for persons at high risk of contracting HIV.

Truvada was approved in 2012 by the US FDA for the use in HIV pre-exposure prophylaxis (PrEP). PrEP has been proven effective especially among MSM and can reduce per act HIV transmission risk by up to 86%^[1].

PrEP has been shown to be a cost-effective HIV control measure in high-risk MSM. However, a study conducted in Hong Kong concluded that in low HIV incidence settings with high drug costs the incremental cost per quality-adjusted life years of PrEP was almost 3 times higher than test-and-treat interventions alone. The same study also conclude that it would only be cost effective if the PrEP drug price fell by 93% with 30% of MSM on PrEP^[2]. We can assume the same conclusions would apply in Singapore.



Current Issues and Challenges

1. The current service model does not have the capacity to scale

❖ Individuals on PrEP require at least 4 clinic visits per year in accordance with current treatment guidelines. However, not all at-risk MSM would be considered high risk and PrEP may not be a cost-effective option of HIV prevention for them. Also, providing PrEP requires more training and time commitments in terms of longer consults compared to HIV testing so presumably fewer doctors would be keen to offer this service. It is also prudent to point out that PrEP cannot be dispensed by lay providers.

❖ Making the assumption that 10% of the estimated number of at-risk MSM would benefit from PrEP and that each individual would require 4 visits per year: Number of high-risk MSM requiring PrEP x number of visits per year = number of total clinic visits required in 1 year $21,000 \times 4 = 84,000$ clinic visits per year.

❖ Practically, with consideration of the clinics' regular caseload and the time required for a detailed and quality PrEP consult, a clinic can effectively manage an average of 2 visits per day:

❖ (Total number of clinic visits per year / average number of opening days of a clinic

in a year) / number of patient visits per day
= number of clinics required

❖ $(84,000 / 300) / 2 = 140$ clinics required to fulfil PrEP demand

❖ This is likely an over-estimate as most patients would still attend the dedicated PrEP clinics at the restructured hospitals. Nonetheless, this number gives us an indication of the potential resource requirement for an effective PrEP programme.

❖ PrEP is currently only available in Singapore at:

❖ NUH – BePrep Clinic

❖ TTSH – PrEP Care Clinic

❖ DSC Clinic

❖ Some GP clinics, including a few who are allowed to perform anonymous HIV tests

❖ There are very limited options for individuals who wish to be on PrEP in Singapore.

2. PrEP is costly

❖ Another key barrier to PrEP adherence is the cost of the medication. Even in the restructured hospitals, Truvada costs about \$15 per tablet. This cost is even higher in the private medical sector.

❖ Many patients on PrEP currently source for generic PrEP medication from Thailand. In order for a PrEP programme to be successful, the medication cost has to come down.

More efforts should be made to engage more private GP clinics to provide PrEP services, and to support clinics with training and materials.

❖ Continue to engage Gilead to reduce the price of PrEP.

❖ Consider proposing the de-medicalisation of PrEP, i.e. use of protocolised PrEP services that are based in community groups, to the regulatory authorities.

❖ Continue efforts to explore registration of generic PrEP medications in Singapore to scale up the program.



Impact

With proper engagement with the government, community pharmacists, nurse clinicians, key populations, and pharmaceutical companies, PrEP can be a powerful tool for reducing HIV transmission rates.

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Proposed Activities

(in order of priority)

❖ PrEP can be managed at the primary care level if providers receive proper training on counselling, screening and follow up.

MONITORING AND EVALUATION OF HIV PREVENTION PROGRAMMES



Objective

To create capacity to routinely evaluate programmes and services in order to maximise reach and impact and ensure that resources are effectively deployed.



Current Issues and Challenges

1. Gaps and Challenges in Monitoring and Evaluation of HIV Programmes

❖ Researchers and programme managers face challenges in monitoring and evaluating HIV prevention programmes because they are increasingly complex, multi-pronged and

often highly context-specific. Researchers, in general, tend to emphasise measurable outcomes while service providers tend to focus on processes in the evaluation of prevention programmes.

❖ Furthermore, there is a lack of involvement of programme participants and beneficiaries in the monitoring and evaluation process. The current socio-cultural and political environment also hampers access to information on target populations.

❖ The evaluation of national education programmes for the general population tends to focus on knowledge and misconceptions rather than on attitudes and behaviors. Consequently, there is a lack of rigor and completeness in regular monitoring and evaluation.



Proposed Activities

(in order of priority)

1. Planning for monitoring and evaluation

It is important for policymakers and programme managers to have a clear understanding of the factors that contribute to the success or failure of an intervention programme. This would facilitate the adoption and scaling up of successful programmes, and the redesign of programmes that fail to achieve the planned outcome.

- ❖ Programmes should be regularly monitored for and evaluated based on breadth of coverage, participation levels and any obstacles in the implementation process

so that timely corrective action can be taken where required.

- ❖ Programmes should also be evaluated based on measurable and comparable data as well as qualitative data.
- ❖ In addition, programme fidelity (that is, whether the relevant programme was implemented as planned) should be monitored so that it can be determined whether the failure to achieve the targeted outcome was attributable to operational failure or poor programme quality. Both programme implementation and outcomes should be evaluated to better interpret causal effect of the programme.

2. Funding for Monitoring and Evaluation of Programmes

Adequate funding should be provided for regular and sustained monitoring and evaluation of HIV programmes to maximise the impact of new and existing interventions

- ❖ The newly established National Centre for Infectious Diseases could form the springboard for coordination and integration of evaluation activities, with Saw Swee Hock School of Public Health providing input on the technical aspects of evaluation, and other stakeholders (e.g. Health Promotion Board, Ministry of Health) providing input based on their areas of expertise
- ❖ Community organisations play a critical role in maximising and sustaining programme effectiveness. These organisations have on-the-ground knowledge to implement interventions. The government and funding agencies should provide funding and training in core evaluation skills so that they could conduct some aspects of the evaluation and/or provide input to the technical evaluation team.

3. Administrative Perspectives of Monitoring & Evaluation of HIV Prevention Programmes

- ❖ Coordination of efforts
 - ❖ Given the complexity of the interventions, where many risk factors at multiple levels, have to be addressed; a unified, integrated approach should be used that must involve relevant stakeholders in planning for the evaluation. AFA has recently initiated meetings with relevant government and non-governmental Organisations to discuss the Community blueprint to end HIV transmission in Singapore. In addition, SSHSPH has recently conducted an evaluation workshop with stakeholders, beneficiaries and community groups. The newly formed National HIV Programme could form the springboard for further coordination and integration of evaluation activities.

- ❖ Community based participatory research
 - ❖ Community-based Organisations and community members from key populations should be engaged to provide input and help evaluate interventions. This would help to gain maximum insight on the interventions, particularly with regard to their acceptability and feasibility.
- ❖ Information Sharing
 - ❖ Evaluation findings should be disseminated to the community to strengthen interventions and to stakeholders and programme managers to influence decisions and inform policy.

4. Technical Perspectives of Monitoring & Evaluation of HIV Prevention Programmes

The interventions, especially the new interventions, should be evaluated using a rigorous design such as randomized controlled trial or quasi-experimental design. However, not all HIV prevention interventions can be assessed using experimental designs because of a lack of experimental conditions in the real world, resource constraints or other practical reasons. In such situations, the logic model (which uses the programme impact pathway) can be utilized to show how the main components of a programme work together to achieve outcomes and impact.



Impact

Creating dedicated capacity for programme monitoring and evaluation will enable the collection and analysis of meaningful data not currently available, which in turn will enable the workforce to design and deliver tailored and impactful interventions.

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