A Review of HIV Prevention in Viet Nam 2019

January 2019

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List of Acronyms

AEM	AIDS Epidemic Model
AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral treatment
ARV	Antiretroviral
ATS	Amphetamine type stimulants
CDC	Centres for Disease Control
CSO	Civil society organisation
DALY	Disability Adjusted Life Years
EPP	Estimation and projection package
FHI360	Family Health International
FSW	Female sex worker
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria (as referred to as Global Fund in text)
GVN	Government of Viet Nam
HCMC	Ho Chi Minh City
HIV	Human Immunodeficiency Virus
HSS	Health system strengthening
HSS+	HIV Sentinel Surveillance, incorporating behavioural survey
HTC	HIV testing and counselling
IBBS	Integrated Biological and Behavioural Survey
KP	Key population
MMT	Methadone maintenance treatment
MOF	Ministry of Finance
MOH	Ministry of Health
MOLISA	Ministry of Labour, Invalids and Social Affairs
MPS	Ministry of Public Security
MSM	Men who have sex with men
NASA	National AIDS Spending Assessment
NSP	Needle syringe programmes
PEPFAR	President's Emergency Plan for AIDS relief
PLHIV	People living with HIV
PMTCT	Prevention of mother to child transmission
PWID	People who inject drugs
TB	Tuberculosis
THE	Total healthcare expenditure
UNAIDS	The Joint United Nations Programme on HIV/AIDS
UNODC	United Nations Office on Drugs and Crime
USAID	United States Agency for International Development
VAAC	Viet Nam Administration of HIV/AIDS Control
VUSTA	Viet Nam Union of Science and Technology Associations
WB	World Bank
WHO	World Health Organisation

Acknowledgments

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A special thanks goes to the National Technical Working Group on Strategic Information for HIV/AIDS Estimation & Projection chaired by the VAAC. This report builds on and includes a wealth of data and analysis generated over the last few years by this team to better know and monitor the epidemic including the Global AIDS monitoring, HSS data, impact analysis and scenarios.

We are also grateful for the input received through interviews conducted before the consultation with the following organizations: VAAC, The VUSTA Component Project – The Global fund Supported Project on HIV/AIDS VUSTA, the US Centers for Disease Control and Prevention (US CDC), United States Agency for International Development (USAID), the Institute for Social Development Studies (ISDS), Life Centre, The Institute for Studies of Society, Economics and Environment (iSEE), Population Services International (PSI), USAID/PATH Healthy Markets project, the Partnership for Health Advancement in Vietnam (HAIVN), Ha Noi Medical University (HMU), the World Health Organization (WHO) and United Nations Office on Drugs and Crime (UNODC). About 40 representatives from 16 organizations from the Government, provincial Centres for Disease Control, association and social organizations, community networks, local and international NGOs, university, bilateral and multilateral partners participated in and provided inputs during the Prevention gap analysis consultation jointly organized by the VAAC and UNAIDS on 12 October 2018 in Ha Noi. A special thanks also goes to the organizations who kindly presented on their analysis and good practices at the consultation especially HMU, PSI and SCDI.

As the basis for the consultation and this report, further data analysis was collated by Ali Safarnejad, UNAIDS Strategic Information Advisor, with additional data provided by Nguyen Thien Nga, UNAIDS Strategic Information Consultant who both also provided essential linkages with the other experts and consultants. Two other consultants contributed to this analysis with UNAIDS guidance: Sarah-Jane Clarke (writing of the draft final report) and Mr Jamie Uhrig (interview with about a dozen key stakeholders and facilitation of the consultation).

Finally, we wish to sincerely appreciate the final review and guidance from the VAAC senior management team including the Prevention Department and the Department of Surveillance, Monitoring and Evaluation, and Laboratory.

In general, this review of HIV prevention in Viet Nam was possible thanks to the close partnership between the VAAC, other stakeholders and UNAIDS for this and hope that this review will contribute to further inform prevention efforts and investments, alongside treatment, care and the enabling environment, to allow Viet Nam to reach its national objectives and reach the goal of Ending AIDS as a public health threat by 2030.

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1. Executive Summary

Viet Nam demonstrates continued commitment to meet the ambitious Fast-Track Targets of 90-90-90 by 2020 and the end of AIDS as a public health issue, as part of the Sustainable Development Goals. In order to achieve these goals and to reach epidemic control, it is essential that continued focus be given to reducing new infections. Prevention remains an essential component of Viet Nam's national HIV response. Evidence and efforts from within Viet Nam and globally show that HIV prevention saves lives and money. It is a sound, cost-effective and humane investment. Strong steps have been taken to harness the benefits of treatment as prevention; there remains, however, a need to explore both traditional and innovative prevention interventions to respond to the evolving epidemic and rapidly changing behaviours.

The first cases of HIV infection were reported in Viet Nam in 1990. Modelled estimates suggest that HIV incidence peaked in the early 2000s and has since been declining steadily. Close to the mid-point towards the 2020 targets, overall progress towards the national targets of reducing new HIV infections by 80% by 2020 and fast track target of 90% by 2030 against the estimated number of new infections in 2010 is significant. Viet Nam saw a 65% of reduction of estimated new infections between 2010 and 2018. However, progress is uneven and risks remain.

HIV infection remains concentrated among three key populations with behaviours that put them at high levels of HIV-transmission risk, namely men who have sex with men (MSM), people who inject drugs (PWID) and female sex workers (FSW), and their sexual partners. There is substantial geographic variation in prevalence among all key populations. While current data is somewhat limited, transgender women (TGW), users of amphetamine type stimulants (ATS), long distance drivers, mobile populations and prisoners may also bear higher risk of HIV infection and/or limited access to prevention and treatment services.

Injecting drug use remains the leading HIV transmission mode in Vietnam, although the rate of transmission among MSM is approaching parity. Modelling suggests that 25% of estimated new infections occurred among male PWID in 2017. With a population size equivalent to the PWID population, and an increasing proportion of annual new infections attributable to this population (21% in 2017 vs 7% in 2010 [1]), **MSM are a priority population** for Viet Nam's HIV response toward the end of AIDS. In addition to the three key populations and their intimate partners, there are several other populations that are at higher risk of HIV infection and who may not yet be effectively reached with HIV prevention services. These populations include transgender women and people who use amphetamine type stimulants (ATS). There is diverse geographic distribution of both key populations and rates of HIV infection.

Viet Nam's HIV response remains highly dependent on external funding sources, notably PEPFAR and the Global Fund to Fight AIDS, TB and Malaria (GFATM), both of whom focus their investment on treatment and related services. **It is possible that priority provinces for treatment are not the priority provinces for prevention.** In addition, external funding is likely to decrease rapidly from 2020. If increased national and local budget for HIV response is not mobilised, including for prevention interventions, **the impressive achievements of the past decade are at risk of being undermined**.

Plausible impact of the national HIV response has been investigated through periodic modelling using the AIDS Epidemic Model (AEM). Findings suggest that without the national HIV response, more than twice as many people would be living with HIV and the number of new infections each year would be continuing to grow steadily. **Scale-up of prevention and treatment programmes has contributed to averting over 400,000 HIV infections between 2001 and 2017**.

The national strategy (2012-2020) aims to reduce new HIV infections by 80% by 2020 and fast track targets aims at reducing them by 90% by 2030 against the estimated number of new infections in 2010. Currently, only reductions of new infections among female sex workers are on track to achieve both the 2020 and 2030 targets. The number of **new infections among men who have sex with men is**

increasing rapidly. If Viet Nam is to meet its stated goal of ending AIDS by 2030, it is **essential that effective prevention interventions be accessed by MSM of all ages**. In addition, innovative strategies to improve coverage and uptake of HIV testing by all key populations is essential if Viet Nam is to achieve the Fast-Track targets of 90% of PLHIV knowing their status by 2020 and to maximise the benefits of treatment as prevention.

Modelling conducted end 2018, using the AIDS Epidemic Model (AEM) investigated three scenarios that achieve the end of AIDS as a public health threat in Viet Nam. These were compared based on criteria of new infections and deaths averted, Disability Adjusted Life Years (DALYs) saved, total cost, and return on investment. Scenario 1 (Fast-Track) is the quickest path to achieving the end of AIDS and provides the highest DALYs saved, but it is ambitious and comes at the highest cost. Scenario 2 (Treatment Fast-Track with MSM focus) has the highest cost-benefit ratio, but it will require acceleration of treatment coverage. **Scenario 3 (Treatment scale up at rate consistent with previous years and with MSM prevention focus) is most likely to be achievable on the ground** and meets 95% of the estimated achievement of Scenario 2.

Without continued investment in and scale up of HIV prevention activities Viet Nam will not be able to achieve its stated goal of Ending AIDS by 2030. While continued and expanded investment are necessary to sustain HIV prevention for all key populations and meet the unmet targets, an urgent effort is needed in particular to implement effective, evidence-based and differentiated prevention services among MSM of all ages, including innovative strategies to improve rates of condom use.

In order to be effective, scale up of prevention programming, at a sufficient scale and intensity, needs to be adequately funded. It is likely that Viet Nam will see a significant decrease in external funding for HIV response after 2020: new funding sources need to be identified for prevention programming. This will include mobilising increased local and national budget, as well as exploring opportunities for public-private partnerships and engaging national and/or international philanthropists. The introduction of diverse modalities for effective service delivery, such as social contracting/ public investment through community-based organisations for community-led prevention services is an essential component of enabling prevention programming scale-up.

It is hoped that this review will contribute to leverage and guide the revitalization and optimization of HIV prevention as a full part of Viet Nam's efforts to fast track progress, reduce and further monitor programmatic, geographical gaps to leave no one behind and achieve its national goals by 2020 and 2030.

2. Introduction

Viet Nam has demonstrated strong commitment to meet the ambitious Fast-Track Targets of 90-90-90 by 2020 and the end of AIDS as a public health issue, as part of the Sustainable Development Goals. In order to achieve these goals and to reach epidemic control, beyond efforts to expand access to HIV treatment and care, it is essential that continued focus be given to reducing new infections. Prevention remains an essential component of Viet Nam's national HIV response. Epidemic control and the national commitment to provide affordable high-quality treatment to all who need it will only be met through a reduction of new infections. As efforts in Viet Nam and around the globe have proven: **prevention saves lives and money**. Strong steps have been taken to harness the benefits of treatment as prevention; there remains, however, a need to explore both traditional and innovative prevention interventions to respond to the evolving epidemic and rapidly changing behaviours.

As Viet Nam approaches the mid-point towards the 2020 targets, it is time to take stock of the achievements and challenges of the preceding years; to assess where the national response is in terms of prevention activities; and to identify new and remaining gaps in terms of people, location and interventions. The Viet Nam Administration of HIV/AIDS Control (VAAC) plans to develop a new HIV strategy to 2030. This presents an opportunity to synthesise evidence generated through programmatic and other data sources over the past decade of HIV response and to identify strategies to sustain strong HIV prevention initiatives towards Ending AIDS by 2030 in Viet Nam.

3. Objectives of this report

The objectives of this report are as follow:

1. To present a synthesis of the data on HIV prevention programming in Viet Nam to date;
2. To identify current gaps in HIV prevention programming in Viet Nam;
3. To capture key reflections from the prevention gap analysis consultation jointly organized by VAAC and UNAIDS (October 2018) and suggested recommendations on how these gaps may be addressed; and
4. To identify gaps in data and knowledge which may be addressed through further research.

4. Report Methodology and limitations

This report has been developed through desk research of existing data as well as the reports generated through the AIDS Epidemic Modelling exercise on August 27-31, 2018; the Investment Case Analyses update which took place in Hanoi from October 1 to October 5, 2018; a Prevention Gap Analysis consultation co-organized by VAAC and UNAIDS which took place in Hanoi on October 12, 2018; and related key informant interviews and consultant summary reports in October and November 2018.

This report is the first of its kind. A comprehensive review of HIV prevention in Viet Nam has not taken place in recent years while the epidemic and national HIV response have evolved significantly over the last 10 years. It was thus complex to collect information and especially data on prevention, which is not systematically provided by implementers, collected and reported in a centralized manner and regularly analysed. The main source of information was thus existing and official surveys, consensus data and analysis from the Technical Working Group on Strategic Information and available information collected from key informants and during the consultation above referenced. In terms of programmatic scope, the review aims at providing an 'overview picture' of the status of HIV prevention but certainly does not aim at capturing a fully comprehensive reporting and analysis which would require much more resources. It should also be noted that some programmatic areas which are key pillars of the national HIV response but benefited from more in depth analysis developed separately through other processes around the time of this review are thus not repeated in this report: i.e. PMTCT under the Triple

Elimination for HIV, Syphilis and Hep B; and, the Methadone Treatment Therapy programme which was the subject of a 10 year review in 2018. Information on other recent/emerging areas which was available but for which there is still very limited data and analyses (eg ATS use, TG people, prisoners, migrants) is included. This short exercise which took place over a few weeks with limited resources (funded by UNAIDS) was thus limited in time and programmatic scope but highlighted key messages, important opportunities but also gaps in prevention programme and data. Prevention interventions are delivered by the Government, NGOs (local and international) and CBOs, funded by domestic and external resources and tend to focus on one or several specific key populations, interventions or geographic area. As such, identified gaps to address these are organised by population within the main body of the report while a summary of gaps in access, inequities, barriers and bottlenecks, as well as data gaps is presented at the end before the Looking Forward section. The scenarios for the future and resources needs' estimates used the unit costs updated by Health Finance and Governance Project based on the Investment Case for Viet Nam developed in 2014 (the only unit costs then available) but only included the direct costs. This allows comparison of different scenarios even if it does not provide an updated precise resources' needs for the whole national response. An analysis of the financial situation falls beyond the scope of this report.

Despite these limitations, it is hoped that this analysis can inform further advocacy, analysis, action and investment for HIV prevention as an essential component for Viet Nam's HIV response to meet its national targets and reach the End of AIDS as a public health threat by 2030

5. Current status

Epidemiology of HIV infection in Viet Nam

The first cases of HIV infection were reported in Viet Nam in 1990. Modelled estimates suggest that HIV incidence peaked in the early 2000s and has since been declining. In 2017 there were an estimated 230,000 people infected with HIV, with an estimated 6,000 to 7,000 new infections among adults older than 15 years and some 5,000 to 9,000 AIDS-related deaths [1]. Similar numbers of new infections and AIDS-related deaths suggests that the number of people living with HIV will remain around 230,000 in 2018. Reporting of newly diagnosed cases peaked at over 30,000 in 2007 and has been declining since then, with 9,920[1] newly identified cases reported in 2017. **Viet Nam saw a 65% of reduction of estimated new infections between 2010 and 2018. However, progress is uneven and risk remains.** HIV infection remains concentrated among three key populations defined by high levels of HIV-transmission due to behaviours putting them at risk of HIV, namely men who have sex with men (MSM), people who inject drugs (PWID), female sex workers (FSW) and their sexual partners. There is substantial geographic variation in prevalence among all key populations (Figure 1). While current data is somewhat limited, transgender women (TGW) and users of amphetamine type stimulants (ATS) may also bear high risk of HIV infection.

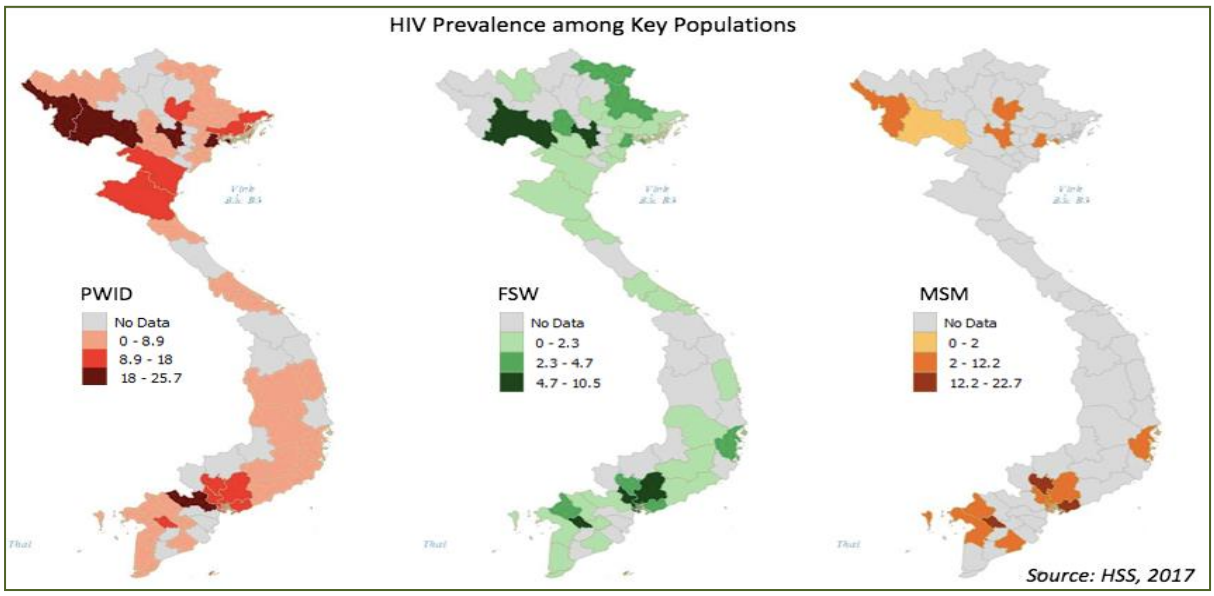
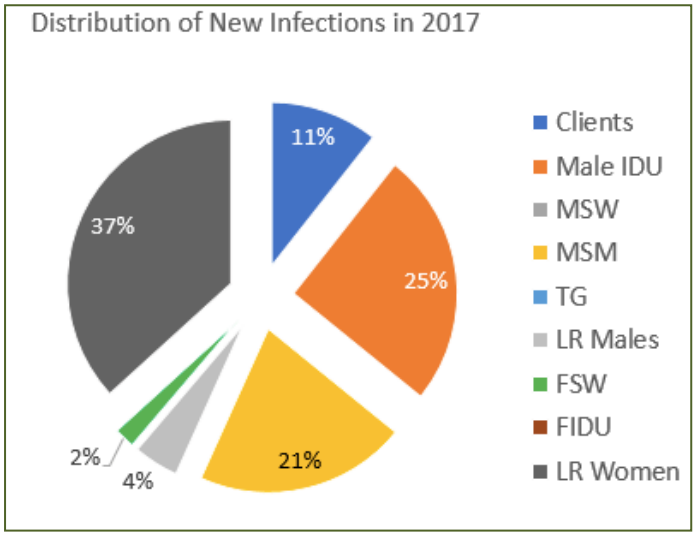


Figure 1: Geographical distribution of HIV infection among key populations in Viet Nam. Source: HSS 2017. VAAC.

Men who have sex with men (MSM) There are assumed to be around 200,000 MSM [1] in Viet Nam, of whom 45% are considered reachable. HSS data for MSM in 2017 (9 provinces) estimates an average HIV prevalence of 12.2%. Available data indicate a growing epidemic in some urban centres, including Can Tho (22.7% prevalence) and HCMC (17% prevalence). Some 1.5% of surveyed MSM reported injecting drugs in the last month; HIV prevalence among this group is estimated at 25.6% [2]. Currently, surveillance of MSM populations is conducted in only a handful of provinces and which limits the generalizability of the findings to a nationally representative HIV prevalence. Nonetheless, it has been recognized that level of risks varies among MSM populations, and current programming prioritizes MSM at high risk (men who have unprotected anal sex with other men).

[1] Data source: case reporting, by December 2017 (personal communication with M&E, VAAC)

Figure2: Distribution of new infections by populations of interest in Vietnam. Source: AEM 2018



With a population size equivalent to the PWID population, and an increasing proportion of annual new infections attributable to this population (21% in 2017 [Figure 2] vs 7% in 2010 [1]), **MSM are a priority population** for Viet Nam's HIV response toward the end of AIDS. Experiences from other countries suggest that an uncontrolled epidemic among MSM in metropolitan cities is likely to result in very high HIV prevalence among this population, for example Bangkok with 28.6% prevalence and Kuala Lumpur with 22% prevalence.

People who inject drugs (PWID) Injecting drug use remains the leading HIV transmission mode in Vietnam, although the rate of transmission among MSM is approaching parity. Modelling suggests that 25% of estimated new infections occurred among male PWID in 2017 (Figure 2). Data from HIV sentinel surveillance plus behavioural component (HSS+) 2017 estimates that HIV prevalence among PWID living in the twenty surveyed provinces ranges from 2.7% in Da Nang to 25.7% in Dien Bien [3]. There are assumed to be around 189,400 injecting drug users nationwide [1], with 54% of the drug-using population living in 11 of Vietnam's 63 provinces. While HIV prevalence among PWID is decreasing in all surveyed provinces [4] the epidemic is alarmingly high in some areas, with over 15% HIV prevalence in eight provinces[2] [2].

Female sex workers (FSW) There are assumed to be around 85,500 FSW [1] living in Viet Nam. While HIV prevalence among FSWs began declining nationally in 2002, prevalence among FSW varies by province and exceeds 5% among FSW in HCMC (6.3%) and Can Tho (6.0%), Dong Nai (5.7%) [3]. Clients of FSW contributed 11% of new infections in 2017 (Figure 2). Consistent low HIV prevalence and the high rate of condom use among FSW has contributed to a downward trend of estimated new infections attributed to this population.

Transgender women (TGW) Transgender women have only recently begun to be investigated as a population separate from MSM. Initial findings, in line with global evidence, suggest that this is a population at greater risk with a low uptake of testing services. A survey conducted among 205 Transgender Women in HCMC in 2015 revealed a prevalence of around 18% (n=37) with only one HIV infected individual aware of their serostatus [5].

People who use ATS [6] ATS use is increasing in Southeast Asia including Viet Nam and seems common among PWID, MSM and, to a lesser degree among FSW, particularly in the big cities of Hanoi, HCMC and Da Nang. There is some evidence that ATS use increases HIV transmission risk behaviours in Viet Nam and the impact on the epidemic needs to be further monitored [7]. A 2016 survey showed about 30% of surveyed MSM in Ha Noi and Ho Chi Minh City ever using ATS [8] and other studies showed that ATS use has been associated with risky sexual and injecting behaviour [9]. Other surveys found association between methamphetamine use, high-risk sexual activity and delay in methadone initiation [10]. These findings are supported by international studies that indicate that use of these substances is associated with a significant increase in behaviours putting people at risk of HIV [11]. There is some evidence that ATS use reduces initiation and adherence to ART [12], [13] , interferes

[2] Binh Duong (16.0%); Thanh Hoa (16.0%); Quang Ninh (16.0%); Thai Nguyen (18.0%); Hanoi (20.7%); Son La (21.3%); Hai Phong (22.3%); Dien Bien (25.7%).

with suppression of plasma viral load [11] and has a significant negative effect on immune function. A recent study showed that using methamphetamine activates cytokine production in the rectal mucosa [14]. Cytokines increase the volume of the activity of immune system cells, suggesting that MSM using methamphetamines are more susceptible to HIV infection. The same study suggested that people living with HIV who are on ART and who use methamphetamines are less likely to keep their viral load suppressed, compared with the PLWH on ARV treatment who do not use methamphetamines

Sexual partners of key populations Modelling suggests that in 2017, 39% of estimated total new infections in Vietnam occurred among all women living with HIV (women at low risk and female sex workers" (Figure 2). This category includes sexual partners of key populations and former sex workers. Data triangulation by UNAIDS and UN WOMEN also suggested most women living with HIV report that they were infected by stable sexual partners who either injected drugs or visited sex workers [15].

Mother to Child Transmission It is estimated that there were some 2,700 HIV positive pregnant women (range: 2,300 - 3 200), and fewer than 500 new HIV infections in infants in 2017 [16]. The transmission rate of HIV from mother to child has declined over time but remains high compared with other nations in the region. In 2017, an estimated 77% of HIV positive pregnant women received ARV prophylaxis or treatment [17]. Programmatic data indicates that, among HIV exposed infants who receive early infant diagnosis (EID), transmission is around 7-8%. This does not include HIV exposed infants who do not receive EID or HIV positive women who do not know their HIV status.

This is a pivotal year for children living with HIV in Viet Nam: over the past decade, the estimated number of infected children has been increasing. In 2018, however, this figure is expected to start to decline due to expanded availability PMTCT as well as the reduced number of pregnant women living with HIV from 3,000 in 2007 to 2,700 in 2017.

Geographical concentration

The HIV epidemic in Vietnam is geographically concentrated (Figure 3). Based on AEM estimations provinces are ranked by number of PLHIV, number of undiagnosed PLHIV, and number of PLHIV who are not receiving ART, and then categorised into high, middle and low burden provinces (Annex 3). In 2016, the eight high-burden provinces and 24 middle burden provinces accounted for 50% and 29% of estimated ART needs.

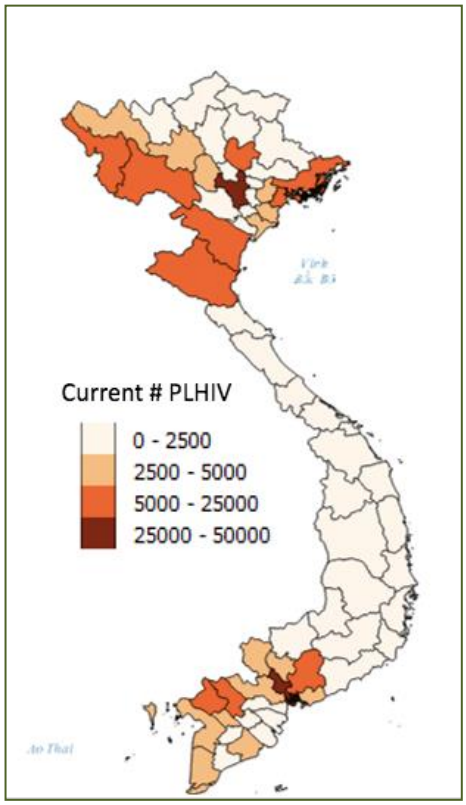


Figure 3: Geographical distribution of people living with HIV in Viet Nam.

The two largest cities of Hanoi and HCMC have the largest HIV epidemics in the country, with PLHIV also concentrated in the northern and northwest mountainous provinces, including Dien Bien, and Son La; the mountainous districts of Nghe An and Thanh Hoa (Figure 3) ; the southwest (Mekong Delta); and the southeast. The size and distribution of key populations also vary across the country; HIV prevalence among key populations is also geographically diverse (Figure 1).

To date, almost all prevention activities are project based and are largely supported through external funding, notably Global Fund and PEPFAR. Prevention activities are concentrated in provinces with high and medium HIV burden and those with high populations of key populations. There are a number of provinces, however, with increased numbers of reported HIV cases that are no longer receiving external funding for prevention programming (Figure 4). In principle, all provinces should be receiving some funding for the HIV response, either through national or local budget, as articulated through Decision

No. 1899 (2013) "Approval of sustainable financing proposal for the period 2013-2020". Some provinces, such as Cao Bang, have developed concrete plans with clear breakdown of activities to be funded through local and national budget. Information about all provincial plans and their implementation was not available and thus not reviewed for this report.

Geographic Gaps

The Global Fund and PEPFAR together cover 32 provinces that account for 80% of the need for treatment in the country. If 100% treatment coverage is achieved in those provinces, Viet Nam will have almost reached the second 90. However, data on where new infections are occurring is still limited. Prevention programs of VUSTA, a Global Fund Principle Recipient, are present at project sites in 11 of the 32 provinces supported by the Global Fund. **It is possible that priority provinces for treatment are not the priority provinces for prevention.**

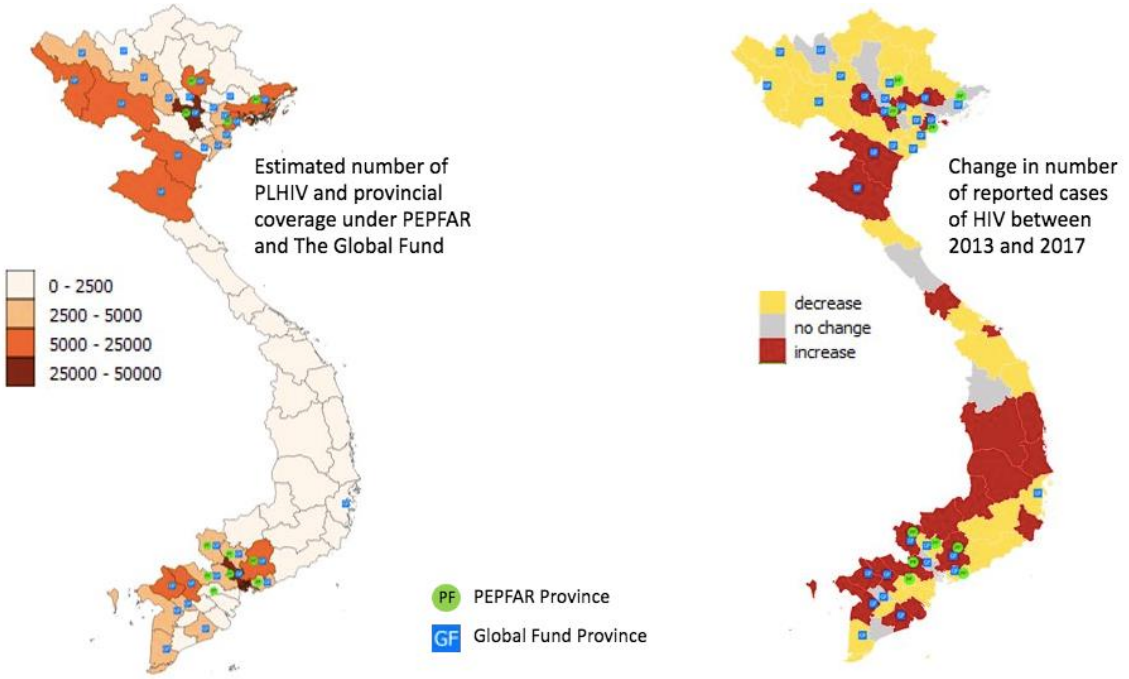


Figure 4: Provinces receiving Global Fund/PEPFAR support against provinces with changing numbers of newly reported HIV cases. Source: VAAC (PLHIV estimates and reported cases) and UNAIDS analysis.

Several provinces have shown substantial increases in both the number of reported and estimated HIV cases. Dak Lak had an increase of 1,129 (237%) in reported cases of PLHIV between 2013 and 2017, pushing it into the top 10 provinces in terms of number and percentage of PLHIV. By the Spectrum and Estimation and Projection Package (EPP) estimates, the increase is more nominal, at 487 additional PLHIV or a 23% increase, nonetheless by this measure it is still in the top 20 provinces. Similarly, Binh Phuoc has also seen a 200% increase in the number of reported HIV cases (n=1,048); Dak Nong has recorded an alarming 554% increase in reported cases (n=493) with similarly high increases in Gia Lai (414%; n=571), despite estimates indicating a 20% reduction. Reported cases have increased by 174% (n=665) in Tra Vinh. None of these provinces are supported through either the Global Fund or PEPFAR and, where data is available, all had low treatment coverage in 2017 (22%-26%). It is thus important to ensure that all provinces which need to remain proactive are well aware of the epidemic's evolution and risks and take necessary action with guidance and support from the central levels.

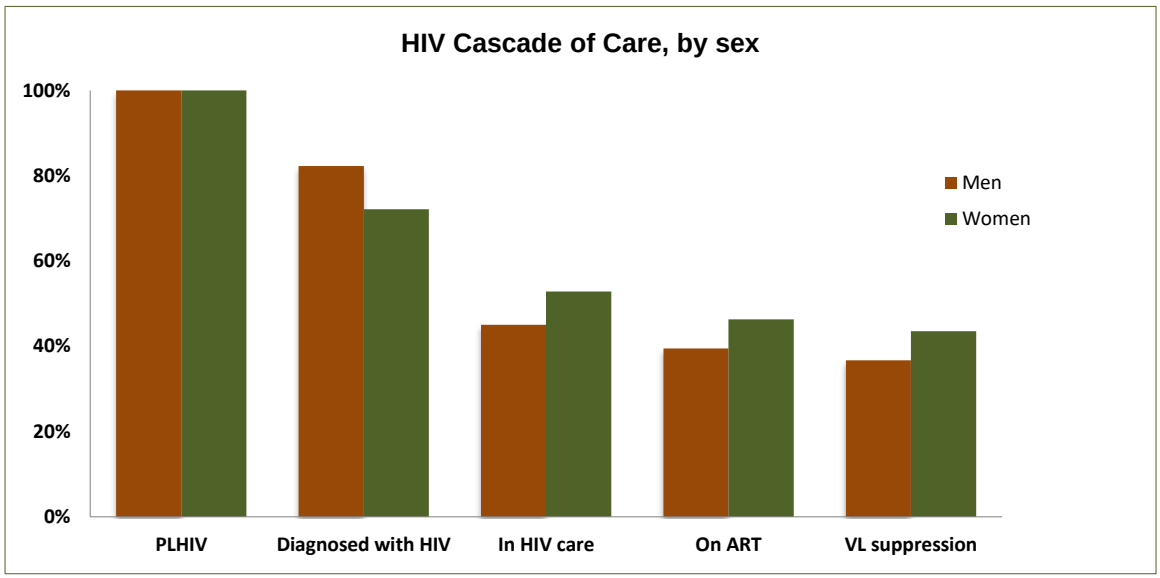
Gender disparities and issues

Men continue to carry a greater burden of the HIV than women in Viet Nam, with nearly two men living with HIV for every woman living with HIV in 2017. However, while new HIV infections in the country have been declining over the past years, the proportion of all women living with HIV (women at low risk and female sex workers) among the estimated total new HIV cases has been steadily increasing, from 33% in 2007 to 39% in 2017 [1], indicating that women may be left behind in the benefits of recent prevention efforts. The observed increase in the proportion of women living with HIV among all estimated new cases is in tension with the observed increase in transmission among men who have sex with men; the gender ratio of HIV infections may change again if HIV prevalence continues to rise among MSM.

In 2017, transmission among partners of key populations is still a concern. Studies show that more than half of women living with HIV reported that their only possible exposure to HIV had been through their male sexual partners who had engaged in high-risk behaviours [15].

Women living with HIV are less likely to be diagnosed. The reasons for this are unclear and likely relate to inequities in access to testing services. Once diagnosed, however, women are more likely to enrol in HIV treatment and care and to achieve viral suppression (Figure). The Gender Assessment of Viet Nam's HIV Response, and Gender, HIV and Monitoring and Evaluation in Viet Nam: A Review (2016), highlighted a lack of gender considerations in most HIV responses and in the HIV M&E framework. The National Strategy on HIV 2011-2020 and the Law on HIV/AIDS Prevention and Control (2006) do not adequately address the gender dynamics of the epidemic, nor do they deal with the disproportionate impact of HIV on women and girls. One critical gap is any acknowledgement of how gender inequality and HIV are linked. Another critical gap is a tendency to view women and girls as homogeneous, which has resulted in the current heavy focus on pregnant women and the exclusion of other women.

Figure 5: HIV Cascade of care disaggregated by sex. Source: VAAC 2015.



The national strategy

The current National Strategy on HIV/AIDS Prevention and Control to 2020, with a vision to 2030 (the strategy) underpins the HIV response in Viet Nam. The strategy is supported through an operational plan and associated budget framework. Its stated objective is to *control the HIV prevalence rate to below 0.3% by 2020 and to mitigate the adverse impacts of HIV/AIDS on the socio-economic development of the nation*. The strategy articulates a series of specific objectives that need to be met

in order to achieve the key objective including: increasing the proportion of adults who are able to demonstrate comprehensive HIV knowledge; reducing stigma and discrimination; reducing HIV transmission through sexual or drug use mechanisms; eliminating mother to child transmission; and increasing access to and uptake of antiretroviral therapy (ART).

Political will remains strong for a robust, evidence-based response to HIV epidemics in Viet Nam, including prevention programming.

The development of the new national HIV strategy (2021-2030) is a great opportunity to ensure an updated shared strategic vision among all stakeholders on and HIV prevention and maximise investment efficiency and effectiveness. It is hoped that this can lead to sharing of findings from all key surveys and projects to reduce the fragmented approach and optimize cross-fertilization of lessons learned and available technical, human resources and financial resources. Indeed, new and innovative strategies must be urgently identified and put in place to better target and connect more people at greatest risk of transmitting or acquiring HIV infection with effective, evidence-based prevention interventions at a sufficient scale and intensity, with particular focus on men who have sex with men. Viet Nam's experience with effective and diversified options for community-based lay testing with effective linkage to HIV treatment can be further built on to increase the proportion of PLHIV that know their status and are on ART. Community support for PLHIV (self-help groups) has proven very useful in the past and innovative ways to sustain them to bring new people to HIV services should be explored.

HIV financing

Although the Government of Viet Nam has increased its funding for HIV over time and remains strongly committed to sustainability, the HIV response in Viet Nam remains heavily dependent on external funding, with external donors still meeting nearly two thirds of Viet Nam's total investment in HIV response in 2017 (Figure 6) and 55% of Viet Nam's investment in prevention programming (excluding PMTCT) (Figure 7). Viet Nam's continued economic growth saw it graduate to lower-middle-income status in around 2013. Since then, there has been a reduction in external funding for all sectors, including HIV and health in general.

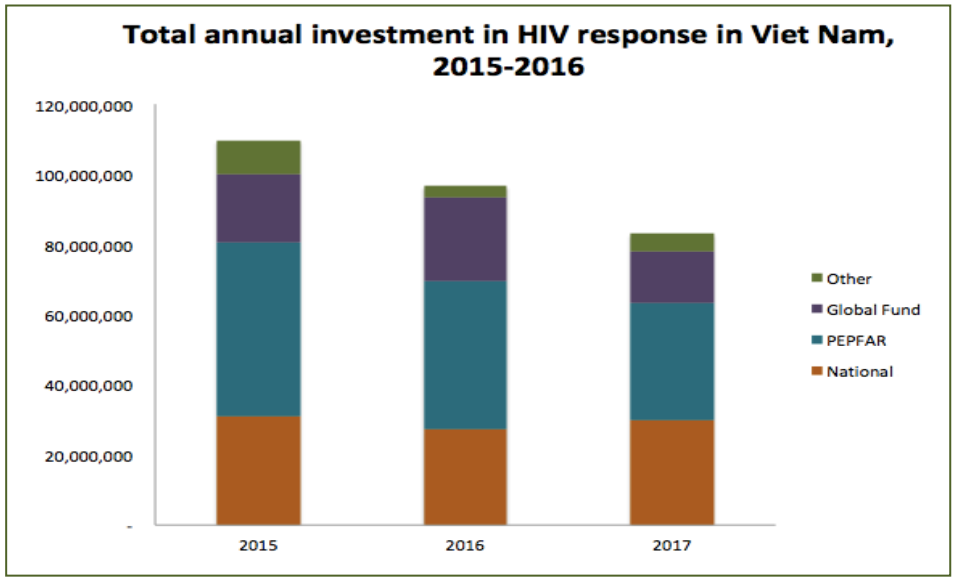


Figure 6: Total investment in HIV in Viet Nam (2015-2017) by funding source.
Source: NHA

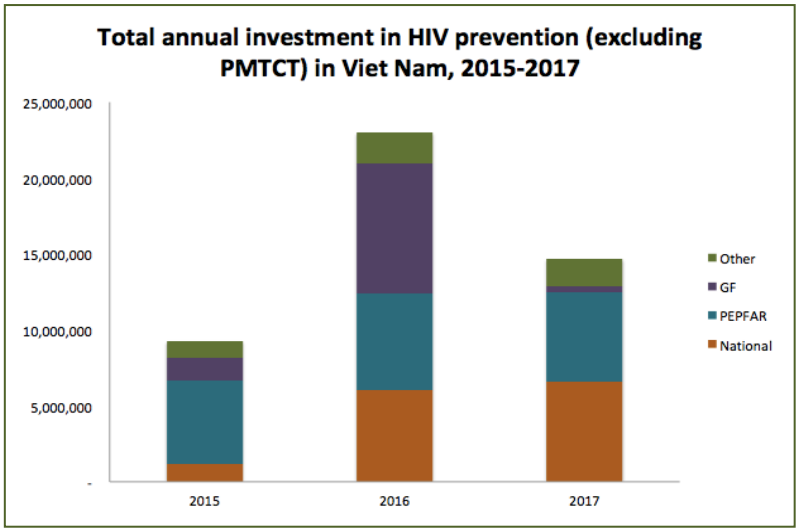


Figure 7: Total annual investment in prevention programming in Viet Nam (excluding PMTCT) 2015-2017 by funding source. Source: NHA

Total annual investment in HIV response decrease by 12 to 15% year on year between 2015 and 2017. Total investment in HIV prevention decreased by over one third from 2016 to 2017. These reductions will likely accelerate after 2020. A major transition is taking place from 2019 with for the first time, HIV treatment funded and reimbursed by Social Health Insurance (SHI) for about 48,000 PLHIV (replacing PEPFAR funding). A transition plan has also been agreed for further transition of HIV treatment funding to SHI for 2020 and beyond. While this on-going transition is key for securing financial sustainability of HIV treatment, no transition from external funding has yet been planned for HIV prevention and the current SHI mechanism does not allow coverage of prevention services. If increased national and local budget for HIV response is not invested for sustainable prevention interventions, **the impressive achievements of the past decade** (Section 6) **are at risk of being undermined**. This may require exploring a combination of new funding and possibly service delivery models including expanding nascent public-private partnerships, social enterprising, social contracting and engaging national philanthropists and foundations.

Beyond HIV there is also a larger effort for health prevention. Resolution 20 on Health Care of the Communist Party's Executive Committee adopted in 2017 includes a commitment that 30% of the health care budget will be allocated for prevention by 2025 and a commitment to end AIDS by 2030.

The MOH is currently developing the Law on Preventive Medicines, which may provide a mechanism for greater investment in ART to maximise the benefits of treatment as prevention. The SHI Law will also be revised in the coming years. Other efforts include the state budget's continued investments for drug dependence treatment (MMT) and part of other prevention commodities (syringes, condoms, lubricants). Rehabilitation and psychosocial and social support services are also gradually being integrated to ensure sustainability (Proposal 2596 on renovation of detoxification and loans provided by the Ministry of Labor, Invalids and Social Affairs). While this is promising, it is essential to ensure a comprehensive approach to ensure sustainability of all key prevention interventions including harm reduction and more effective condom programming if Viet Nam is to achieve the end of AIDS as a public health issue by 2030.

6. Programme achievements and gap analysis

Investigating plausible impact through the Asian Epidemic Model

To better understand the achievements of HIV response in Viet Nam, the AIDS Epidemic Model (AEM) was used by the Technical Working Group on Strategic Information to investigate four scenarios to estimate the past impact of the national HIV response. These included:

1. **Current intervention scenario**, which reproduces the observed prevalence trends in key populations to date including the effects of all programs carried out;
2. **No national response scenario** which shows the effect of not scaling up programs and keeping behaviours as they were in 2000;

3. **Treatment scale up only since 2000**, maintaining prevention levels and behaviours as they were in 2000; and
4. **Prevention scale up only since 2000**, maintaining treatment coverage as they were in 2000.

The number of annual new infections and annual deaths among people living with HIV in the four scenarios described are presented in Figure 8 and Figure 9, below.

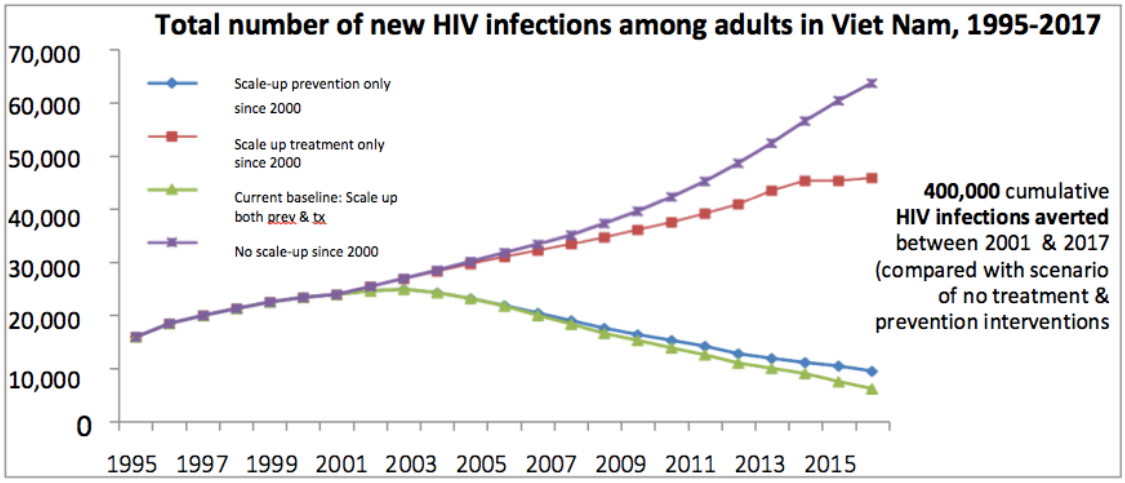


Figure 8: Annual number of new HIV infections in Viet Nam, four scenarios. Source: AEM 2018.

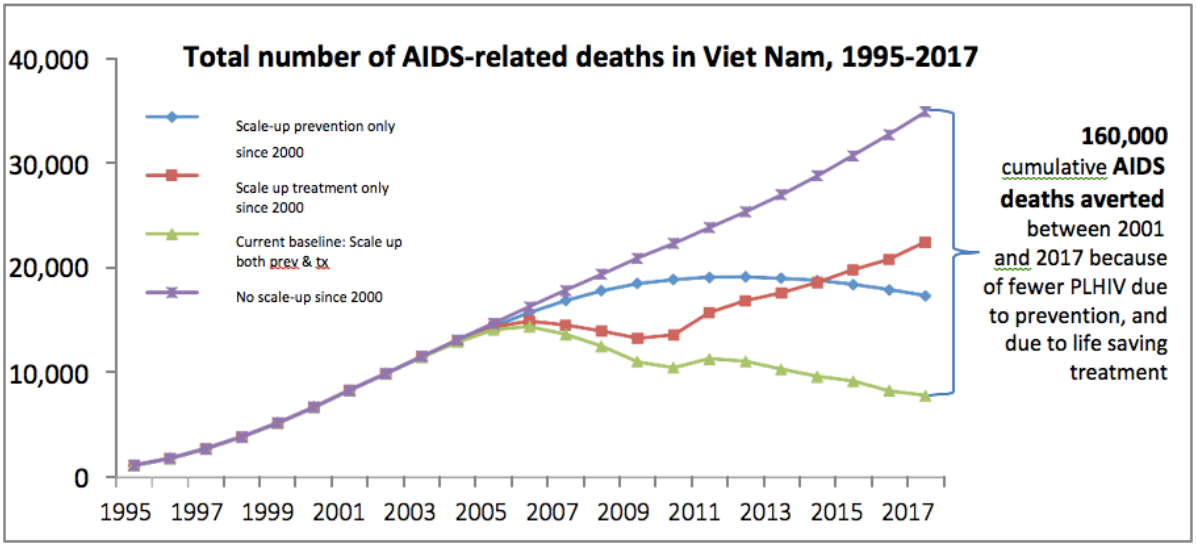


Figure 9: Estimated annual number of AIDS-related deaths, four scenarios. Source: AEM 2018.

Without the national HIV response, more than twice as many people would be living with HIV and the number of new infections each year would be continuing to grow steadily. Instead new infections peaked at around 25,000 in 2003 and then began a steady decline in 2005, soon after the acceleration of the national response. It is estimated that the national response has averted more than 400,000 HIV infections between 2001 and 2017. Of these 125,000 were due to the expansion of response in the mid-2000s. A cumulative 160,000 AIDS related deaths are estimated to have been averted during the period. Overall, the scale up of the national response allowed to save an estimated 8 million DALYS between 2001 and 2017.

Scale-up of **prevention and treatment** has contributed to **averting** over **400,000** HIV infections between 2001 and 2017

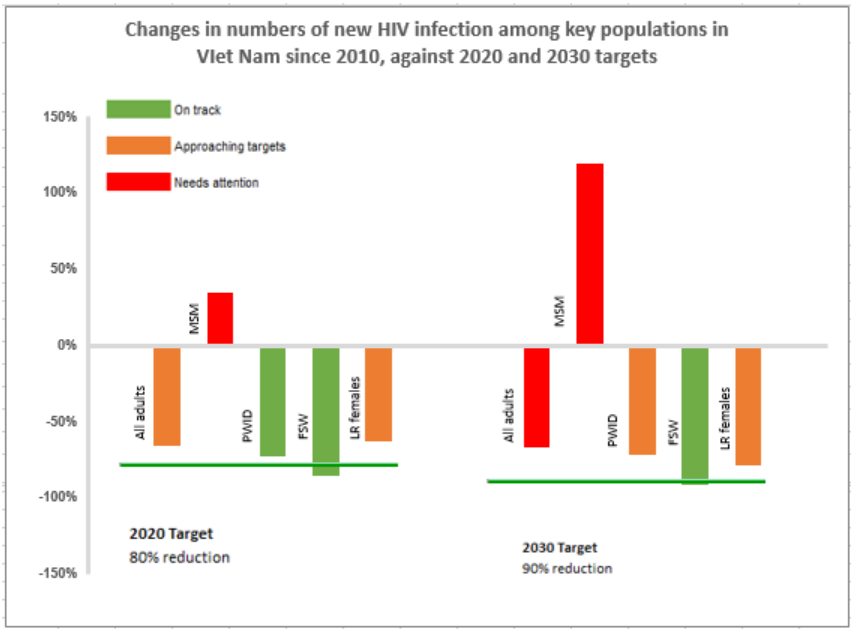
Similar successes have been seen on the treatment side and the current status of the testing, treatment, and viral suppression cascade in Viet Nam is shown in Figure 5. Since the scale-up of ART in 2004, the number of annual deaths among people living with HIV has levelled off to stabilize at about 7,000 people each year. The reduction in deaths accelerated with the influx of resources in the mid-2000s. This allowed treatment programs to expand to cover nearly 130,000 people today.

Achievement against national targets and identified gaps

New HIV infections

The national strategy aimed to reduce new HIV infections by 80% by 2020 and the fast track target by 90% by 2030 against the estimated number of new infections in 2010. Currently, only reductions of new infections among female sex workers are on track to achieve both the 2020 and 2030 targets. The number of **new infections among men who have sex with men is increasing rapidly** (Figure 10). This presents a significant public health issue among this population and is likely to hinder efforts to end AIDS as a public health threat by 2030. As noted by VAAC during the national prevention gap analysis held in Hanoi in October 2018, global modelling suggests that even meeting the UNAIDS Fast-Track targets of 90-90-90 by 2020 will only achieve half the necessary reduction in incidence to end AIDS by 2030.

Nearly 11% of participants in a study conducted in 2017 by Hanoi Medical University (HMU)[3] among MSM in Hanoi tested positive for HIV infection and more than a third of those (35.7%) were determined to have become infected in the previous six months. The average age of those newly infected was 23 years.



Source: Viet Nam AEM 2018

There is evidence that older men who have sex with men are reached late, diagnosed late, present later to HIV care, and are less likely to access prevention services than younger MSM. If Viet Nam is to meet its stated goal of ending AIDS by 2030, it is **essential that effective prevention interventions be accessed by MSM of all ages**. In addition, innovative strategies to improve coverage and uptake of HIV testing by all key populations is essential if Viet Nam is to achieve the Fast-Track targets of 90% of PLHIV knowing their status by 2020 and to maximise the benefits of treatment as prevention. A recent report [18] on community-based HIV testing and counselling (CBT) suggests that this approach is effective at reaching first-time testers in populations at risk of HIV in both urban and, in particular, rural areas. CBT also appears to be more effective than venue-based HIV counselling and testing (VCT) at reaching those most at risk of HIV infection, as evidenced through higher rates of positivity [18].

[3] Unpublished data from an available abstract submitted for presentation at the international Conference on Retroviruses and Opportunistic Infections in 2019

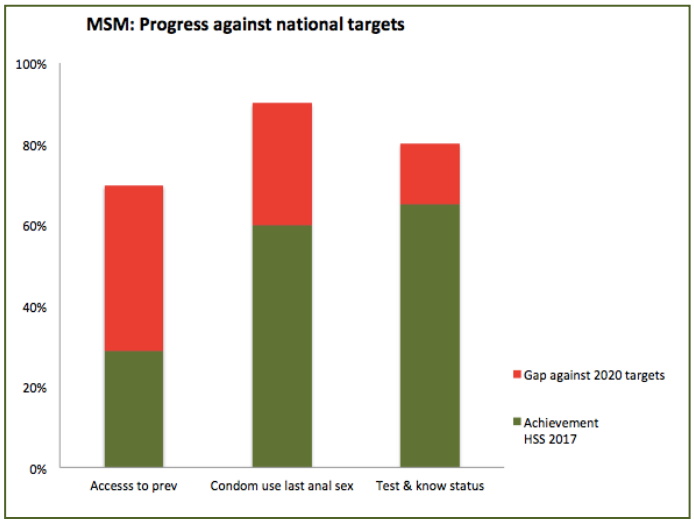


Figure 11: MSM Progress against national targets, Viet Nam 2017. Source: HSS+ 2017

Much progress has been made in terms of reduction of Mother-To-Child Transmission of HIV. Thanks to the increased coverage of the services to prevent mother-to-child transmission from about 9% in 2006 to about 81% in 2018 (UNAIDS estimates) and general better access to ART, the estimated annual number of pregnant women living with HIV has declined to less than 2,400 in 2018. The total number of children living with HIV is less than 5,000 and annual new infection among children below 500. The PMTCT services are integrated in the maternal and child healthcare system making it much easier to women and child to access them at the same location but requires close coordination between the national programmes (VAAC and MCH). Paving the way forward, the government has adopted end 2018 an ambitious National Action Plan for the Triple Elimination of Mother to Child Transmission of HIV, Hepatitis B and Syphilis for 2018-2030 in line with the *Regional Framework for the Triple Elimination of Mother-to-Child Transmission of HIV, Hepatitis B and Syphilis in Asia and the Pacific 2018–2030*.

HIV knowledge

During the 2016 National Survey on Sexual and Reproductive Health among Vietnamese Adolescents and Young Adults aged 10 to 24 years, only 26.8% of respondents demonstrated comprehensive correct knowledge of HIV. Taking each indicator individually, each statement was answered correctly by over half the participants, with three quarters of participants correctly answering statements pertaining to limiting sex to one faithful and uninfected partner; using a condom during every sexual encounter for HIV prevention; and that a health-looking person can be HIV positive. The national target for comprehensive knowledge of HIV/AIDS as stated in the National Strategy (Decision 608/QD-TTg) is to increase the percentage of the population aged 15-49 with comprehensive knowledge about HIV and AIDS to 50% by 2015 and 80% by 2020.

Comprehensive knowledge varied significantly by sex, with males demonstrating higher rates of comprehensive correct knowledge of HIV than females (28.8% vs 24.8%). Place of residence, age, ethnicity and migration status also significantly affected HIV knowledge, with more Kinh and migrant respondents demonstrating comprehensive knowledge than non-Kinh and non-migrant participants. People aged 19 to 24 years of age were significantly more likely to show comprehensive HIV knowledge than younger respondents and this was true for both males and females. Marital status had no significant effect on levels of comprehensive HIV knowledge.

Key populations: Men who have sex with men

Outreach and linkage to services In order to achieve the end of AIDS by 2030, it is clear that innovative strategies to connect men who have sex with men to prevention, testing and treatment services must

be developed as a matter of urgency. MSM access to prevention reached only 28.7% in 2017 – far below the 70% national target by 2020. Community consultations suggest that MSM are a mobile population and there is evidence that a large number stay connected though social media (apps), at least in urban areas. It is likely that many MSM in rural areas are hidden and unreachable, although little research has been conducted among this cohort to date. The efficacy of social media as a tool for linking people to services, to promote behaviour change or even to recruit potential participants in research studies is, however, less clear. A prevention trial in Hanoi contracted two dating apps for gay men and other MSM (Jack'D and Blue'd) to send an invitation to participate in the trial to their members in Hanoi. Over a period of 3 days, 2,000 members of the dating apps clicked on the invitation banner, but only 50 people completed the questionnaire. Of those, 16 were eligible to participate and only three actually agreed to participate. Conversely, international NGO PATH reported recruiting some 60% of their PrEP clients through social media linkage. The capacity of social media to facilitate outreach, knowledge sharing, linkage to HIV services, monitoring of linkage and uptake of services is not yet well understood. It is likely that a variety of interventions and approaches will need to be developed to use this potentially powerful tool to greatest effect. Direct (physical) outreach to individuals or groups at hotspots such as MSM-friendly bars and nightclubs will continue to play an important role in reaching this population.

The VAAC has drafted comprehensive new guidelines for prevention among MSM. It is anticipated that these guidelines will be finalised and approved by mid-2019. The guidelines will provide detailed information on the content and delivery of services including:

- Behaviour change communication (BCC);
- HIV counselling and testing (TV-HIV test);
- Provision of intervention items;
- Pre-exposure prophylaxis (PrEP);
- Post-exposure prophylaxis (PEP);
- Examination and treatment of sexually transmitted infections (STIs);
- Treatment with anti-HIV drugs, opportunistic infections and TB prevention; and
- Referral to other relevant health services

An expanded list of services is detailed for MSM with overlapping risk: those that are also selling sex and/or using illicit drugs. The guidelines reference relevant legislation, providing a clear legal framework for interventions.

Condom programmes and STI Condom use among MSM was 60% in 2017 and has been somewhat stagnant since 2010 (Figure 12) despite increasing knowledge about HIV and prevention in this cohort. This is consistent with the high and growing prevalence of STI among MSM. In a 2017 study conducted by Hanoi Medical University (HMU) among MSM in Hanoi, nearly 19% of participants tested positive for syphilis. During a PrEP study involving MSM in HCMC (VinaPrEP), 16 out of 201 (8%) of participants reported having syphilis infections prior to testing. Following testing, prevalence was 20.7%, demonstrating a substantial gap in diagnosis and knowledge of one's status. During the Prevention Gap Analysis Consultation ("the consultation"), a multi-stakeholder activity held in Hanoi in October 2018, the high cost of STI testing and treatment was cited as a substantial barrier

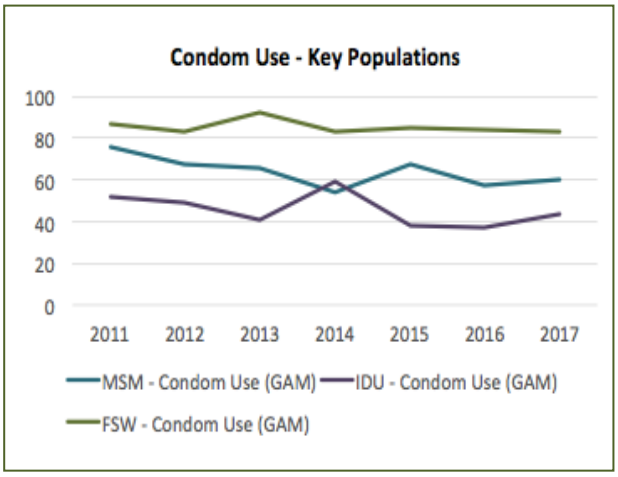


Figure 12: Condom use among key populations in Viet Nam 1995-2007. Source: GAM

to access and the lack of robust STI guidelines for surveillance, prevention, and treatment was identified as a gap that should be addressed.

During the consultation, VAAC noted that implementation of the condom programme had been going on for a long time and yet rates of condom use are persistently low. **It is essential that new and effective behaviour change messaging be developed around condom use for MSM if Viet Nam is to meaningfully address the rapid increase in new infections within this cohort.**

For the condom program to maintain and increase effectiveness, steps must also be taken to improve the quality of condoms on the market. Until recently, the condom market was unregulated, with no mandatory standards for quality, resulting in an abundance of low quality and fake branded condoms. An assessment on condom quality conducted by Crown Agents in 2014 detected failure rates of 29% in Hanoi and 23.5% in HCMC when tested against ISO requirements and WHO/UNFPA 2010 specifications for male latex condoms. In September 2017, the Government of Viet Nam addressed this situation through the creation of Circular 31, which tightens compulsory quality control procedures for condom products in order to ensure they meet ISO 4074: 2002 standards (corresponding to TCVN 6342: 2007) and WHO 2003 guidelines.

PrEP A recent technical review of a PrEP implementation study conducted among MSM in HCMC, VinaPrEP, demonstrated that PrEP is safe, that the clients that use it are highly satisfied, that it is feasible to implement and also that there is high unmet demand for PrEP among MSM. The availability of PrEP, however, remains limited and despite the recent launch of a national action plan to scale up PrEP (aiming at reaching 7,300 people on PrEP by 2020, funded by PEPFAR) , as noted by VAAC during the national gap analysis, while PrEP is currently effective on an individual and intimate partners level, accelerated scale up and expansion of coverage to a point where its use will have an impact on reducing new infections on a national level will take quite some time.

During the consultation, concerns were also raised about the possible impact on STI prevalence by introducing PrEP, which protects only against HIV infection, into a community with low and declining rates of condom use. Other participants, however, saw the opportunity of PrEP provision as an entry point for STI screening, prevention and treatment, aided by the frequent (quarterly) visits of PrEP users to clinics to resupply, which has been observed to some degree during the PrEP pilots conducted in HCMC. This has the potential to be an important prevention tool in combination with a comprehensive condom programme and expanded STI testing and treatment. A representative from HMU proposed further modelling work, specifically to assess the effect of increasing treatment coverage among MSM to a maximum threshold, increase condom use realistically to 60-70% and then determine how many MSM would need to take PrEP in order to reduce the incidence level below 0.5%. Given the high cost of PrEP (higher than annual ART costs per person), decisions for the future package of interventions will depend largely on the financing available for prevention in Viet Nam, which remains unclear at this stage. Even if some key populations at risk of HIV might be able and willing to pay for PrEP, this will likely not be sufficient and cover all needs. Also, regardless of PrEP scale up, evidence is clear that STI level are very high among MSM and testing and treatment of STI need to be scaled up, in conjunction with efforts to improve rates of condom use.

HIV testing In 2017, 65% of surveyed MSM had received an HIV test and knew their status [3]. If this increase in coverage and uptake of HIV testing can be maintained, Viet Nam will achieve the national target of 80% of MSM who know their HIV status by 2020, although they will still fall short of the Fast-Track target of 90%.

Overlapping risks Over 20% of participants in the aforementioned HMU MSM study reported using amphetamine type stimulants (ATS) in the past three months, 90% of whom reported use at a moderate to high-risk level, which requires interventions. During the consultation, participants expressed a belief that a large proportion of MSM who sell sex also use drugs. According to one participant in the consultation, in a small study at UCLA on use of methamphetamine crystal ("ice") among MSM, people who had used ice had rectal inflammation, and the study showed that using methamphetamine

activates cytokine production in the rectal mucosa [14]. Cytokines increase the volume of the activity of immune system cells. This suggests that MSM using methamphetamines are more susceptible to HIV infection and, if treated, are less likely to keep their viral load suppressed, compared with people on ARV treatment who do not use methamphetamines.

While Viet Nam has substantial experience in managing opioid use, there is little or no experience in managing ATS or other substance use and it is recognised that further research is needed to develop an appropriate intervention model to address this issue.

All the evidence indicates an urgent need to boost prevention, including policies, interventions and investment, among MSM as this will be critical to reach epidemic control or even not let the achieved gains be offset by a rise of new infections. The evidence from other Asian countries where the epidemic is bouncing back especially among MSM clearly shows that delayed action can have serious consequences. It is thus important for Viet Nam to further identify creative ways to reach hidden or unreached MSM in all provinces, especially for MSM at higher risk, and ensure a comprehensive prevention package with integrated approaches (eg rapid dual/triple test for HIV, syphilis and hepatitis B and C, condoms, PrEP, behaviour change, treatment and support system) and referral for other harm reduction and treatment services when needed. Continued timely surveillance among MSM, analysis of new cases and programme coverage at both national and sub-national level for an increased number of provinces also remains essential to inform better programme targeting and timely monitoring. This will likely shape the future of Viet Nam's epidemic.

Key populations: People who inject drugs

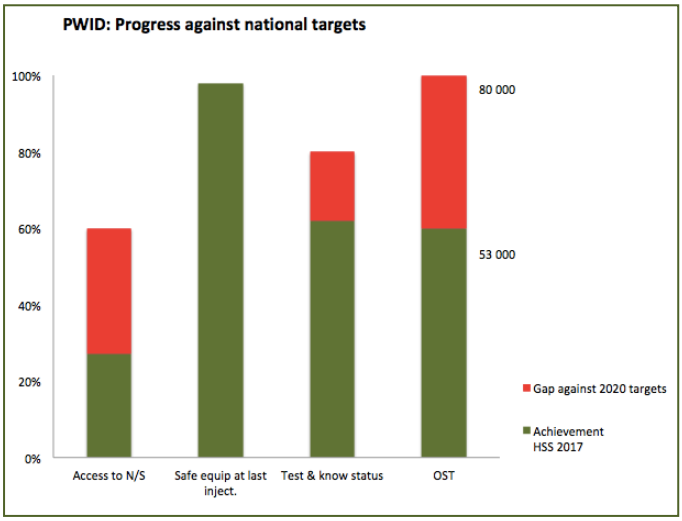


Figure 13: Progress against key national targets for people who inject drugs, Viet Nam 2017. Source: HSS+ 2017 and programmatic data (OST coverage)

Outreach and linkage to services
Prevention programming outreach is limited to provinces supported by external donors, notably Global Fund and PEPFAR (Figure 4). This results in inequitable coverage of prevention services among people who inject drugs. It is likely that this situation will be exacerbated if and when external funding is reduced after 2020. In addition, increased urbanization has reduced the number of open spaces in cities for PWID to meet and congregate, pushing them to city outskirts or, in the case of police crackdowns, to neighbouring provinces. This poses a barrier for existing outreach services which are unable to operate outside their designated project areas.

Unlike the MSM community, there are no social networking apps for PWID, which limits health communication outreach to the community. NGO SCDI sees an opportunity to develop gaming apps to reach younger people with public health messaging on the risks of drug use and injecting drug use. While this may be necessary for some specific key population groups, using existing popular gaming platforms to bring public health messages for a wider population could also be explored. NGO PSI currently finds working with pawn shops an effective platform to introduce harm reduction messaging and to make referrals to vendors of low dead space syringes (LDSS).

Needle & syringe programmes: The number of freely distributed needles and syringes increased from 2 million in 2006 to 39 million in 2012. An average of 25 million needles and syringes were distributed every

year between 2012 an 2016 and 28 million were distributed in 2016 [19]. Besides receiving clean needles, syringes and condoms from the HIV Prevention Programme, PWID can access them through the pharmacies, small tea/grocery shops but which are only available in cities or towns and with limited opening hours. It is thus very difficult for people in the mountainous and rural areas to access these HIV prevention commodities [19]. In 2017, only 27% of people who inject drugs reported being able to access free clean needles and syringes, falling well short of being on track to achieve the target of 60% coverage by 2020 (Figure 13). Nonetheless, 98% of PWID reported using safe injection equipment at their last injection, already exceeding the 2020 target of 90%. This suggests that many people who inject drugs are accessing clean needle and syringe through either social marketing or private sellers.

LDSS have demonstrated efficacy in reducing transmission of HIV and hepatitis B and C. Since 2012, LDSS have become much more widely available in Viet Nam, with over 1,000 outlets in northern Viet Nam. International NGO PSI has been implementing a program of social marketing and behaviour change communication to promote the use of LDSS. Their research suggests that the use of LDSS increases among PWID exposed to social marketing and that promotion of the non-health benefits of LDSS (e.g. reduced loss of drug) is positively correlated with use of LDSS. In 2017, PSI supported the sale of nearly 5 million LDSS. This figure accounts for less than 10% of the estimated demand of 60 million needles and syringes per year in their project provinces. With limited funding for LDSS, the PSI program is starting to confront issues with supply. This is exacerbated by the fact that there is only one manufacturer in Viet Nam who produces LDSS with detachable needles. PWID in Vietnam have expressed preference for this type of LDSS because, should the needle become blocked, they are able to remove it and insert a new one without wasting the drug in the barrel. The Global Fund has procured a large number of LDSS for distribution in their program provinces but mostly with non-detachable needles which led to a gap to meet demand for the detachable ones. Despite positive feedback on the new LDSS during a rapid assessment conducted prior to changing supplier, frequent issues with low-quality drugs blocking the needles has reduced demand for these new LDSS.

Opioid substitution therapy Some 53,000 PWID have enrolled in opioid substitution therapy, which is equivalent to 66% of Viet Nam's target of 80,000. VAAC conducted a 10-year review of Viet Nam's OST programme. Findings suggest that the programme has been very successful and that further improvements in access and flexible options for new and keeping existing clients within the OST programme are important to reach the ambitious target of 80,000 of PWID enrolled in MMT. Evidence from both Viet Nam and globally supports OST as an effective intervention for treatment of opiate use. This program should be continued with diversified treatment regimens and protocols in order to maximise the benefits of OST for PWID. A study by NGO SCDI among drug users aged 16 to 24 years, only 10% of the 3,400 respondents reported injecting drugs and among those, most reported injecting heroin. Interventions targeting young PWID to understand the benefits of OST and the risks of injecting drug use need to be developed to support this cohort. OST is not appropriate for users of ATS and there is a growing need for evidence-based interventions of heavy and dependent ATS use. There is also anecdotal evidence that ATS use is used as a criterion for disenrollment from OST for some patients.

HIV testing In 2017, 61.5% of surveyed PWID had received an HIV test in the last 12 months or knew their status [3]. If this increase in coverage and uptake of HIV testing can be maintained, Viet Nam will achieve the national target of 80% of PWID knowing their HIV status by 2020, although they will still fall short of the Fast-Track targets of 90%. Testing among PWID is done though different models including through community outreach workers, village health workers and in health facilities but no data is available to measure the coverage of testing services.

Building on the significant achievements in terms of reduction of HIV infections among PWID and availability of harm reduction services with various HIV and other health and social benefits, it will be important to further promote and scale-up successful innovative approaches for outreach and communication to the PWID/PWUD community, expand and sustain access to testing, needle and syringes, diversify OST with flexible options for appropriate patients as recommended in the 10 year

review of the MMT programme. Given the increasing use of ATS, the new VAAC guidelines for evidence-based interventions for ATS use are very timely to complement OST interventions and should be implemented immediately. Further learning from good practice from the region and ongoing pilot interventions will also remain important.

Key populations: Female sex workers

Outreach and linkage to services During the consultation, UNFPA noted that while there has been some success with older female sex workers, young female sex workers are not being reached with effective prevention interventions. MOLISA works with young women working in the entertainment/service industry and massage parlours to provide reproductive health and gynaecological check-ups and to use these services to reduce stigma. These services may also provide an entry point for peer outreach workers to reach younger female sex workers with HIV prevention interventions.

Condom Programme and STI Following a successful pilot in 2000, Vietnam implemented a 100% Condom Use Program, aiming at increasing condom use among female sex worker. This program was underpinned by a condom program approved by the Ministry of Culture, Sports and Tourism to target tourism facilities, with the goal of providing free condoms to 80% of the hotels and guest houses nationwide in 2015 [19]. During the 2011-2016 period, an average of 13 millions condoms per yer were freely distributed to key population at high risk of HIV. This number reached 25 million condoms in 2012 and over 12 million condoms in 2016. The condom social marketing program was also successfully implemented with an yearly average of 15.6 million condoms sold between 2011-2016 and a peak of 32 million comdoms sold in 2012 but down to 9,3 million condoms in 2016 [19]. Access to prevention services is very low among female sex workers with only 33% reporting being able to access these services against a 2020 target of 80% (Figure 14). Nonetheless, 83% reported condom use at last sex, suggesting that like, men who have sex with men, female sex workers are accessing condoms through other outlets, such as social marketing or private sale. There is currently no STI prevalence data among FSW, no STI surveillance, and a comprehensive STI program is also lacking for this population.

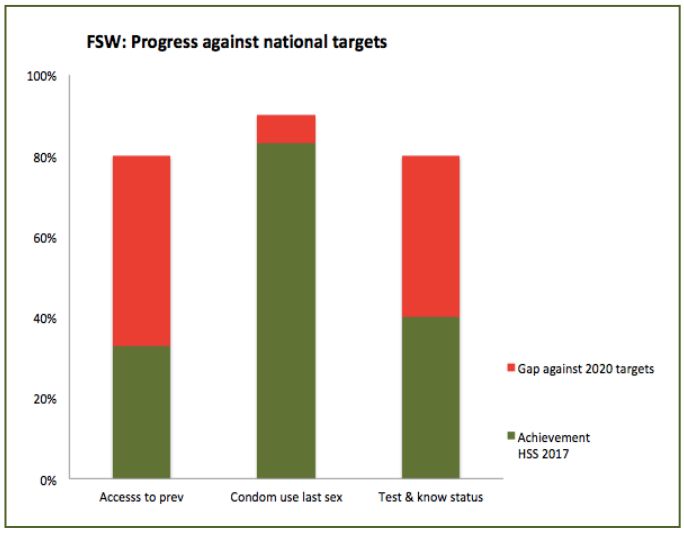


Figure 14: Progress against key national targets for female sex workers, Viet Nam 2017. Source: HSS+ 2017 and programmatic data (OST coverage)

HIV testing In 2017, only 39.6% of surveyed FSW had received an HIV test in the last 12 months or knew their status [3]. Testing among FSW is some though different models including through community outreach workers, village health workers and in health facilities but no data is available to measure the coverage of testing services. New approaches for increasing demand for and access to HTC among this

population will need to be implemented if Viet Nam is to meet their national target of 80% of FSW know their HIV status by 2020.

The available limited information on FSW points to important gaps for prevention for FSW. In the coming years, it will be important to seek opportunities to ensure better outreach to promote and attract FSW to various HIV testing options, promote information on quality condom and empowerment for condom use negotiation, ensure better access to STI prevention and treatment services and integrate HIV prevention package into current reproductive health services that are offered to women working in the entertainment/service industry and in massage parlours

Other populations: those left behind

Transgender women There is evidence both from within Viet Nam and globally that transgender women are at higher risk of HIV infection and that their needs are different from the MSM population with whom they are frequently grouped. It was noted at the consultation that a survey by the Institute for Studies of Society, Economics and Environment (iSEE) found that, among those surveyed, transgender women have the lowest power in negotiating condom use with their sex partner. During the consultation, a participant from VNP+ noted their perception that there is significant loss to follow-up between testing and treatment among this population.

Transgender women still face high levels of stigma and discrimination; this presents a barrier to access to health and social services as well as employment. During the consultation, participants who work with transgender women suggested that these women suffer from high rates of mental health issues due to the stigma and discrimination they face and that barriers to employment mean that many transgender women sell sex to cover the cost of their hormone therapy and surgery. In addition, participants suggested that there is some fear in the community that concurrent ART and hormone therapy requires higher dosage of hormone therapy and that, if forced to choose one over the other due to cost, they opt to take hormone therapy only.

Mental health and emotional counselling and hormone therapy were suggested as possible entry points for promoting knowledge of and access to HIV services; these services should be peer-led to promote uptake. There is some evidence that transgender women are very active online and in social networking and this may provide an opportunity to reach these women with HIV prevention messaging, information on ART/hormone therapy interactions, and other public health information. In addition, it provides a platform to develop a peer support network for this community.

As yet, there is no defined package of HIV services for transgender women. In order to better serve this community, an effective package of interventions needs to be developed with clear implementation guidelines, and funding procured to implement it at scale. In addition, participants at the consultation noted the need for better institutional linkages and better coordination and information sharing between VAAC, MOLISA and VUSTA who are providing services to the transgender community, as well as international NGOs working with this community.

Long-distance drivers Long distance drivers have been identified as a group at higher risk of HIV as they are frequent clients of FSW and many use drugs according to participants at the consultation. To date, there have been few interventions targeted at this population. iNGO PSI conducted an event in October 2018 in southern Hanoi Terminal for 300 long distance drivers, to provide HIV testing and counselling; results of this survey are pending. During the consultation, NGO SCDI recommended efforts to be combined with VUSTA for greater impact, since they cover more provinces. Lighthouse further suggested linking in with other community-based groups that can work outside of the project provinces.

Mobile populations Viet Nam continues to exhibit high levels of rural-urban migration. Migrants make up 20.7% of HCMC's adult population (aged 15-59), and 16.3% of Hanoi's adult population. The southeast region of Viet Nam has the highest proportion of migrants regionally, at 29.3% of the adult population [20]. Most migrants (79%) are born in rural areas and people from households with large

numbers of working age members are more likely to migrate [20]. Kinh and Hoa people migrate more than other ethnic groups. Most ethnic minorities live in remote and mountainous areas far from urban settings, which limits their migration opportunities due to a lack of information and high migration costs [21]. Migrants largely move alone (61.7%). Social isolation makes it difficult for them to make new friends and exposes female migrants to further risk of violence and sexual abuse[4]. Migrants are less likely than non-migrants to participate in social and community activities due to the effort of familiarizing themselves with the new environment or the need to work night shifts [22]. Loneliness and social exclusion can drive migrants, especially younger ones, to drinking, gambling, petty crime, and sex work[5].

Domestic migrants have health insurance at approximately the same rate as non-migrants (67-70%). When sick, the majority of migrants attend state hospitals and clinics. A 2015 National Internal Migration Survey [23] found that 63% of migrants surveyed paid for their treatment themselves the last time they became sick, and 50% reported having access to health insurance to cover their costs [23]. Nearly 90% of migrants are aware of unsafe sex as a cause of sexually transmitted infections. There is regional variation on rates of knowledge and this percentage is much lower in the southeast. Fewer female migrants use contraceptives than non-migrant (37.7% versus 58.6%) [23], although they are more likely to use condoms (30.8% for migrants vs 23.2% for non-migrants). The difference between migrants and non-migrant condom use is highest in Central Highlands and Red River Delta (five or more percentage points difference), with central highlands also recording the lowest condom use overall, at 2.1% of migrant females. Low use of condoms may be due to a higher proportion of migrants being separated from their partner or being unmarried: during the National Internal Migration Survey (2015) conducted by UNFPA/GSO, approximately 43% of non-migrants and 61% of migrants said the reason they don't use any contraceptive methods is because they do not yet have a partner or husband. The lower level of contraceptive use among migrants is primarily a function of differences in age and marital distributions of the two groups.

The level of knowledge about STIs (gonorrhea, syphilis and hepatitis B) is similar between migrants and non-migrants and high at around 83% overall. There is some regional variation, ranging from around 70% in the southern regions to over 90% in northern regions. The rate of knowledge is lowest in the central highlands, with around 70% of migrants and 65% of non-migrants having correct knowledge about STI and how to protect oneself from infection.

Many students migrate from rural provinces to the big cities to attend tertiary education and also for improved work opportunities; often coming from provinces where these is little or no HIV prevention programming. In HCMC alone there are some 70 to 80 universities, which may each school up to 50,000 students. Given limited resources, it is not possible to reach all these students with HIV prevention information and education communication once they reach the city. HCMC CDC recommends that all provinces should deliver HIV information to high school students prior to their enrolment in university. There is some evidence that it is challenging to reach young people with HIV messaging alone and that packaging HIV prevention messaging in a comprehensive sexual health education may be more effective[6].

Prisoners There are an estimated 189,000-200,000 prisoners in Viet Nam, although it is possible that the figure is even higher than this range. There are few reliable data available but HIV prevalence among this population is reported by the government to be at least 4.2%. In 2017, the Ministry of Public Security reported 8,400 prisoners living with HIV, of whom 3,300 to 4,500 (39%-54%) were receiving treatment. HIV treatment is only available in a limited number of prisons and HIV prevention services are not available. No data is available from other detention centres such as the mandatory drug rehabilitation ("06") centres for people who use drugs (including injection). It is globally documented

4 Anderson et al. 2017; De Luca 2017; World Bank Group and Viet Nam Academy for Social Sciences 2016; Oxfam in Viet Nam 2015

5 Anderson et al. 2017; De Luca 2017; World Bank Group and Viet Nam Academy for Social Sciences 2016

6 Recommendation from representative from CBO Lighthouse during the Prevention Gap Analysis Consultation, Hanoi 2018.

that people in closed settings are at greater risk of HIV and other disease transmission (e.g. TB, HCV, HepB). It is very challenging, however, to deliver any types of services, including HIV prevention services, within these settings. This poses substantial public health risks and limits Viet Nam's chances of achieving its national targets.

Partners of key populations PEPFAR promotes services for partners of key populations, among whom the prevalence of HIV is sometimes even higher than the prevalence of HIV among the key populations (e.g. 7-8% in Hanoi, 12% in HCMC[7]). Interventions and counselling for key populations in parallel with their partners is increasingly more important to prevent new HIV infections. Reaching these groups, however, is difficult. In theory, contact-tracing works to identify partners, but implementation is challenging, as the numbers are large, they are not networked the way key populations are, and partners often do not want to be identified. Another option is to use residential clusters and do massive outreach to reduce stigma and discrimination, although this is costlier and generates a lower yield. During the consultation, participants recommended conducting additional studies on partners of key populations. In addition, analysis of the Phu Tho cluster of infections[8] may provide some insights about burden of disease, modes of transmission, and ways to make testing and counselling more accessible to partners.

The collected data and gap analysis consultation suggested that attention should also be invested for prevention beyond the 3 key populations. There is clear and increasing evidence that Transgender people are at high risk of HIV and face multiple health and social challenges including stigma and discrimination. Ensuring outreach and prevention interventions package for them, ideally with integrated approaches for their specific needs (eg hormone therapy) has become urgent. Given the high number of infections among partner of key populations, further empowering women at low risk of HIV, young people and transgender women to use/better negotiate condom use and access HTC will save lives and costs. People in closed settings who also face high risk of HIV and other health issues should not be left behind and have access to HIV and STI prevention, HTC and ART services. The ongoing collaboration between MOH and MOE for introducing comprehensive sexual health education in high schools is also key and HCMC's outreach prevention and HTC campaigns in selected universities is a good practice to expand. It is usually very effective to recruit peer outreach workers for the populations at risk of HIV infection. Finally, the analysis shows the limited available of data: it will thus be important to continue targeted research on other populations that are already identified as at greater risk of HIV infection and face gaps in accessing services to ensure timely development of effective prevention programming.

Summary of gaps in access, inequities, bottlenecks, barriers and data gaps

Identified gaps in access and inequities:

- Limited availability of rapid tests and dual/triple tests for HIV, syphilis and hepatitis B and C, including community lay testing and with effective linkage to treatment
- Hidden or unreached MSM unaware of or not connected to HIV services and lack of clear outreach strategy and package of HIV and STI prevention interventions for MSM
- Low STI prevention and treatment (eg among MSM, FSW) and lack of integrated approaches (e.g. PrEP, behaviour change, condoms and STI testing and treatment)
- High level of OST coverage but still below the national target and increasingly hard to attract new clients and reduce lost to follow up which flexible new options are expected to help with.
- Limited access to free needle and syringes. Social marketing and private market for access to clean needles and syringes should be sustained

7 Statement from the USAID representative during the prevention gap analysis consultation, Hanoi 2018.

8 https://vietnamnews.vn/society/463667/health-ministry-investigates-hiv-incident-in-phu-tho.html#heUQxriRzS1elaUm.97

- Low outreach to reach/attract FSW to HTC including self-testing and lay testing and lack of integrated HIV prevention package into current reproductive health services that are offered to women working in the entertainment/service industry and in massage parlours
- Lack of information on and comprehensive prevention services for PWUD including for ATS users
- Lack of guidelines for outreach and prevention interventions package for transgender people addressing also their specific needs (e.g. hormone therapy)
- People in close settings with limited access to voluntary HTC and no access to OST and clean needle and syringes
- Lack of guidance for community support for the self-help groups who exist and self-sustain and can further play a role to bring new people to HIV services

Identified barriers and bottlenecks:

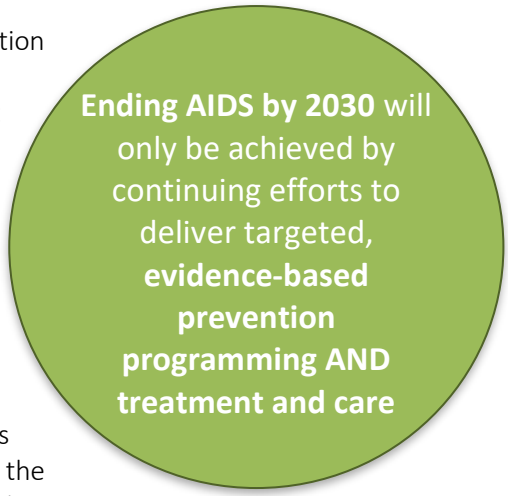
- Need for clear guidance for and monitoring of a minimum package of prevention services in provinces which do not benefit from large project support
- Remaining issues with condom quality assurance (eg need for a "quality seal" to manufacturers adhering to defined standards)
- Low condom use among MSM and lack of capacities for women at low risk of HIV, young people and transgender women to negotiate for condom use
- Limited availability of reliable and cost-effective suppliers of LDSS with detachable needles to ensure both use of and effective investment in prevention commodities
- Emerging ATS use and conflicting legal framework leading to disenrollment of some drug users from OST
- Remaining stigma and discrimination including in healthcare settings
- Lack of comprehensive sexual health education in high schools and outreach prevention for university students.
- Cost of STI diagnosis and treatment not yet covered under Social Health Insurance

Identified data gaps include:

Given the complexity and diversity of the epidemic which requires more granular analysis for targeted programming, the limited scope of surveillance and programme data monitoring and analysis (eg frequency, geographical) remain a challenge. Continued HIV and STI surveillance, regular review of programme data and targeted research on other population and especially for ensuring well targeted outreach for key populations and their partners at high risk of HIV is key. In general, survey findings, project data and new case analysis remain at time fragmented by project, not timely available from provinces with no project support or are not widely shared implying limitation for an overall analysis to timely guide HIV prevention. Cross-fertilization of lessons learned, and allocation of available technical, human resources and financial resources could be optimized. Within the limitation of this review, some specific data gaps were identified including data on female PWID to inform more gender responsive targeted interventions and analysis of available global research on ART and hormone therapy interactions for guidance to the Transgender community.

Looking forward

Ending AIDS: AEM projections



"Ending AIDS as a public health threat" is interpreted as a 90% reduction in new HIV infections by 2030 compared to 2010 baselines [24]. In 2010, there were an estimated 15,000 annual new infections in Viet Nam. Based on these figures, *ending AIDS* in Viet Nam translates to fewer than 1,500 new infections per year by 2030. Using this understanding as the base point for enquiry and utilising observations of the current state of the HIV epidemic in Viet Nam, end 2018, the multi-stakeholder National Technical Working Group on Strategic Information for HIV/AIDS Estimation & Projection chaired by the VAAC discussed and modelled several possible scenarios for reaching the end of AIDS with the AEM. The resources needs' estimates were developed using the unit costs developed by the Health Finance and Governance Project based on the Viet Nam's Investment Case of 2014[9] (only available unit costs at that time). It includes only direct costs. This allows comparison of different scenarios even if it does not provide an updated precise resources' needs for the whole national response. The following paragraphs summarize the key elements of the scenarios and their projected outcomes. Full details of the assumptions that underpin these scenarios are available in Annex 4.

Scenario 0 (Baseline) This is the status quo scenario: it assumes a continuation of current coverage rates for treatment, prevention and harm reduction. The investment for this scenario is an average of USD 49 million per year for the period of 2018 to 2030. **This investment will not achieve the End of AIDS by 2030**, with an expected 5,000 new infections in 2030.

Scenario 1 (Fast-Track) This scenario aims to achieve the End of AIDS, as well as the intermediate Fast-Track treatment target of 81% on treatment by 2020 (second target of the 90-90-90) and 90% prevention coverage for PWID, FSW and MSM. The investment for this scenario is an average of USD 65 million per year for the period of 2018 to 2030. **This investment will achieve the end of AIDS earlier than 2030**, with an expected 1,000 new infections in 2030. An additional 38,000 HIV infections will be averted during 2018-2030 compared to the baseline scenario, saving 692,000 DALYs or USD 1,556 million in economic terms.

Scenario 2 (Treatment Fast-Track with MSM focus) This scenario aims to achieve the End of AIDS, as well as the intermediate Fast-Track treatment target of 81% on treatment by 2020 (second target of the 90-90-90) and 90% prevention coverage for MSM. The investment for this scenario is an average of USD 59 million per year for the period of 2018 to 2030. **This investment will achieve the End of AIDS by 2030**, with an expected 1,435 new infections in 2030. An additional 32,000 HIV infections will be averted during 2018-2030 compared to the baseline scenario, saving 625,000 DALYs or USD 1,457 million in economic terms.

Scenario 3 (Treatment with MSM prevention focus: realistic) This scenario aims to achieve the End of AIDS, with a scale-up of treatment at a rate consistent with previous years, along with a focus on prevention coverage increase for MSM that is realistic given the current low level of baseline coverage. The investment for this scenario is an average of USD59 million per year for the period of 2018 to 2030. **This investment will achieve the End of AIDS by 2030**, with an expected 1,498 new infections in 2030. An additional 30,000 HIV infections will be averted during 2018-2030 compared to the baseline, saving 594,000 DALYs or USD 1,382 million in economic terms.

[9] Ministry of Health, Optimizing Viet Nam's HIV Response: an Investment Case, October 2014: http://unaids.org.vn/en/optimizing-viet-nams-hiv-response-investment-case/

The three scenarios that achieve the end of AIDS (1,2, and 3) were compared based on criteria of new infections and deaths averted, DALYs saved, total cost, and return on investment. Scenario 1 (Fast-Track) is the quickest path to achieving the end of AIDS, and provides the highest DALYs saved, but it is ambitious and comes at the highest cost. Scenario 2 (Treatment Fast-Track with MSM focus) has the highest cost-benefit ratio, but it will require acceleration of treatment coverage. Scenario 3 is most likely to be achievable on the ground and meets 95% of the achieved in Scenario 2. Those scenarios obviously rely on set of hypotheses that would benefit from further and wider discussion and updates when the new national HIV strategy will be developed.

7. Conclusion

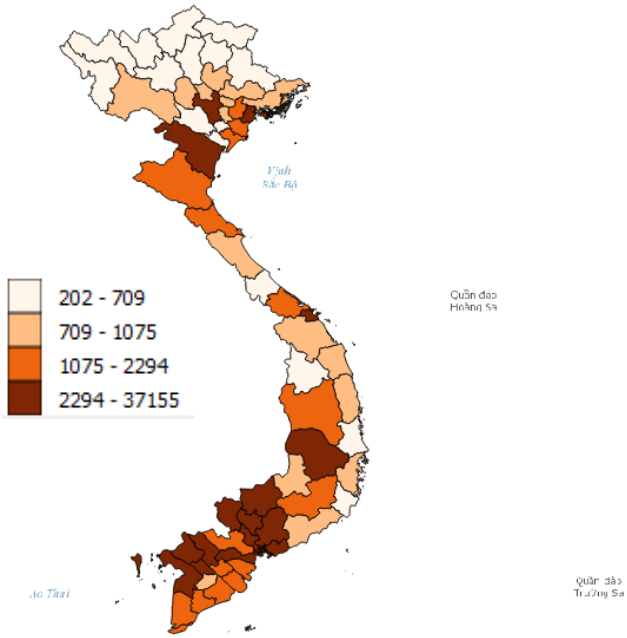
Evidence from within Viet Nam and globally shows that HIV prevention saves lives: it is a sound, cost-effective and humane investment. Without continued investment in and scale up of HIV prevention activities, Viet Nam will not be able to achieve its stated goal of Ending AIDS by 2030. While continued and expanded investment are necessary to sustain HIV prevention for all key populations and meet the unmet targets, an urgent effort is needed in particular to implement effective, evidence-based and differentiated prevention services among MSM of all ages, including innovative strategies to improve rates of condom use.

In order to be effective, scale up of prevention programming needs to be adequately funded. It is likely that Viet Nam will see a significant decrease in external funding for HIV response after 2020: new funding sources need to be identified for prevention programming. This will include mobilising increased local and national budget, as well as exploring opportunities for public-private partnerships and engaging national and/or international philanthropists. The introduction/consolidation of differentiated models for effective prevention service delivery and their sustainable financing, such as social contracting/ public investment through community-based organisations for community-led prevention services, complementing public health facility-based ones, will be essential to deliver the prevention programme Viet Nam needs to achieve its national targets and leave no one behind

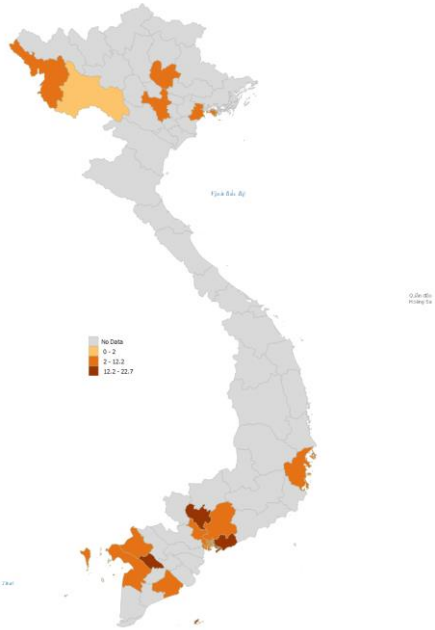
8. Annexes

Annex 1: Key population snapshots

1.1 MEN WHO HAVE SEX WITH MEN

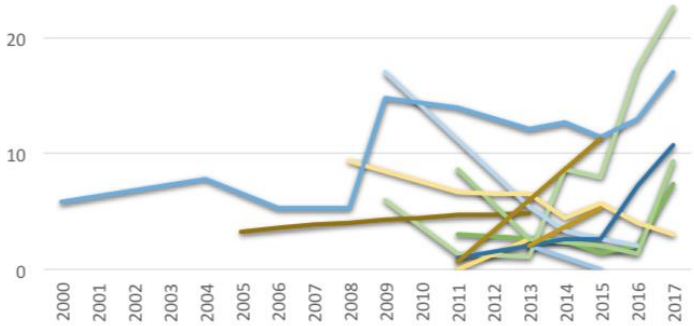


Estimated geographic distribution of men who have sex with men in Viet Nam, by province, 2018.
Source: HSS+ 2017



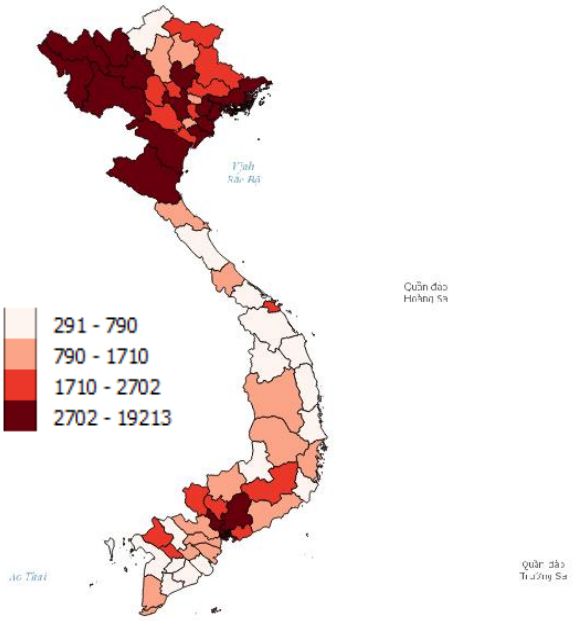
Estimated geographic distribution of HIV prevalence among men who have sex with men in Viet Nam, by province, 2018.
Source: HSS+ 2017

Estimated HIV prevalence among men who have sex with men, Viet Nam, 2000 -2017.
Source: AEM estimates 2018

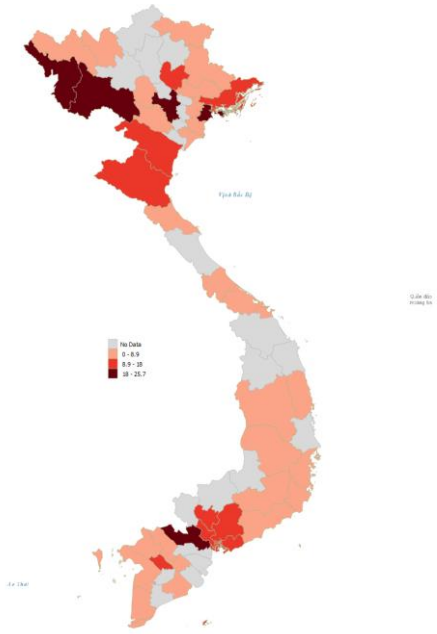


MSM: Progress of key indicators against national targets
Source: HSS+ 2017

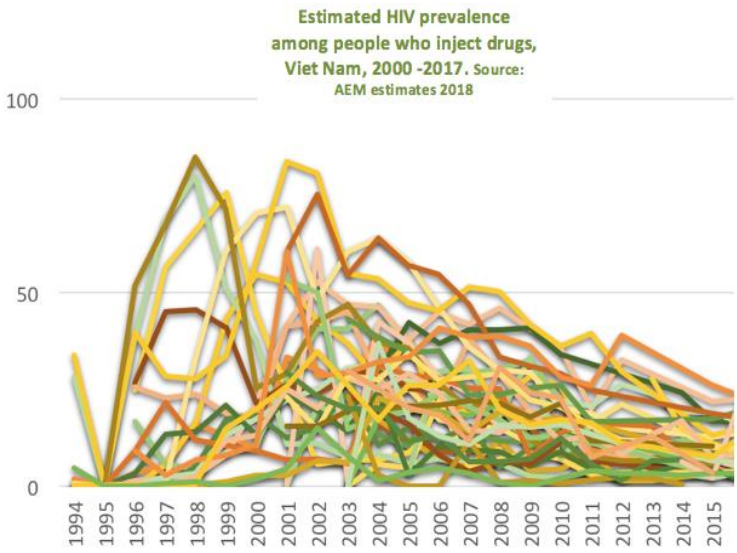
1.2 PEOPLE WHO INJECT DRUGS

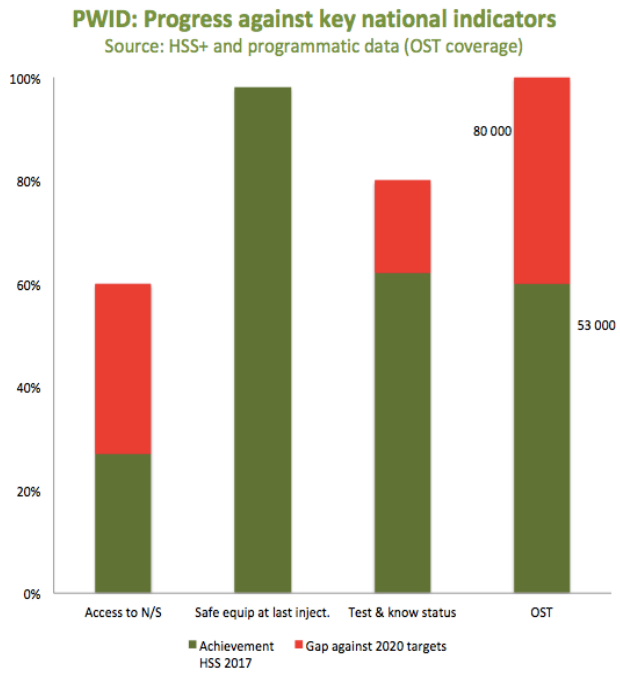


Estimated geographic distribution of people who inject drugs, Viet Nam 2018.
Source: HSS+ 2017

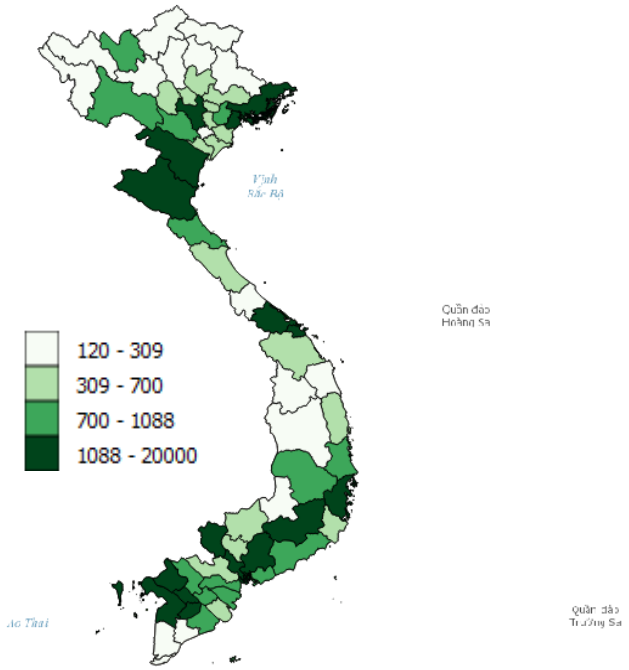


Estimated geographic distribution of HIV prevalence among people who inject drugs, Viet Nam 2018.
Source: HSS+ 2017

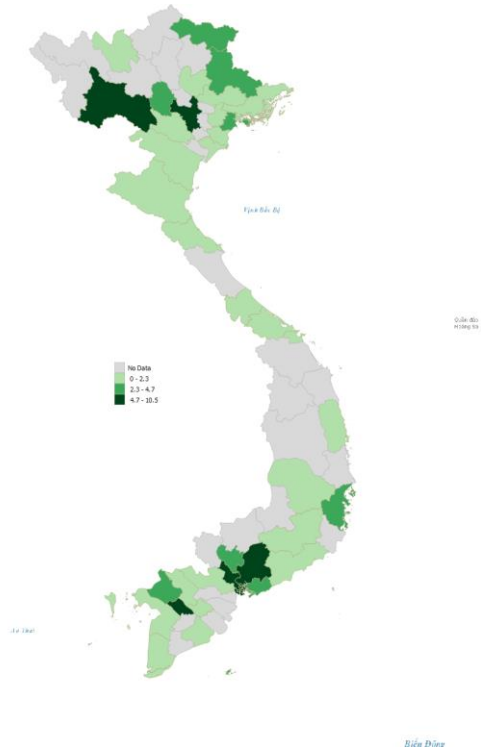




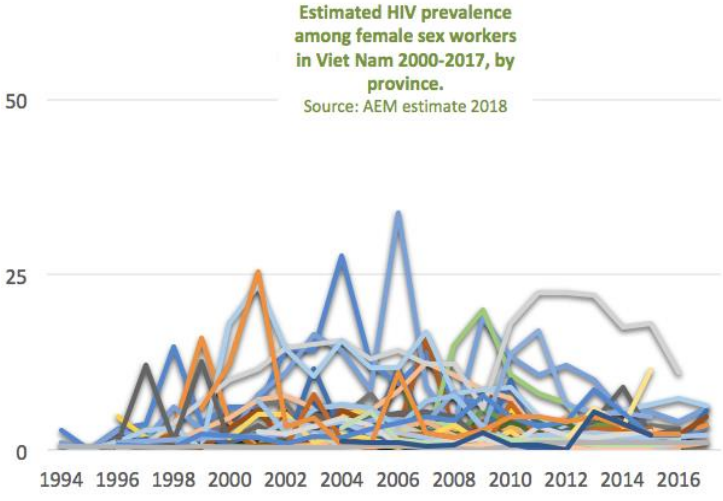
1.3 FEMALE SEX WORKERS

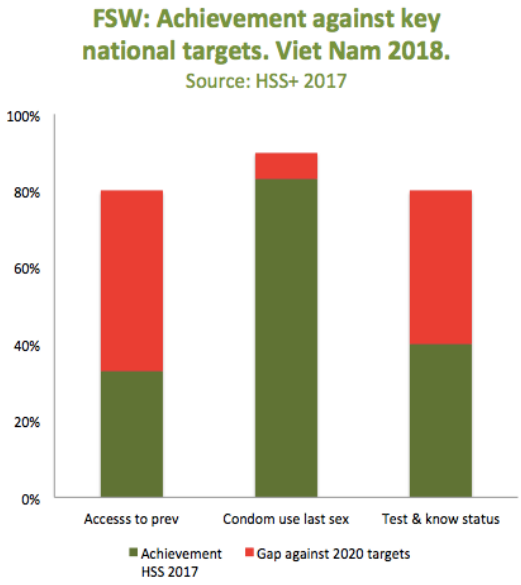


Estimated geographic distribution of female sex workers, Viet Nam 2018.

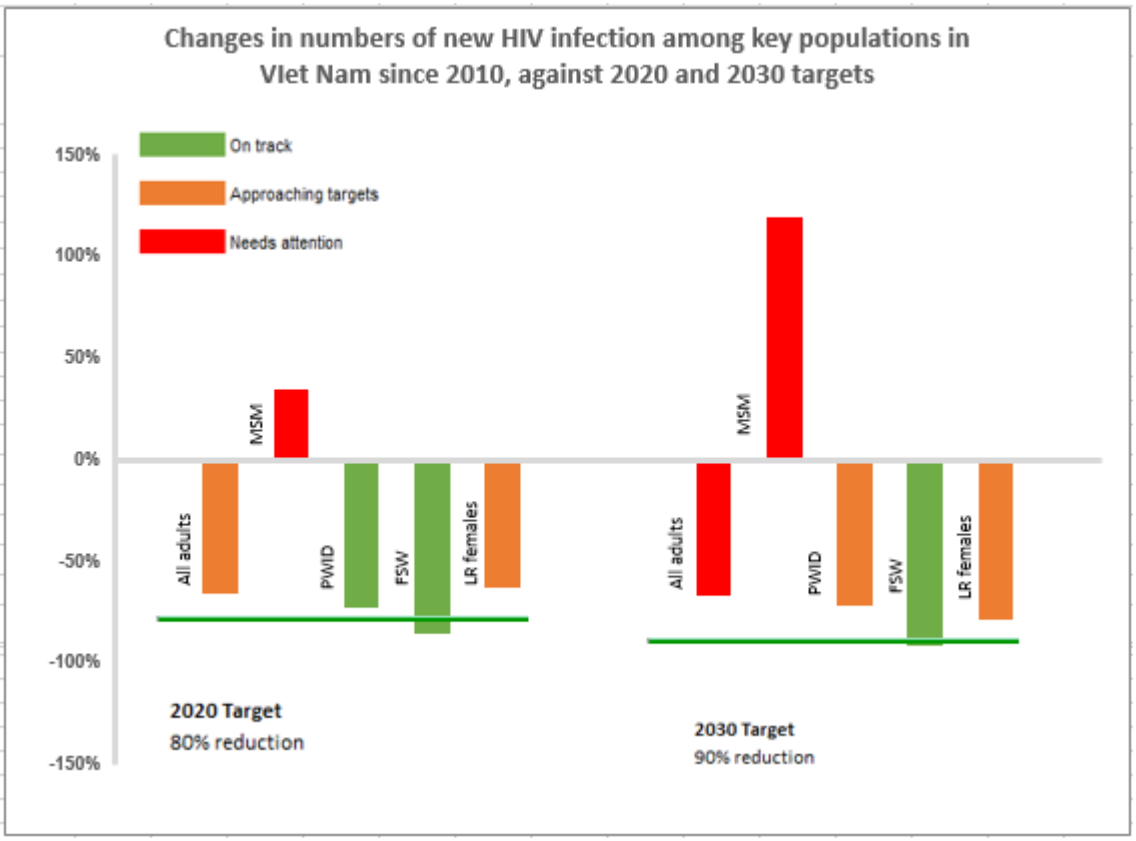


Estimated geographic distribution of HIV prevalence among female sex workers, Viet Nam 2018





Annex 2: Progress against national and fast track targets



Source: AEM 2018

Progress along National & Fast Track Targets

		National Target by 2015	National Target by 2020	Fast Track Target by 2030	Achieved HSS+ 2017
All adults	Reduction of new infections (base 2010)		80%	90%	65%
PWID	access to N&S	50%	60%	60%	27%
	safe equipment used at last injection		90%	90%	98%
	test & know status	50%	80%	80%	62%
	Opioid Substitution Therapy	80,000	80,000	80,000	53,000*
	reduce new HIV infections (2010 base)	50%	80%	80%	66%
FSW	access to HIV prevention	60%	80%	80%	33%
	condom use at last sex	90%	90%	90%	83%
	test & know status	50%	80%	80%	40%
	Prevalence*	3%	3%	3%	3.7%
MSM	access to HIV prevention	60%	70%	70%	28.7%
	condom use at last anal sex	80%	90%	90%	60%
	test & know status	50%	80%	80%	65%
	Prevalence*	10%	10%	10%	12.2%

* programme data

Progress along Investment Case

	Assumed by 2017 in iCase Scenario 5	Reported in 2017 GAM, Spectrum or AEM
NSP coverage - PWID	50.00%	26.90%
OST coverage - PWID	22.00%	23.00%
prevention coverage - MSM	64.00%	28.70%
prevention coverage - FSW	68.00%	32.80%
prevention coverage - PLHIV	67.00%	No Data
ART coverage - All	57.20%	50% [44-57]
ART - PWID	47.40%	53.40%
ART - MSM (avg. MSM1/MSM2)	47.70%	17.70%
ART - FSW	59.60%	27.60%
ART - Clients of FSW	53.80%	No Data
ART - low risk males	49.40%	48.00%
ART - low risk females	62.70%	**52.40%**

Annex 3: List of provinces with low, medium and high HIV burden

Estimated burden of HIV prevalence Viet Nam 2018		
Low	**Medium**	**High**
Bac Can	Nghe An	Ho Chi Minh City
Bac Lieu	Yen Bai	Hanoi
Ben Tre	An Giang	Son La
Binh Dinh	Dien Bien	Thanh Hoa
Binh Phuoc	Can Tho	Quang Ninh
Binh Thuan	Kien Giang	Dong Nai
Cao Bang	Nam Dinh	Thai Nguyen
Da Nang	Dong Thap	Hai Phong
Dak Lak	Binh Duong	
Dak Nong	Soc Trang	
Gia Lai	Tay Ninh	
Ha Giang	Thai Binh	
Ha Nam	Phu Tho	
Ha Tinh	Cau Mau	
Hau Giang	Hai Duong	
Hoa Binh	Lai Chau	
Hung Yen	Long An	
Kon Tum	BRVT	
Lam Dong	Lao Cai	
Lang Son	Ninh Binh	
Ninh Thuan	Bac Ninh	
Phu Yen	Bac Giang	
Quang Binh	Khanh Hoa	
Quang Nam	Vinh Phuc	
Quang Ngai		
Quang Tri		
Thua Thien - Hue		
Tien Giang		
Tra Vinh		
Tuyen Quang		
Vinh Long		

Annex 4: Assumptions of program coverage for AEM projection scenarios

		Scenario 0	Scenario 1	Scenario 2	Scenario 3
		Baseline	Fast Track	Treatment Fast Track/MSM Focus	Treatment Fast Track/MSM Focus: Realistic
Treatment Coverage	**2020**	60%	81%	81%	75%
	2030	90%	90%	90%	90%
Prevention Coverage (2030)	**NSP**	29%	37%	29%	29%
	OST	28%	53%	28%	28%
	FSW	74%	90%	74%	74%
	MSM	56%	90%	90%	71%

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