

# TB AND HIV CONCEPT NOTE

## Investing for impact against tuberculosis and HIV

Countries with overlapping high burden of tuberculosis (TB) and HIV must submit a single concept note that presents each specific program in addition to any integrated and joint programming for the two diseases.

In requiring that the funding requests be presented together in a single concept note, the Global Fund aims at maximizing the impact of its investments to make an even greater contribution towards the vision of a world free of the burden of TB and HIV. Enhanced joint HIV and TB programming will allow to better target resources, to scale-up services and to increase their effectiveness and efficiency, quality and sustainability.

All concept notes should articulate an **ambitious, strategically focused and technically sound** investment, informed by the national health strategy and the national disease strategic plans (NSPs).

The concept note for TB and HIV is divided into the following sections:

**Section 1:** The description of the country's **epidemiological and health systems context** including **barriers to access, the national response to date, country processes for reviewing and revising the response, and plans for further alignment of the NSPs, policies and interventions for both diseases.**

**Section 2:** Information on the national funding landscape, addtionality and sustainability

**Section 3:** The funding request to the Global Fund, including a programmatic gap analysis, rationale and description of the funding request, as presented in the modular template.

**Section 4:** Implementation arrangements and risk assessment.

**IMPORTANT NOTE:** Applicants should refer to the TB and HIV Concept Note Instructions to complete this template.

Country	Viet Nam		
Funding Request Start Date		Funding Request End Date	
Principle Recipient(s)			
<i>If the programs are to be managed as separate grants:</i>			
Funding Request Start Date for HIV	01 January 2015	Funding Request End Date for HIV	31 December 2017
Principal Recipient(s) for HIV	MOH (VAAC)		
Funding Request Start Date for TB	01 January 2015	Funding Request End Date for TB	31 December 2017
Principal Recipient(s) for TB	MOH (National Lung Hospital)		

#### FUNDING REQUEST SUMMARY TABLE



A funding request summary table will be automatically generated in the online grant management platform based on the information presented in the programmatic gap table and modular templates.

## SECTION 1: COUNTRY CONTEXT

This section requests information on the country context, including descriptions of the TB and HIV disease epidemiology and their overlaps, the health systems and community systems setting, and the human rights situation.

### 1.1 Country Disease, Health Systems and Community Systems Context

With reference to the latest available epidemiological information for TB and HIV, and in addition to the portfolio analysis provided by the Global Fund, highlight:

- a. The current and evolving epidemiology of the two diseases, including trends and any significant geographic variations in incidence or prevalence of TB and HIV. Include information on the prevalence of HIV among TB patients and TB incidence among people living with HIV/AIDS.
- b. Key populations that may have disproportionately low access to prevention, treatment, care and support services, and the contributing factors to this inequity.
- c. Key human rights barriers and gender inequalities that may impede access to health services.
- d. The health systems and community systems context in the country, including any constraints relevant to effective implementation of the national TB and HIV programs including joint areas of both programs.

- a. The current and evolving epidemiology of the two diseases, including trends and any significant geographic variations in incidence or prevalence of TB and HIV. Include information on the prevalence of HIV among TB patients and TB incidence among people living with HIV/AIDS.

#### Epidemiology of HIV

According to recent HIV estimates and projections, there are 256,000 people living with HIV in Viet Nam in 2014, and HIV prevalence (age 15-49, medium estimate) is 0.39%<sup>1</sup>. The modelled estimates suggest the HIV incidence peaked in early 2000s, and it has since been declining, with estimated incidence at around 15,603 new infection in 2014 (figure 1).

#### A epidemic concentrated in the three key populations and their partners

The HIV epidemic in Viet Nam remains concentrated among three key populations (i.e. people who inject drugs (PWID)<sup>2</sup>, men who have sex with men (MSM), female sex workers (FSWs)) and their sexual partners. Modelling suggests 46% of estimated new infection occurs in male PWID in 2013 and 14% in female partners of male PWID (figure 2, low risk (LR) women includes former FSW and those infected from non-PWID partners).

#### People who inject drugs (PWID):

Injecting drug use remains the leading HIV transmission mode

in Viet Nam. Data from the 2009 HIV/STI Integrated Behavioural and Biological Survey (IBBS) Round II and annual sentinel HIV surveillance (HSS) estimate that as many as 40% of the estimated 271,000 PWID (range: 100,000-335,000) are living with HIV. An estimated 80% of the drug using population lives in 30 of Viet Nam's 63 provinces. While prevalence among PWID is decreasing in some provinces, the epidemic is still alarmingly high in most provinces surveyed, including Thai Nguyen (34%), Lai Chau (27.7%), Ha Noi (24%), Quang Ninh (22.4%), and Ho Chi Minh City (HCMC, 18.2%).

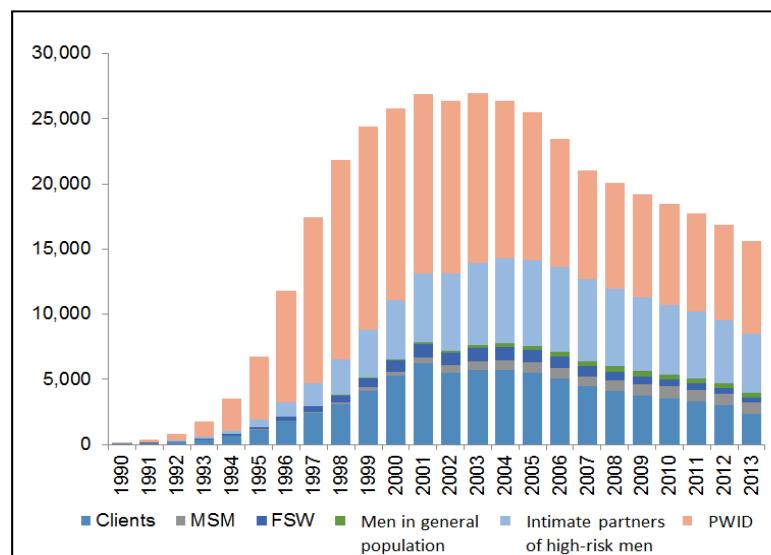


Figure 1: Estimation of annual new HIV infection by sub-population (Asian Epidemic Model – AEM)

<sup>1</sup> Viet Nam HIV/AIDS estimates and projections 2011-2015. 2012, Viet Nam Authority of HIV/AIDS Control, Ministry of Health: Hanoi, Viet Nam. pg

<sup>2</sup> Surveys of injectors in Viet Nam include only men.

**Men who have sex with men (MSM):** HSS data from MSM in 2013 (n=8 provinces), found an average HIV prevalence of 3.7%. Available data indicate a growing epidemic in Hanoi and HCMC, with HIV prevalence reported to be up to 16%; injection of drugs is not uncommon among MSM in those urban centers. The estimated MSM population ranges from 191,000 to 573,000. It has also been recognized that level of risks varies among MSM populations, and programming (including GF-supported interventions) prioritizes high risk MSM. At this moment, there is very limited data available of the transgender population. Some of them are likely included in the sample of MSM, but the data are not disaggregated.

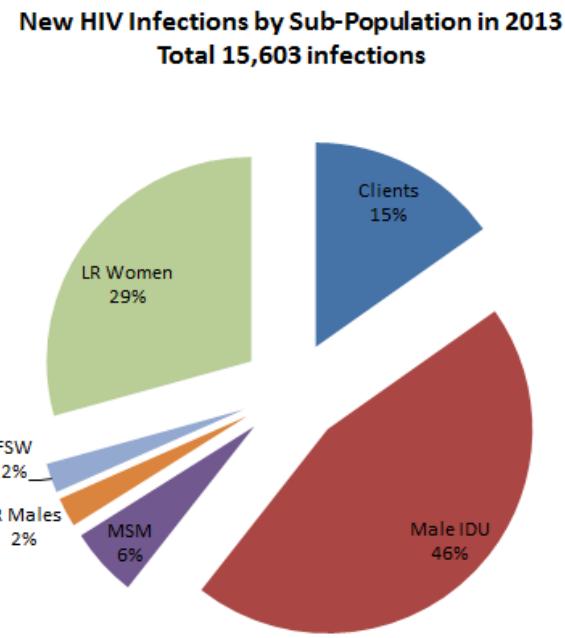
**Female sex workers (FSWs)** There are an estimated 72,000 FSWs (range: 36,000-108,000) in Viet Nam. HIV prevalence among FSWs began declining nationally in 2002. HIV prevalence among FSW varies by province, however, and exceeds 10% in Hanoi, Hai Phong, Can Tho, and HCMC. Evidence also indicates that street-based FSWs have a relatively higher HIV burden compared to venue-based FSWs and FSWs who inject drugs has much higher HIV prevalence.

**Sexual partners of key populations:** Modelling suggests 29% of estimated total new infection in Viet Nam, or 4,573 new infection, occurs in low risk women (LR women, Figure 2) in 2013, which consists of 2235 (45%) through sex with PWID, and 2499 (49%) through sex with other non-PWID partners. Data triangulation by UNAIDS and UN WOMAN also suggested most women living with HIV report that they were infected by stable sexual partners who either injected drugs or visited sex workers. It is estimated that there are 2,760 HIV positive pregnant women, and 455 new HIV infection in infants in 2014.

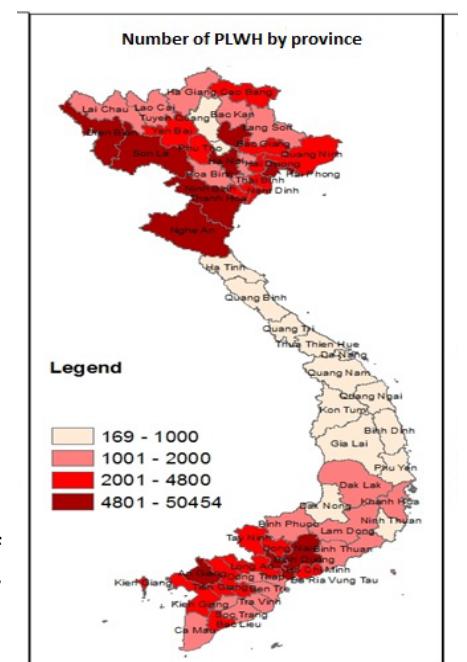
## **Geographical concentration**

The HIV epidemic is also geographically concentrated. Based on reported cases (Figure 3), estimated ART needs, and the number of people receiving ART, the provinces were categorized into the high, middle and low burden provinces (see Annex for the list of provincial categorization). In 2013, the 8 high burden provinces and 22 middle burden provinces account for 50% and 29% of estimated ART needs (in total 30 provinces account for 80% of estimated ART needs). The two largest cities of Ha Noi and Ho Chi Minh City have the largest HIV epidemics in the country, and HIV cases are also concentrated in the northern, northwest mountainous provinces (e.g. Dien Bien, Son La), the mountainous districts of Nghe An and Thanh Hoa<sup>6</sup>, southwest (Mekong Delta), and southeast provinces. The sizes and distribution of these key populations also vary across the country (figure 3, 4). 26 provinces with high burden of injecting drug use, accounting for 80% of all PWID; 19 provinces with high burden of sex work, accounting for 70% of all FSW; and 15 provinces with a high burden of MSM account for 48% of all MSM (see Annex for the list of provinces with a large number of key populations).

**Figure 3. Geographic distribution of reported number of PLHIV by province in Viet Nam, 2014.**



**Figure 2. : Estimated distribution of new HIV infections by sub-population in Viet Nam in 2013**



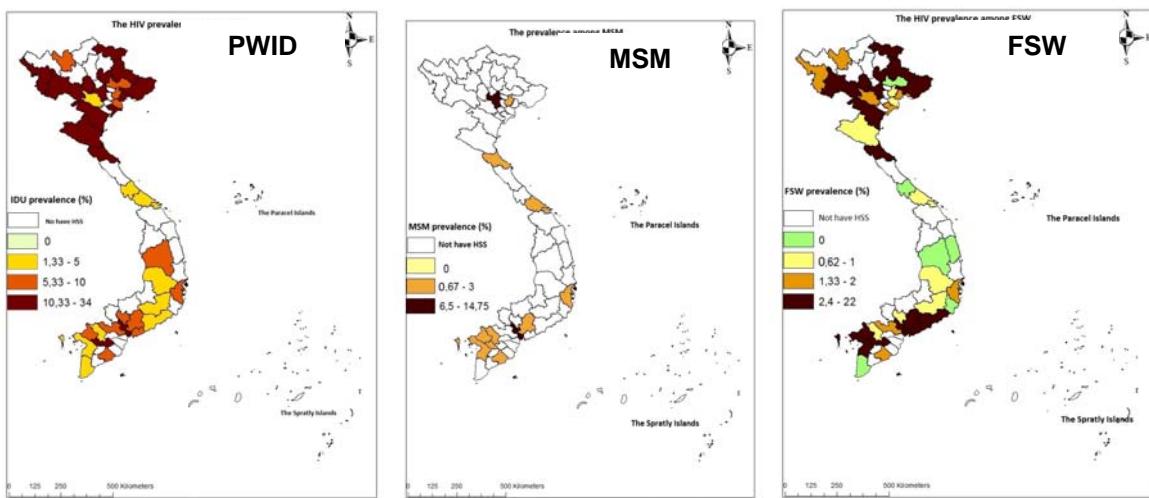


Figure 4: HIV prevalence by key affected population (PWID, MSM, FSW) by province in Viet Nam, HSS+ 2013.

### Drug Resistance

Various studies have examined the level of transmitted HIV drug resistance (HIV DR), and the majority have reported that the level of HIV DR in major cities in Viet Nam is less than 5%, except one study in HCMC which reported transmitted HIV DR was at moderate level between 5% and 15%. The level of acquired HIV DR among people receiving ART was studied using the WHO protocol at four clinics, and the study reported HIV DR in 2.9% of patients at 12 months of treatment, and 12.3% of patients were classified as having possible HIV DR.

### Epidemiology of TB

Viet Nam ranks 12th among the 22 TB high burden countries and 14th among the 27 high MDR TB burden countries. In 2012, the TB prevalence, incidence and mortality rates were 218, 147 and 20 per 100,000 populations respectively, showing a decreasing trend<sup>3</sup>. The case detection rate is 76%.

Based on the 2011 drug resistance survey the level of MDR is 4% among new and 23% among previously treated patients, showing an increasing trend<sup>4</sup>.

### Estimated trend of TB epidemiological developments in Viet Nam

From the notification report of the national TB program (NTP) in 2000-2012 and findings of the national TB prevalence survey in 2006-2007, the annual reduction of TB prevalence and incidence in Viet Nam for 1990-2010 was estimated as 4.6% and 2.6% respectively. TB incidence reduction, however, has become stagnated since early 2000 partially due to HIV epidemic. TB-related mortality in 1990-2010 also dropped by about 4.4% a year. Compared to 1990, the TB prevalence and mortality in Viet Nam have dropped by about 62% and 60% respectively. Therefore Viet Nam has already achieved the MDG. (National Strategic Plan,2015-2020, p16).

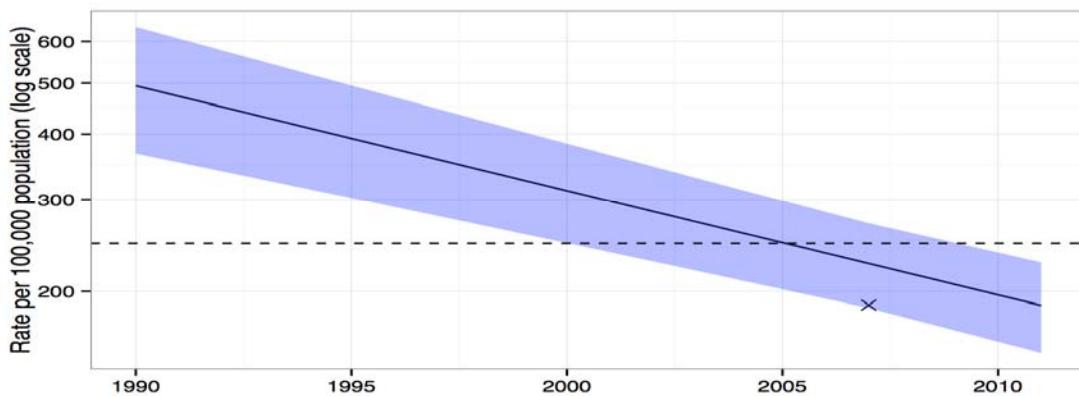


Figure 5: Estimated trend of TB prevalence in Viet Nam, 1990-2010

<sup>3</sup> WHO Global TB Report, 2013, p135

<sup>4</sup> National Strategic Plan on TB Control, 2015-2020, p20

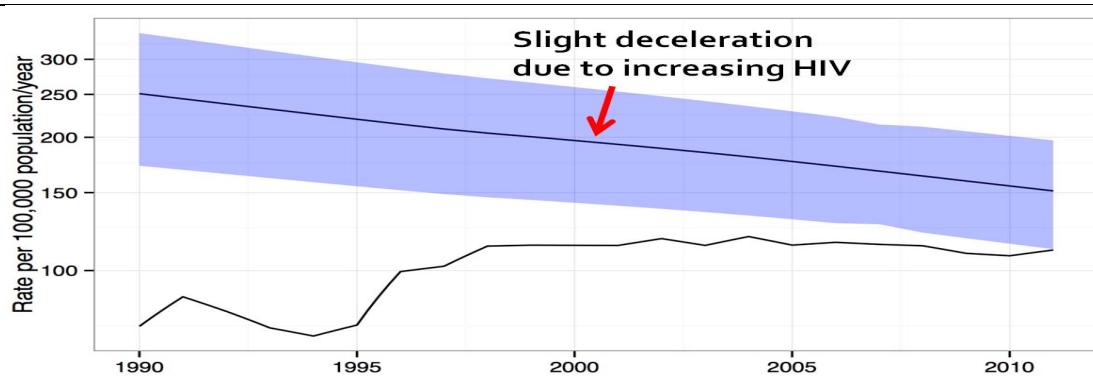


Figure 6: Estimated trend of TB incidence in Viet Nam, 1990-2010

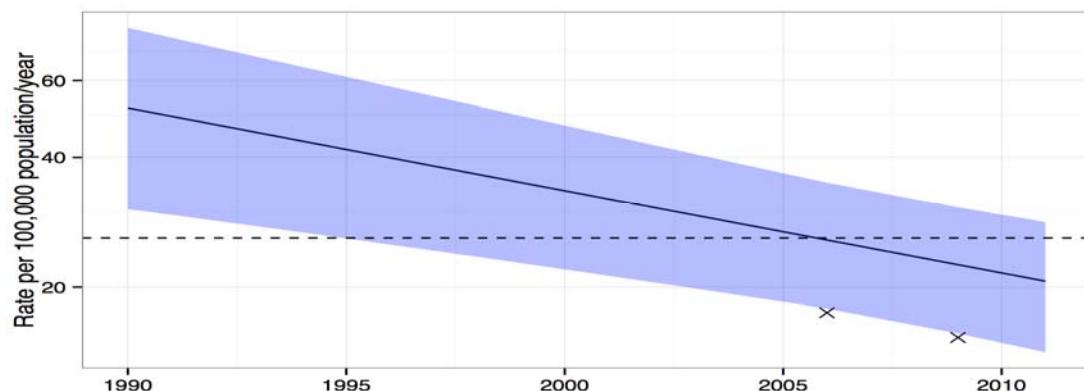


Figure 7: TB-related mortality trend, 1990-2010

#### Trends in gender and age differences

The first national TB prevalence survey in Viet Nam 2006-2007 showed that the male-to-female ratio ranged from 4.5 for culture-positive TB to 5.1 for smear-positive TB. This was 1.7 times higher than the male-to-female ratio of the notification rate of new smear-positive TB (2.8) in the year 2006, suggesting lower case detection in men than in women (the purple line in Table 2). The difference increases in the older age groups.

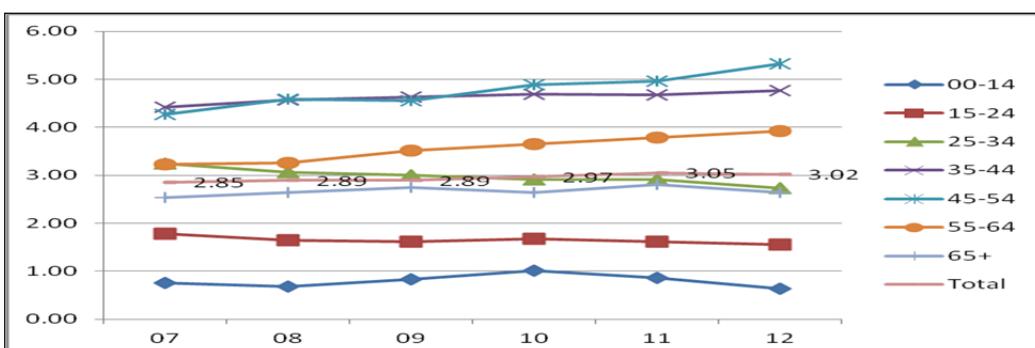


Figure 8: Trends of male to female ratio of the notification rate of new smear positive TB patients by age group

The large difference in the proportion of men and women could be attributed to smoking (In 2008, WHO reported that 2% of women are current smokers, compared to 44% of men.) Other possible explanations for the high male-to-female ratio may be the higher HIV prevalence among men than among women.

Over the period 2007-2012 the average notification rate of new smear positive cases was 60.4 per 100,000 (95% CI: 60.2 – 60.6). The notification rate is highest among the people above 64 years of age<sup>5</sup>.

Tuberculosis in children is still under-diagnosed and under-reported, comprising 1.8 % of all notified TB cases in 2013, up from only 1.3% in 2012. According to the TIME model<sup>6</sup>, children under 14 years form approximately 9 % of the TB patients.

<sup>5</sup> Annual Performance Review 2013, Appendix 4.2, p 6

<sup>6</sup> TIME for Vietnam, results from workshop page 8

## **Geographical variation**

The TB epidemic shows a significant north-south gradient: in 2012 the notification rate of sputum smear positive TB was 39 per 100,000 in the north, 48 per 100,000 in the central area and 81 per 100,000 in the south. This is in line with the estimated incidence. There is a clear overlap with the HIV epidemic in HCMC, the Mekong Delta, and the north eastern mining area (Quang Ninh province). However lower rates of TB are found in the northern mountainous provinces and the Central Highlands<sup>7</sup> (figure 9).

## **HIV-associated TB**

In 2013, 70,417 patients with active TB were tested for HIV infection; 4,301 (6.1%) tested positive for HIV. HIV among TB patients is mainly found in key populations, such as PWID, MSM and FSW. Approximately half of the HIV positive TB patients were diagnosed among known PLHIV.

## **TB drug resistance**

The 4 drug resistance surveys done between 1996 till 2011 show a rise of the MDR epidemic. The 2011 DRS shows 4.0% (95% CI: 2.5 – 5.4) MDR among new and 23.3% (95% CI: 16.7 – 29.9) among previously treated patients, compared to 2.7% and 19% respectively in 2004 DRS.

Importantly, TIME modelling shows that more efforts to scale up diagnosis and treatment are needed to bring the MDR epidemic under control<sup>8</sup>.

In the same 2011 survey 16.6% of MDR patients had additional resistance to fluoroquinolones, including 5.6% that were XDR. The estimated burden of M and XDR among notified pulmonary TB patients in 2013 was 2,889 (1,805-3,900) among new and 2,598 (1,862-3,334) among retreatment patients; in total 5,487 (3,668-7,234), including 330 patients with additional fluoroquinolone resistance only and 320 XDR TB.

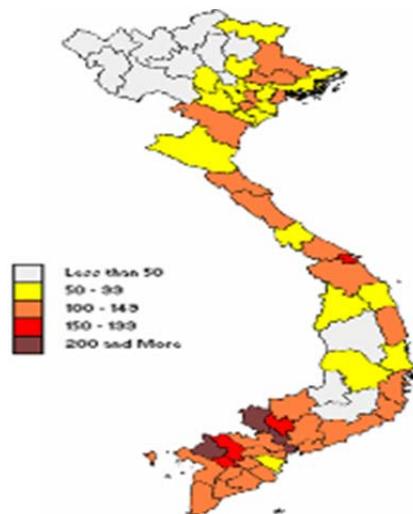


Figure 9: Geographical difference in TB notification, Viet Nam 2012

## b. Key populations that may have disproportionately low access to prevention, treatment, care and support services, and the contributing factors to this inequity.

Key populations (including PWID, MSM, FSW, PLHIV, prisoners and pre-trial detainees) face increased vulnerability due to a combination of biological, socio-economic and structural factors that impede their access to health services in general and to TB and HIV. Other groups that have low access to health services are people living in remote and mountainous areas, miners, migrants and the elderly.

### **PWID access HIV and TB services**

**HIV testing** In 7 out of 12 (58.3%) of surveyed provinces fewer than 30% of PWID had been tested for HIV and had received their results. The range of access between provinces was very large: from 3.1% in Lao Cai to 86.1% in Nghe An for venue based SW (VSW) and 21.5% in Yen Bai to 78.7% in Hai Phong for street based SW (SSW)<sup>9</sup>.

**HIV treatment and care** In Viet Nam, unlike many countries around the world, the proportion of PWID accessing ART is similar to the general population, however they are more likely to access ART later and with increased co-morbidity than those who do not inject drugs. PWID, compared to non-PWID, start ART at lower CD4 counts (69 cells/mm<sup>3</sup> vs. 96 cells/mm<sup>3</sup>), and are more likely to have WHO stage 3 or 4 diseases (82.7% vs 68.4%) and active tuberculosis (16.2% vs 10.0%).<sup>10</sup>

**TB diagnosis and care** PWID are at higher risk for TB due to HIV co-infection and under-nutrition. Loss to follow up is a key barrier to effective TB care and care, in the context of HIV infection and MMT. Regular TB screening, linkages and service co-location or integration can facilitate access to diagnosis and treatment.

### **MSM access to HIV services**

In the four provinces in which MSM were surveyed, access to HTC was fairly uniformly low, ranging from 19.3% in HCMC to 28.3% in Hai Phong (IBBS II 2009). Low rates of access to HTC by MSM may be due in part to the fact that these tend to be hidden populations that are stigmatized and difficult to access, and in part due to MSM only recently being understood as KAP in which the HIV epidemic is emerging.

### **FSW access to HIV services**

Condom provision and consistent correct use are fundamental to effective HIV prevention among FSWs in Viet Nam.

<sup>7</sup> Annual Performance Review of the TB Program, 2013, p19-23

<sup>8</sup> TIME for Vietnam, results from workshop, p16

<sup>9</sup> Results from the HIV/STI Integrated Biological and Behavioural Surveillance (IBBS) in Viet Nam, Round II 2009, pg 55

<sup>10</sup> Nguyen, D.B., et al., *Outcomes of antiretroviral therapy in Viet Nam: results from a national evaluation*. PLoS One, 2013. 8(2): p. e55750.

There are marked differences in access to subsidised or free condoms across provinces and between street-based (SSWs) and venue-based (VSWs) sex workers. It has been suggested<sup>11</sup> that these geographic differences in condom availability are due to (i) supply chain challenges in remote or mountainous provinces, (ii) lack of distribution points, such as pharmacies or entertainment establishments, and/or (iii) preferential distribution of free or subsidised condoms in higher burden provinces.

#### **HIV positive active TB patients access to HIV and TB services**

In 2013, approximately half of the HIV positive TB patients were diagnosed among known PLHIV, with coverage of screening of less than half of all PLHIV.

The testing of HIV in TB patients has been limited by insufficient availability of HIV test kits, covering only 71% of TB patients in 2013.

#### **Children access to TB services**

Although detection of TB among children has been improving from 1.3% of all diagnosed TB patients in the previous report, it is still way below the national estimation of 9%<sup>12</sup>.

#### **People in prisons and pre-trial detention centres access to TB services**

Over the past years the NTP has established TB units in all prisons and established strong links with the civilian TB services. While most prisoners now have access to integrated HIV and TB services through screening and education programs, they do not have access to MDR diagnosis and treatment; this will be addressed by close collaboration with the civilian MDR TB treatment centres, the introduction of Xpert testing for prisoners and the upgrading of health units in 7 regional prisons.

A remaining group of detainees that is difficult to reach are detainees in provincial (mostly small) pre-trial detention centres. In 2014 the NTP is launching a pilot for introduction of entry screening for TB in pre-trial detention centres.

### **c. Key human rights barriers and gender inequalities that may impede access to health services.**

#### **Stigma & discrimination (S&D)**

Studies in Viet Nam and other countries indicate that lack of confidentiality is a considerable barrier to efforts to expand HIV testing among key populations<sup>13</sup>. PLHIV and key populations in Viet Nam face considerable stigma and discrimination despite the existence of strong national legislation that forbids such practices. Many survey respondents reported that despite legal protection of the right to confidentiality, nearly 30% of PLHIV reported that their serostatus was disclosed to others without their consent<sup>14</sup>.

#### **Compulsory drug treatment centres, prisons & pre-trial detentions centres**

There are currently approximately 35,750 drug users held in over 120 compulsory drug treatment centres ("06 centers"). The GVN, however, has shown positive steps towards reform of this policy. The project on drug treatment reform on the basis of scaling up voluntary, community-based treatment and care was approved on 27/12/2013 (Decision 2596/QD-TTG). According to that provision, 80 centres will be reformed to provide voluntary and friendly detoxification with possible MMT service provision in 2014. Decision 1008/QD-TTG approved on 20 June 2014 sets targets for expansion of community based MMT services, funded through local government revenues, which are likely to include user co-payment.

Prison inmates and particularly pre-trial detainees face human rights barriers. Some prison rules do not permit prison inmates easy access to TB diagnosis and treatment and screening possibilities in prisons are still weak. Infection control measures are not generally implemented in the congregate settings referred to above<sup>15</sup>.

#### **Gender disparities and issues**

Analyses using national HIV testing data show 54% of female PLHIV self-reported that their only possible exposure to HIV was through sex with a husband/long-term partner with a high-risk behaviour<sup>16</sup>.

The gender disparity in the 2006-7 TB prevalence survey was 5 to1 (men:women) and in the notification rate only 3:1. This suggests better access to testing and treatment services by women. While traditionally the Women's Union was engaged to reach the communities, from 2010, greater emphasis has been placed on engagement of the Farmers Union, which has a large membership among men in the most affected age groups.

<sup>11</sup> Informal Equity Assessments in Viet Nam: Preliminary Findings of a review of available literatures on accessibility and utilization of HIV services. Hanoi, 2011. pg 8

<sup>12</sup> TIME for Vietnam, results from workshop page 8

<sup>13</sup> Hong, N.T., Wolfe, M.I., Dat, T.T., McFarland, D.A., Lamb, M.L., Thang, N.T., Thai, H.N., and Del Rio, C. (2011). Utilization of HIV voluntary counseling and testing in Viet Nam: an evaluation of 5 years of routine program data for national response. AIDS Educ Prev. 23(3 Suppl):30-48.

<sup>14</sup> Ibid.

<sup>15</sup> National TB Strategic Plan, 2015-2020, p36-37

<sup>16</sup> UNAIDS/UN Women Report on Intimate Partner Transmission 2012

- d. The health systems and community systems context in the country, including any constraints relevant to effective implementation of the national TB and HIV programs including joint areas of both programs.

#### **Vietnamese Government Health Spending**

The past 8 years, Viet Nam Government health spending as a share of the GDP increased from 1.5% of GDP in 2005 to 2.8% in 2012<sup>17</sup>. The share of General Government Spending on Health (GGHE) in Total Health Expenditure (THE) increased from 26% in 2005 to 43% in 2012 (Figure 10). The share of health in total government spending increased from around 5% to 9% in 2012. Social Health Insurance accounts for about 37% of the GGHE in 2012. State budget contributions to subsidize participation of poor and disadvantaged population groups in social insurances accounts for 45% of the total social insurance fund revenues. Although the level of out of pocket spending is still high, its relative share in THE declined from 68% in 2005 to 49% in 2012. External Resources contribute a relatively low share, accounting for only 2-3% of THE.

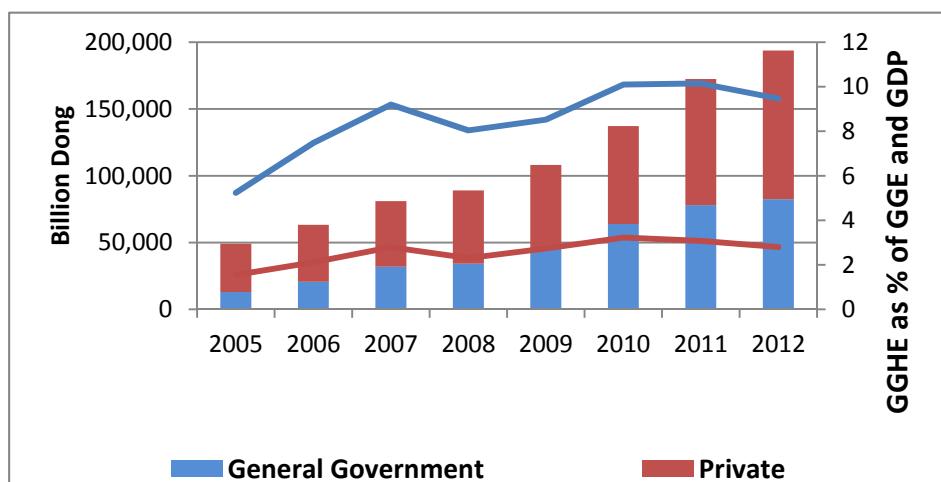


Figure 10: General Government Health Expenditure as percentage of GGE and GDP between 2005 and 2012 in Viet Nam. Source: global health expenditure database

#### **National Target Programs**

The MOH has 19 projects in 4 categories that fall under the in total 16 National Target Programs of the Vietnamese government. Under the Health related national target program, Tuberculosis control falls under the project for Community Important Interventions (together with malaria, dengue and non-communicable diseases). HIV/AIDS control is a National Target Program in itself, with 4 projects. The structure of the National Target Programs is as follows:

- 1) Health related - 5 projects covering priority public health interventions:
  1. Community important interventions (TB, malaria, dengue; NCDs)
  2. Expanded program on immunization (EPI)
  3. Reproductive health, mother and child health
  4. People and army health collaboration
  5. Capacity building in IEC, M & E
- 2) Food hygiene and safety – 6 projects
- 3) Family planning – 4 projects
- 4) HIV/AIDS control – 4 projects

The national target program has been the Government's mechanism to preferentially allocate its budget to specific program as listed above. However, the budget for national target programs on health was significantly reduced in 2014; for example, the HIV budget was reduced by 63%. The GVN also aims to abolish many of the national target programs and plans to consolidate them into a few target programs, for example, a program on poverty reduction in rural areas. The government will fund those health programs through different schemes to be determined in the coming time. Full description of funding for the TB and HIV disease programs is detailed in section 2.1.

#### **Social health insurance**

With the national HIV response still heavily reliant on international aid, vital programs such as ART and MMT had not yet been fully integrated into the general health system, causing difficulties in implementing the health insurance scheme. The same can be said for second line TB drugs and diagnostics for TB drug resistance. The Law on Health Insurance was developed in 2008, and revised in 2014 by the National Assembly. Key changes include compulsory enrolment which will greatly increase participation in health insurance. In addition, there is a change from individual

<sup>17</sup> Source: Global Health Expenditure Database

enrolment to family enrolment, in which all members of a family will be automatically enrolled as long as one family member is enrolled. This will likely have positive impact in improving enrolment to health insurance among KAP who traditionally are unlikely to be covered by government health insurance.

### **Pharmaceuticals**

The Pharmaceutical Law is the highest legal document covering the pharmaceutical sector and covers key government policies and regulations in the pharmaceutical sector. The National Medicines Policy, first developed in 1996, is currently under revision and will be expanded to become the National Pharmaceutical Policy. Its focus will be to improve local pharmaceutical production to meet the preventive and curative health care need of the population. It will include policies and strategic directions for universal coverage, access and equity, rational use and mechanisms to ensure the quality, safety and efficacy of essential medicines. The procurement of medicines in Viet Nam is highly decentralized. Only medicines for TB, HIV/AIDS and malaria are procured centrally through the national target programs. To increase cost efficiency, the GF VPP mechanism will now be used for all ARV purchases, regardless of who is providing funds for drug procurement. ARV drugs, methadone, OI drugs, and first line TB medicines are all included in the most recent Essential Medicines List (2014), which is pre-requisite for medicines to be included in benefit package of social health insurance.

### **Service delivery systems**

The Vietnamese Health system consists of a well-established public healthcare network with village health workers, commune health posts with doctors and nurses at the bottom of the pyramid. At the next level there are inter-communal polyclinics and district hospitals with some specialized doctors and public health offices. At the provincial level there are general and specialized hospitals and social diseases centres. The national level has tertiary referral centres and the public health programs and projects. Viet Nam's health service provision falls into two arms: the curative (hospital) and preventative medicine systems. HIV and TB service provision may be located in either of these two systems, depending on the province. Currently, there are challenges in linking and coordinating two systems depending on districts, including patient referral. Activities under the HSS GF Grant will collaborate with both TB and HIV programs to build capacity in health management and service delivery.

### **Information systems**

In Viet Nam, due to rapid scale-up of ART, many HIV care OPCs face challenges in monitoring of large cohorts of patients only with paper based systems. Furthermore, many people are getting lost between HIV diagnosis and care enrolment, and it has been perceived that a more effective system to monitor the linkage needs to be developed. In response to this need, VAAC, in collaboration with WHO, CDC and CHAI, have started working to develop electronic patient monitoring system to be deployed to the HIV care OPCs. The system design proposes to use three level of interface, e.g. paper-based, electronic register (with minimum data set) and electronic medical records (EMR, for full data entry), depending on the infrastructure and human resources at clinics. All these three interfaces require consistent indicators, and will be operated as "one system". EMR version of the interface (named "eClinica") was piloted since 2013, and electronic register version of interface is currently piloted in 3 provinces in August 2014. VAAC aims to scale up to broad part of the country in 2015–2017 after these field testing.

VAAC also has several additional information system: Electronic (web-based) system for HIV routine reporting (D28 online); the PreventHIV system manages the information of voluntary counselling and testing and HTC outreach activities; the HIVInfo system manages the information of confirmed HIV cases (HIV case reporting). VAAC's road-map is to link all these system to make interoperable, which enables whole spectrum of the cascade as the first step, and then to TB system and broader MOH information system as the future steps, as the resources become available.

The national TB program currently uses both paper-based and electronic recording and reporting systems. Both systems are based on WHO-recommended guidelines with quarterly reporting of cases. A transition to an electronic system (VITIMES) has begun, with approximately 256 out of 850 districts currently reporting case-based data through a web-based system; the rest are still using the paper-based system from district to provincial level, with electronic reporting of aggregated data from provincial to national level. For case-based data, data entry into the electronic system happens at district level. All 63 provinces produce aggregate data electronically. Full national coverage of the patients based electronic system is planned for 2015. For MDR TB management a different electronic recording and reporting system is used, eTB manager. Implementation follows the expansion of PDMT and is not yet complete.

Currently, only few of the providers working outside the NTP network (e.g. private clinics, general hospitals, the military, and the 06 drug detention centres) are included in the surveillance system<sup>18</sup>. Despite TB being a notifiable disease, the patients diagnosed and treated in these settings often are not notified to the NTP. Further development and updating of both the paper-based and electronic R&R systems (VITIMES and e-TB Manager) to support program changes are being planned, including developing the NTP data quality assurance system under the National Strategic Plan, 2015-2020. Operational research to underpin and support the stepwise introduction of new regimens is also

<sup>18</sup> Evaluation of the TB Surveillance in Viet Nam, Draft Mission Report, WHO/CDC, 2013, p9

included in the above plan. It is proposed to establish formal and informal electronic sharing of information with the Viet Nam Stop TB Partnership. A new national TB prevalence survey has been planned for 2015-2017<sup>19</sup>.

#### **Referral system between TB and HIV sectors**

The referral linkage between HIV, TB and other relevant health sectors remains weak. Without clear referral mechanism and guidance, many patients are currently lost during the referral. There is no follow up and the feedback of referral between TB and HIV services.

#### **Community systems context**

A significant improvement for civil society involvement in the national HIV response in the period 2012-2013 was the establishment of a national network of sex workers (VNSW) in 2012 and a national network of MSM and transgender people (VNMSM-TG) in 2013, as well as the expansion of existing PLHIV (VNP+) and PWID (VNPUD) networks. The number of CSOs with legal status has increased, and a small but growing number of local NGOs have demonstrated increased capacity for national advocacy, technical assistance and service delivery. These networks have developed linkages at central and local levels with relevant government agencies, including VAAC, MOH project components, PACs, health service providers, and DOLISAs, as well as existing community networks including VUSTA, the Youth Union, and the Women's Union. However, these linkages remain limited, and there is a lack of formal coordination mechanisms. There is insufficient central-level guidance on management and cooperation between the State and CSOs at provincial and implementation levels, and there is no mechanism in place to manage the distribution of funds from the State to CSOs, which do not fall under the same legal status as VN NGOs. While community organizations have been supported and strengthened and are now playing a more active role in policy development and program implementation, they continue to face a lack of human and financial resources, hindering them from realizing their full potential.

The national TB program has a long standing collaboration with the Women's Union and a more recent collaboration with the Farmer's Union to promote community awareness about tuberculosis transmission and treatment availability. Increasingly, these organizations provide treatment adherence support, including psycho-socioeconomic support to vulnerable groups, and are becoming involved in identification of people with symptoms compatible with TB. The Youth Union plays an important role in the development of a model of transitional care for prisoners who are released before their treatment is complete, with a view to ensuring this cohort are able to complete their treatment without interruption.

## **1.2 National Disease Strategic Plans**

With clear references to the **current** TB and HIV national disease strategic plan(s) and supporting documentation (including the name of the annexed documents and specific page reference), briefly summarize:

- a. The key goals, objectives and priority program areas under each of the TB and HIV programs including those that address joint areas.
- b. Implementation to date, including the main outcomes and impact achieved under the HIV and TB programs. In your response, also include the current implementation of TB/HIV collaborative activities under the national programs.
- c. Limitations to implementation and any lessons learned that will inform future implementation. In particular, highlight how the inequalities and key constraints and barriers described in question 1.1 are currently being addressed.
- d. The main areas of linkage with the national health strategy, including how implementation of this strategy impacts the relevant disease outcomes.
- e. Country processes for reviewing and revising the national disease strategic plan(s). Explain the process and timeline for the development of a new plan and describe how key populations will be meaningfully engaged.

- a. The key goals, objectives and priority program areas under each of the TB and HIV programs including those that address joint areas**

### **HIV**

#### **The National Strategy on HIV/AIDS Prevention and Control to 2020, with a vision to 2030**

The National Strategy on HIV/AIDS Prevention and Control to 2020, with a vision to 2030 was approved in May 2012. The overall objective of the National Strategy on HIV/AIDS Prevention and Control until 2020 with a vision to 2030 (National HIV Strategic Plan, annex 2), promulgated by the Prime Minister in May 2012 is “*to control HIV prevalence among the general population to below 0.3% by 2020; and to reduce the adverse impacts of HIV/AIDS on socio-economic development*”<sup>20</sup>. This aims to be achieved through the following specific objectives:

<sup>19</sup> NSP TB, 2015-2020, p86

<sup>20</sup> National Strategy on HIV/AIDS Prevention and Control till 2020 with a vision to 2030, pg 2

1. Ensure that at least 80% of the population aged 15-49 years has correct comprehensive knowledge about HIV/AIDS by 2020
2. Increase the percentage of non-stigmatizing and non-discriminatory attitudes to PLHIV by the general population to 80% by 2020
3. Reduce new HIV infection among PWID by 50% by 2015 and 80% by 2020 as compared to level in 2010
4. Reduce new HIV infections through sexual transmission by 50% by 2015 and 80% by 2020 as compared to level in 2010
5. Reduce HIV infection from mother to child to less than 5% by 2015 and to less than 2% by 2020 as compared to the level in 2010
6. Increase the percentage of people receiving ART to 80% of all the people who are eligible to receive treatment by 2020<sup>21</sup>

The National Committee on HIV/AIDS, Drug and Prostitution Prevention and Control has ensured that collaboration among ministries has been strengthened to generate a stronger multi-sectoral response and an improvement in service delivery. Ministries and sectors have been working with each other and with mass organizations, civil society and international organizations to ensure the provision of services. The success of this effort is most notable in the rapid increase in the number of people who have access to HIV prevention, care and support services.

### **The Four Projects for the implementation of the National Strategy on HIV/AIDS Prevention and Control to 2020 with a vision to 2030**

The Four Projects for the implementation of the National Strategy on HIV/AIDS Prevention and Control to 2020 with a vision to 2030 (Decision 4548) x was approved by the government in November 2012. The four projects under the National Strategy consist of 4 sub-projects: 1) HIV/AIDS prevention among key populations, 2) comprehensive HIV/AIDS care and treatment support project, 3) health system strengthening, and 4) Surveillance, monitoring and evaluation (annex 3).

#### **Investment Case**

In 2014, Viet Nam worked to develop investment case to explore strategic approaches to optimize HIV response through more effective investment. Asian epidemic model (AEM) was used to examine a number of scenarios (I-Case report, annex 4). The key messages of the investment are summarized as follows:

- There has been great progress against Viet Nam's epidemic, but HIV remains a formidable challenge -- AIDS is still among the top causes of premature death.
- Donor funds are shrinking. If donors leave too fast, and if bold decisions are not made soon to increase domestic funding, Viet Nam will face a resurgence in HIV infections and AIDS deaths, and very high future resource needs. A gradual, predictable, and responsible transition from donor to domestic funding is required.
- Viet Nam is working toward the global vision of "Ending AIDS by 2030": this means reducing HIV incidence and AIDS-related deaths to levels that no longer represent a major health threat to any population.
- The Investment Case identifies following priorities and solutions to increase the effectiveness, efficiency and sustainability of the national response to HIV:
  1. Bring to scale evidence-based and comprehensive harm reduction for key populations
  2. Scale up HIV testing and treatment, including "treatment as prevention (immediate ART)" for key populations
  3. Focus on key populations in high burden areas
  4. Sustainable financing, including increasing the domestic budget and the role of health insurance
  5. Integration and decentralization of HIV service delivery systems, including health systems strengthening
  6. Sufficient supply of ARV drugs and methadone
- Adopting the above set of priorities and undertaking concrete actions to achieve them can put Viet Nam on course to "Ending AIDS by 2030".

Based on the analysis using the Asian Epidemic Model, this concept note was designed aiming to achieve the following scenario / targets towards 2020 through high impact and cost-effective interventions.

- Periodic voluntary HIV testing and counseling and immediate ART initiation, irrespective of CD4 count, among key populations (PWID, MSM, FSW)
- ART initiation threshold for general adults will be kept at CD4 < 350 cells/mm<sup>3</sup> in 2014 but will be raised to <CD4 500 cells/mm<sup>3</sup> once resources (especially domestic resources) are secured.
  - ART at CD4<500 cells/mm<sup>3</sup> – 80% of eligibility by 2020
- Other interventions scaled-up in consistent with the current national target by 2020
  - Needle syringe in PWID – 29% in 2013 to 60% by 2020
  - Methadone maintenance in PWID – 6% in 2013 to 35% by 2020
  - Condom use in MSM – 42% in 2013 to 70% by 2020
  - Condom use in FSW – 51% in 2013 to 81% by 2020

<sup>21</sup> National Strategy on HIV/AIDS Prevention and Control till 2020 with a vision to 2030, pg 2

This scenario is expected to achieve following impact (figure 11). This impact is based on the assumption that the proposed response is fully funded as shown in the Financial Gap Table, section 2.

New HIV infections (total)	74% reduction from 15,603 in 2013 to 4,031 in 2020
New HIV infections (IDU)	83% reduction from 7078 in 2013 to 1223 in 2020
New infection averted in 2014-2020	25,476
AIDS deaths averted in 2014-2020	19,961

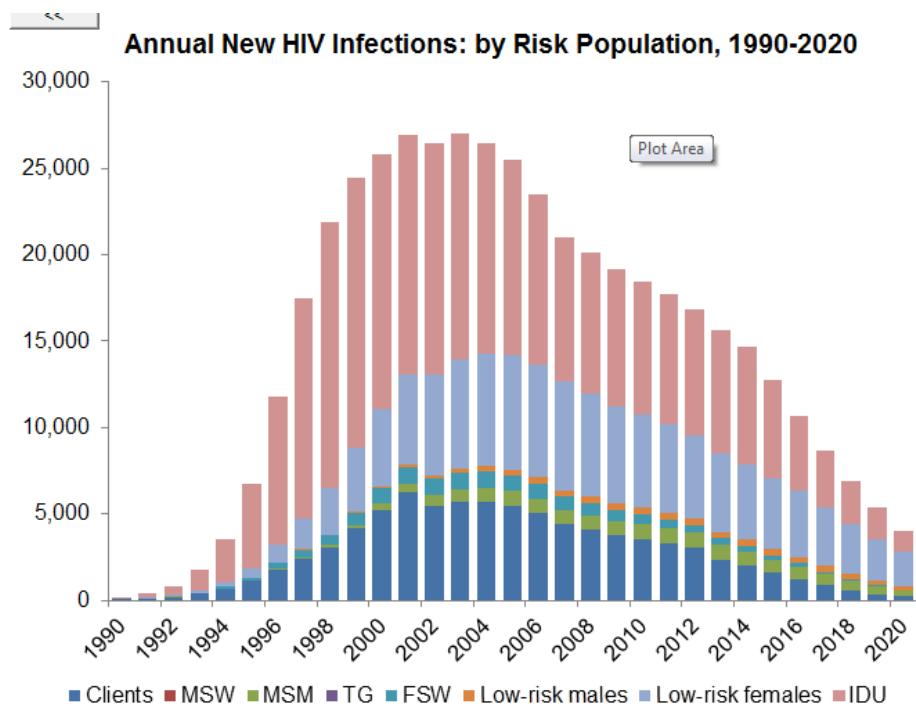


Figure 11: Predicted annual new HIV infections by risk population in Viet Nam, following introduction of intervention scenario described above (1990-2020)

While this is the scenario that HIV response in Viet Nam is working towards, the exact timeline for introduction of the change in ART eligibility threshold for non-priority populations is not certain and depends, in part, on the future funding landscape.

## TB

The National Strategic Program 2015- 2020 supports the Vietnamese National TB Strategy and Strategic Vision 2020-2030. The National Strategy strives for a TB-free Viet Nam, reducing tuberculosis incidence, prevalence, and deaths and move towards elimination of tuberculosis from the community, and reach the goal of reducing the prevalence rates to less than 20 cases per 100,000 population in 2030 as illustrated in the graph below.

### Proposed reduction of prevalence 2015-2030

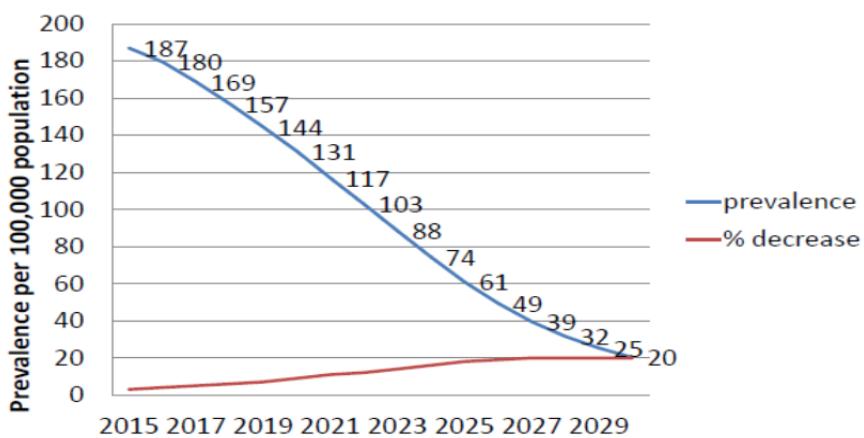


Figure 12: Proposed reduction of TB prevalence in Viet Nam, 2015-2030

The National Strategic Program for TB has three goals:

- By 2020, reduce the TB prevalence rate in the community to 131 cases per 100,000 population (from 218 / 100,000 in 2012)

- By 2020, reduce the TB mortality rate to less than 10 deaths per 100,000 population (from 20/100,000 in 2012)
- Keep MDR TB incidence rate under 5% of total new TB cases

The Vietnamese government considers the post-2015 Global TB Strategy as the basis for a rational national public health approach to control TB with human resources as the backbone of the control effort and patient centeredness as an essential guiding principle.

In line with the National Tuberculosis Strategy and the WHO Strategy for the period beyond 2015, the National Strategic Program has three pillars and 4 objectives; under each objective, interventions have been formulated, which may be viewed in full in annex 5.

### TB-HIV Joint Programming

The national HIV/AIDS control program and the national TB control program in Viet Nam have separately developed national strategy for the period 2015-2020. However, recognizing the growing issue of active TB among PLHIV in the country, both programs have recognized the need to move towards greater harmonization in order to maximize synergies to better respond to the dual infection. For example, MOH emphasizes TB-HIV collaboration at national and provincial level, with coordinating groups established at all levels<sup>22</sup>.

To strengthen early intervention to TB and HIV co-infected population, the following legal documents have been issued by the government.

- Stipulating collaboration between health establishments in TB management (Circular 2/2013/TT-BYT dated 15/01/2013)
- Promulgating guidance for active diagnosis of tuberculosis and preventive treatment using Isoniazid (INH) for PLHIV (Decision No. 2495/QĐ - BYT on 18/7/2012);
- Promulgating the regulation on the co-ordination between the National Target Program on HIV AIDS prevention and control, and Tuberculosis prevention and control project under the National health target program (Decision No. 2496/QĐ - BYT dated 18/7/2012)

Approval of the Co-ordination Framework between National target program on HIV AIDS prevention and control, and Tuberculosis prevention and control Project under the National health target program for the period 2012 – 2015 (Decision No. 2497/QĐ - BYT dated 18/7/2012).

- b. Implementation to date, including the main outcomes and impact achieved under the HIV and TB programs. In your response, also include the current implementation of TB/HIV collaborative activities under the national programs.**

### TB/HIV

#### **Prevention of active TB in PLHIV**

National guidelines on ICF and IPT were approved in 2012, based on 2011 WHO recommendations, to use the clinical algorithms to rule out active TB and start IPT. Following the roll-out of the training, IPT expanded rapidly from 1,317 patients in 2010 to 19,214 in 2013.

The nationwide, IPT was provided to 26% of adult and 52% of child PLHIV managed by the HIV, showing a clear prioritization of prevention treatment for children and an overall need for expansion. The implementation of IPT was insufficient, with large variations per province, due in part to issues with procurement of Isoniazid.

The proportion of HIV positive active TB cases are declining among registered TB patients in the past 3 years (table 1). These results may be due to the fact that ART coverage among PLHIV increased, that people are starting ART earlier with higher median CD4 count, and that IPT are expanded in the past years.

Year	Notification of TB all forms	HIV testing	TB/HIV+	% of TB/HIV
2010	98,608	42,356	3,515	8.30
2011	100,176	59,094	4,713	7.98
2012	103,906	68,259	4,775	7.00
2013	100,746	70,248	4,301	6.12

Table 1: Proportion of HIV positive active TB cases among registered TB patients in Viet Nam, 2011-2013

<sup>22</sup> National Strategic Program TB, 2015-2020, pg 46-47

### **Early diagnosis of active TB in PLHIV**

Following screening using the clinical algorithm, people with presumptive TB are examined for active TB, increasingly making use of the Xpert test, to diagnose active TB. This test is much more sensitive than direct sputum smear examination and results are available within a day (not counting transportation times, which may vary by location). In 2013, at least 1,415 PLHIV were screened for TB using Xpert. Of those, 248 were found to have TB.

PITC at TB services was expanded for early detection and timely treatment for TB and ARV. Under the provisions of TB program, HIV testing is routinely offered in the TB facilities. Rates of testing increased from 43% in 2010 to 70% in 2013 (70,248/100,746 patients counselled and tested). The percentage of HIV infection among active TB patients who were tested for HIV was 6% (table 1). Due to the scarcity of HIV tests, testing was prioritized among populations at higher risk of HIV infection. As such, 6% is likely an overestimation of the actual proportion of TB patients who are also HIV positive.

### **Timely treatment for HIV and TB**

Since 2011, the national guidelines recommend all HIV positive active TB patients should commence ART simultaneously with TB treatment. As a result, among the registered TB cases, the number and percentage of TB patients receiving simultaneous ART increased from 50% (2,439/4,912) in 2010 to 61% (2,715/4,438) in 2013, reaching the national 2013 target. However, if we use the estimated 9,300 HIV positive active TB cases<sup>23</sup> as denominator, the percentage receiving TB and HIV treatment is only at 29.2% in 2013 (increased from 15.9% in 2012). This relatively low percentage is due to a variety of reasons. First, it is due to under-recording and under-reporting of TB treatment at HIV clinics. Second, only 70% of TB patients are tested, and some TB providers do not refer to ART in timely manner. Third, a significant number of PLHIV who have TB symptoms are not adequately referred or are lost in the process, resulting in missed or delayed diagnosis and treatment of TB.

Mortality is high among registered HIV positive active TB cases. In 2013, among TB of all forms, 75.9% were cured and had completed treatment, while 13.7% died. Among new AFB+ PTB cases, 69.5% were cured and had completed treatment, while 14.4% died. Before the introduction of ARV treatment in TB patients, mortality rates were even higher. This illustrates the importance of increasing access to early initiation of ART among PLHIV with active TB.

There are no national data on the provision of CPT in patients with HIV/TB. In GF supported provinces, up to 83% of with PLHIV with active TB are reached with CPT. Outside these provinces, this rate is significantly lower.

### **Coordination, linkage and integrated service delivery**

Quarterly coordination meetings take place between VAAC and the NTP at national level. By February 2014, 53 provinces reported on the implementation of the MOH decisions on coordination between the two programs, all of which reported to have a functioning TB/HIV coordination mechanism. Future decentralization of HIV services will create greater opportunity of integrated service delivery of TB and HIV services. While TB services are available in all districts and communes, until 2012, HIV services were available only at province level and in selected districts. In 2012, delivery of HIV service (testing, treatment, care and follow-up) was successfully piloted at selected commune health stations (primary health care facilities) in two provinces<sup>24</sup>. This model is currently being expanded by VAAC. The pilot demonstrated that TB and HIV services can be delivered in integrated manner at primary health care facilities.

In the district health centres where MMT was established, linkage between TB and HIV services has been promoted and found to be effective in providing client-centred services for those with HIV, active TB, and heroine dependence. With support from FHI360, a TB-HIV fully integrated model was currently piloted in two provinces (Ninh Binh and Thai Binh). In many provinces, medical staff have undergone training on both diseases, even though they currently provide service delivery for either TB or HIV only. Relevant TB/HIV indicators have already been integrated into M&E and recording and reporting (R&R) frameworks of TB and HIV programs. Studies are on-going in several provinces to assess and monitor the size of the TB/HIV epidemic effectiveness of TB/HIV service delivery

## **HIV**

### **Outcomes**

Viet Nam has achieved a remarkable scale-up of antiretroviral therapy (ART), with 82,687 people receiving ART at the end of 2013, with an estimated coverage of 67.6% (adults: 67.1%; children: 79.2%) of PLHIV in need based on current national eligibility criteria (CD4<350 cells/mm<sup>3</sup> in adults)<sup>25</sup>. ART was being delivered at 364 HIV outpatient clinics at the end of 2013. Approximately 1.16 million pregnant women were tested for HIV in 2013. Of those 1,506 (0.13%) were identified as HIV infected and commenced ART.

<sup>23</sup> Global TB Report, 2013, pg

<sup>24</sup> Treatment 2.0 pilot evaluation report, annex

<sup>25</sup> GoV, Viet Nam AIDS response progress report 2014. 2014, National committee for AIDS, drugs and prostitution prevention and control, Government of Viet Nam: Hanoi, Viet Nam, pg 4

ART retention after 12 months (2011 cohort) was 84.5% among adults (range 60-100) and 91.5% among children (range 86.1-94.1)<sup>26</sup>. After 24 months (2010 cohort), retention was 78.6% among adults (range 48.6-100) and 81% among children (range 72.5-96)<sup>27</sup>. After 36 months (2009 cohort), retention was 74.4% among adults (range 47.6-100) and 78.8 among children (range 61.4-100)<sup>28</sup>.

Available data suggest a large proportion of people on ART in Viet Nam have achieved viral suppression. In a cohort study in Quang Ninh province in which more than 87% of those retained received viral load testing, 93.1% and 93.7% of those tested had viral load less than 1000 copies/ml at 12 and 24 months respectively after ART start.<sup>29</sup> Among people starting ART from 2008 to 2009 in the four clinics, and on treatment at 12 months after ART start, 94.5% had viral load less than 1000 copies/ml, and 91.3% less than 250 copies/ml.

Viet Nam has also made considerable progress in implementing evidence-based combination prevention focusing on KAP and reports of high levels of safe behaviours, including use of sterile injecting equipment by PWID and condom use among FSW are encouraging. The latest sentinel surveillance reports suggest a declining trend in HIV prevalence among PWID<sup>30</sup>.

The existing needle syringe program distributed 98 clean needles and syringes per PWID per year in 2013. More than 97% of surveyed PWID reported using sterile injecting equipment the last time they injected. At the same time, three rounds of IBBS suggest there is not clear correlation among provinces between % of exposure to NSP (free needle syringe distribution) and % needle sharing behaviour (figure 13).

While access to clean needles is critical in preventing transmission among PWID, the PWID are likely accessing clean needles from various sources. IBBS 2013 indicated 80% of PWID purchase needles and syringes from commercial outlets. MMT was expanded rapidly and 16,080 people were receiving MMT at end of 2013, while further scale-up is critical to reach the government target to place 80,000 PWID by the end of 2015.

In 2013, 92% of FSW reported using a condom with their most recent client, an increase from 83.3% in 2012. The proportion of men who reported use of a condom the last time they had anal sex with a male partner remained stable at 66.4% in 2013.

In the last 12 months, 23.6% of PWID received and HIV test and received their results (31.3% in 2012). Among FSW and MSM, the proportion was 35.1% (40.1% in 2012) and 28.8% (39.4% in 2012), respectively.

### **Impact**

As a result of the implementation of high impact interventions for key populations including ART, IPT, clean needles and condom programs, the estimated new HIV infection (modelled per Spectrum) decreased approximately 60% from the peak at 30,369 in 2001 to 11,825 in 2014. Among PWID, HIV prevalence was 10.2% (HSS+), representing a decline from peak prevalence of 29.3% in 2000<sup>31</sup>. From 2001 to 2013, a cumulative total of 58,000 AIDS death was averted by ART (modelled per Spectrum). Although, there is no available data on reduction of TB incident and TB – related death among PLHIV, it is expected that increased coverage of IPT and ART in the past years has substantial contribution in reduction of TB morbidity and mortality among PLHIV.

### **TB**

The NTP network follows the hierarchy of the health system, There is in principle full (geographical) population access to TB services. There are 63 provinces with provincial TB hospitals or TB units as part of the provincial preventive medicine department and 696 districts, each with a TB coordinator, a total of 975 microscopy points, 63 provincial labs and 2 (sub) national reference laboratories (linked for EQA with the SNRL in Adelaide, Australia). The 11,000 communes have a commune health worker responsible for TB. Village health workers have a task in educating the community on TB, referral of people with symptoms and support to treatment. In addition there are three sub-national TB referral hospitals: Pham Ngoc Thach hospital in Ho Chi Minh City, K71 in Thanh Hoa Province and K74 in Vinh

<sup>26</sup> Data collection results of the HIV/AIDS care and treatment situation and HIV drug resistance early warning indicators, 2013, MOH, VAAC, pg 17

<sup>27</sup> Data collection results of the HIV/AIDS care and treatment situation and HIV drug resistance early warning indicators, 2013, MOH, VAAC , pg 23

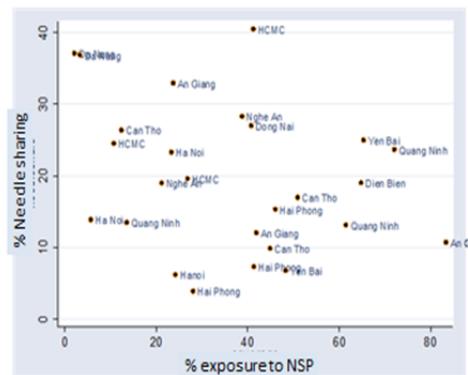
<sup>28</sup> Data collection results of the HIV/AIDS care and treatment situation and HIV drug resistance early warning indicators, 2013, MOH, VAAC pg 27

<sup>29</sup> Do, D.C., et al., *Monitoring the efficacy of antiretroviral therapy by a simple reverse transcriptase assay in HIV-infected adults in rural Vietnam*. Future Virol, 2012. 7: p. 923-931.

<sup>30</sup> HSS+ 2013

<sup>31</sup> GoV, *Viet Nam AIDS response progress report 2014*. 2014, National committee for AIDS, drugs and prostitution prevention and control, Government of Viet Nam: Hanoi, Viet Nam, p7

**Needle sharing vs NSP coverage  
- IBBS 2006, 2009, 2013 -**



**Figure 13: Needle sharing vs NSP coverage in Viet Nam, IBBS 2006, 2009, 2013**

Phuc province.

#### **Case detection and diagnosis**

In 2013, a total of 101,618 TB cases were notified to the NTP with mild reduction of new AFB positive pulmonary TB cases. This is in line with WHO's assessment that the TB epidemic in Viet Nam (1990-2010) has declined.

Active case finding pilot project conducted in nine provinces with low case detection rates in 2011-2013 resulted in an increase in the notification rate by an average of 25% in three northern provinces. The treatment success rate of new AFB positive pulmonary TB patients was maintained at a high level (90.9%).

Quality of TB laboratory testing is assured through the LQAS method throughout the country. Since 2012, a an increasing number of Xpert units offer access to diagnosis of TB and MDR TB to people from high risk groups, improving the quality of diagnosis, reducing delays in reporting results, and facilitating earlier initiation of treatment.

#### **Treatment**

Over the period 2012- 2013 the NTP successfully switched its regimen from 8 months 2SHRZ/6HE to 6 month 2HRZE/4RHE with community DOTS. The treatment success rate of new AFB positive pulmonary TB patients was maintained at a high level (90.9%). In 2013, an expected shortfall in first line anti TB drugs was averted by an emergency supply from the GDF. In 2014, the government increased its contribution to the TB program to cover 100% of the first line drug need.

#### **Diagnosis and treatment of Childhood TB and prevention**

Development of the new national policy and guidelines on Childhood TB was successfully piloted in 4 provinces. These guidelines include child contact tracing and treatment for latent TB infection (LTBI). Scale up to a further four provinces has been achieved in 2014 with GF funding.

#### **Programmatic management of drug resistant TB (PMDT)**

Since its first pilot in HCMC in 2009 the PMDT expanded in a phased manner to 10 treatment centres and 31 satellite sites, reaching 41 out of the 63 provinces in 2014. Diagnosis of MDR TB is nearly exclusively based on Xpert MTB/Rif testing in TB patients and people from MDR TB risk groups who have symptoms of TB.

Hospitalized treatment varies among treatment sites from 2 to 4 weeks, followed by ambulatory treatment with DOT at commune levels. Socio-economic support is provided on individual basis through the mass organizations (Women's Union, Farmers' Union, Youth Union, Red Cross).

As of February 2014, a cumulative total of 2,502 patients were enrolled in MDR-TB treatment. The target for 2014 is 1,500 patients. The enrolment rate has increased to 98% out of all diagnosed MDR TB patients in 2013 in comparison to 32% in 2012. The MDR-TB treatment success rate for the 2009-2011 cohorts was between 73% and 78%.

The electronic recording and reporting system (e-TB manager) has been installed in all treatment sites, satellites and in some districts (HCMC).

#### **Public-Public and Public-Private Mix**

The NTP has maintained and expanded Public-Private Mix in TB Control (PPM) in 21 provinces and 6 national general hospitals, through a strong collaboration between provincial PPM committee, health facilities, private pharmaceutical associations and social organizations. In the provinces where PPM is implemented, the private sector contributed on average 12% to the notification. In the eight provinces where the practical approach to lung health PAL is implemented, the level and quality of referrals for TB within the health system improved.

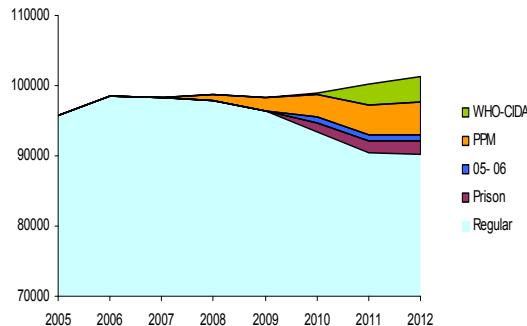
#### **TB control in prisons**

In collaboration with other ministries, TB units have been established in 51 prisons; these units are fully integrated with the NTP.

Active case finding with chest X-rays in 33 prisons in 2013 resulted in improved case detection. A HIV/TB/MDR collaborative framework has been developed and implemented in 18 provinces, being expanded to 42 in 2014. Follow up activities after release (during transition) from prison are included for continuity of comprehensive care for TB, HIV or MDR-TB.

An evaluation of the effect of intensified case finding efforts over the period 2009 – 2012 below was presented in the 2012 IUATLD conference. WHO-CIDA stands for engagement of large general hospitals (Figure 14).

## NEW APPROACH CONTRIBUTION



The numbers for 2012 were extrapolated from data for the first three quarters.

15

Figure 14: An evaluation of the effect of intensified case finding efforts in Viet Nam, 2009 – 2012

### NTP partners

The NTP continued to expand and strengthen TB control, in collaboration with partners such as WHO, USAID, KNCV, US-CDC, CHAI, PATH, MSH, MOPS and the MOLISA, and the line-ministries: MOH, MPI and MOF. Recently, the French Enterprises Initiative (FEI) has come forward to support other technical partners (KNCV and WHO) in providing assistance for the development of the Global Fund NFM TB/HIV Concept Note. The Viet Nam Stop TB Partnership (VSTP) includes the key members from the Viet Nam Association against TB and Lung Diseases (VATLD), academia, mass organizations such as the Women's Union, Farmers' Union, Veterans' Association and the Youth Union, which play an important role in providing socio-economic support to TB patients including those co-infected with TB and HIV. The VSTP supported the NTP in the development and subsequent launch of the new National Strategy 2015-2020 and vision to 2030, on 23<sup>rd</sup> of March 2014. In 2014, VSTP was expanded to include representatives from populations affected by HIV and TB, including VNP+.

**c. Limitations to implementation and any lessons learned that will inform future implementation. In particular, highlight how inequalities and key constraints and barriers described in question 1.1 are currently being addressed**

### TB/HIV

At provincial and district levels, the extent of collaboration and joint programming vary considerably depending provinces and districts: while all districts have TB treatment sites, treatment sites for HIV are limited (approximately 200 districts have HIV care OPC) and very few districts have joint TB/HIV service delivery. Cross referral between TB service and HIV service is the national strategy. However referral is weak in practice, with a substantial number of patients lost between referral and linkage to care. Currently, the mechanisms for data sharing between the two programs are limited.

Symptomatic TB screening among PLHIV has been introduced but not yet fully practiced at each OPC visit. As a result, IPT implementation remains low among PLHIV. Most PLHIV are under care when receiving ARV treatment. Few, however, are in pre-ARV care and this limits TB screening at HIV services. Only 12 out of the 30 high and medium HIV burden provinces have access to Xpert for early diagnosis of active TB among PLHIV. Among TB patients tested positive for HIV, 61% have received ART.

TB infection control guidelines exist but implementation is limited in real settings.

### HIV

**Limited uptake of HIV testing among key populations** Uptake of HIV testing has been limited among key populations. The proportion that reported receiving HIV testing and counselling in the last 12 months and knew the results was 23.6% among male PWID, 28.8% among MSM, and 35.1% among FSW in 2013<sup>32</sup>. Standalone voluntary HIV testing and counselling (VCT) services were established in project supported districts. However, they are not attractive to KAP for reasons including long distance to services and the long waiting time for test results. Currently, HIV screening can only be done at district health facility, with reactive results sent to provincial laboratory for confirmation, which means it can take more than a week for confirmatory results.

**Leaks over the care cascade** It is common that people diagnosed with HIV infection are not linked to care and are

<sup>32</sup> HIV case reporting in 2013. VAAC, MoH 2013

lost to follow-up. According to the national case reporting system, 197,335 people were reported and presumably alive nationally at the end of 2012 but only 72,213 people were registered at HIV care clinics<sup>33</sup>. HTC and care clinics are located at separate locations and being ineligible for ART at the enrolment for care are found as contribution to lost follow-up between diagnosis and treatment cascades. Viet Nam is promoting greater integration of HIV services facilitates access HIV services and can reduce costs.

**Late initiation of ART** Late presentation for care services and late initiation of HIV treatment is common in Vietnam. Nguyen et al reported that, during 2005–2009, median CD4 count was 73 cells/mm<sup>3</sup> at care enrolment, and 78 cells/mm<sup>3</sup> at ART initiation. Among people who started ART in 2011, median CD4 count was 97 cells/mm<sup>3</sup>. In 2013, 36% of patients still had CD4 <100 at the time of ART initiation.

**Barriers in access to ART:** Although ART coverage has increased steadily over time, there is still a substantial gap between diagnosis and enrolment for care and treatment. Barriers to access to care and treatment include long turnaround time for HIV positive results, difficulty in accessing to CD4 (only one machine in each province), and geographical difficulty in accessing HIV services in remote mountainous areas. These barriers contribute to late ART initiation.

**Limitations in MMT scale-up** The uptake and accessibility of HIV services is low among key populations. The rate of expansion of MMT services has not been sufficient towards the ambitious national target to place 80,000 PWID on MMT. This was due, in part, to requirements of human resources and infrastructure for standalone MMT clinics. In response, the Government issued Decision 1008 in 2014, which facilitated setting MMT scale-up targets for each province, and clarified responsibility of local government with regards to MMT provision. VAAC is now finalizing new guidelines on MMT dispensing sites, which will enable decentralization of MMT dispensing services to commune health stations. Integration of MMT, HTC and ART services can promote efficient of HIV services

**Insignificant and unstable reduction of the HIV epidemic** Although the numbers of PLHIV, new HIV infections and HIV/AIDS related deaths have decreased, the reduction has been insufficient. In 2013, there were estimated 15,603 new infections (modelled by Asian Epidemic Model). On average, nearly 1,200 PLHIV were detected and reported each month.<sup>34</sup> There are some communes and villages reporting a HIV/AIDS prevalence over 10 times higher than the average prevalence of the country, especially areas in mountainous, remote and ethnic minority locations where people still have limited knowledge and services still do not yet address the needs.

**Limited resources for sustainable programming:** Despite encouraging signs showing the national commitment for HIV/AIDS financing and management, the response to HIV in Viet Nam is still heavily reliant on international aid and many donors are planning to close or significantly reduce existing funding amounts. It is critical to diversify financial sources in order to maintain the important achievements gained in recent years in terms of HIV prevention, treatment and care. Unless the country has the means to maintain current intervention achievements, Viet Nam will face a risk that a spike in HIV incidence will reoccur, accompanied by HIV drug-resistance. Recent cuts to domestic funding of the National Targeted Program for HIV have been made as part of a process to transform the national budget towards greater efficiencies. The Prime Minister's Decision No. 1899/QD-TTg, dated October 16 2013, approved the Project on Sustainable Financing for HIV/AIDS Prevention and Control Activities in 2013-2020 period (annex 6) details strategies for diversifying funding courses, including greater mobilization of resources by ministries, sectors and mass organizations, and attracting new donors and partners through multilateral and bilateral cooperation.

#### **Lessons learned from pilot on decentralization and integration of HIV services**

Viet Nam has piloted Treatment 2.0 models in two provinces, which was subsequently expanded to other provinces. In this model, decentralizing HIV services were decentralized to commune health station, which is closer to patients and their communities. The pilot demonstrated that HIV services can be effectively delivered in commune health stations. While HIV testing had previously been offered only at provincial and district facilities, the pilot showed that commune health staff, with adequate training and supervision, can accurately confirm HIV testing results using the algorithm based on three rapid tests. In this pilot, people diagnosed at commune health stations and linked to care had significantly higher median CD4 counts at ART initiation than those diagnosed at district facilities (294 cells/ mm<sup>3</sup> vs 88 cells/ mm<sup>3</sup>). Engaging and building trust with key populations is essential to reach and facilitate early diagnosis, treatment and long term retention. It is also important to ensure confidentiality at commune health station, as some patients expressed stigma as barriers to access the facilities nearby their home. The Treatment 2.0 pilot provides important lessons learned on how Vietnam can promote earlier access to ART, and enhance sustainability through integrating HIV services into the primary health care system.

#### **TB**

Despite substantial achievements, there continue to be a number of challenges facing the current TB program:

**Diagnosis** The laboratory network is still underdeveloped and is currently not able to support nationwide implementation of the new diagnostic algorithm. Maintenance and quality assurance for all equipment and techniques

<sup>33</sup> GoV, Viet Nam AIDS response progress report 2012. 2012, National Committee for AIDS, Drugs and prostitution prevention and control: Hanoi, Viet Nam.

<sup>34</sup> HIV case reporting in 2013. VAAC, MoH 2013

is incomplete. The sample transportation system is still limited to 35 provinces and does not cover all districts within these provinces.

The quality of CXR reading is quite low and the availability of digital X-rays is limited. In remote and mountainous provinces, accessibility to quality-assured X-ray services is poor.

There are no policies for active case finding among adult contacts of active TB patients and several other groups with high risk or specific vulnerability for TB, except for prisons, PLHIV, children and MMT (pilot)

**Treatment** Supervision, coordination and (re) training of NTP staff at district and commune level is generally underfunded, particularly given the turnover of TB staff. Provincial fundraising aims to support these activities

**Prevention** Preventive treatment for under five year old contacts of TB patients after exclusion of active TB needs to be implemented in the remaining 53 provinces. There is no preventive treatment of adult contacts of TB patients, nor of MDR contacts.

**Engaging all providers** In 39 provinces the public hospitals and private practitioners are insufficiently engaged in earlier case finding, effective treatment and the prevention of MDR-TB. The 2013, update of the International Standards of TB Care was not yet available in Vietnamese. An accreditation system for providers in TB care is lacking. All of these result in delayed diagnosis and improper treatment among those seeking care from private providers, disproportionately affecting the urban poor.

**Community TB Care delivery** In total 23 provinces mostly in rural, mountainous and remote areas, need further involvement of social organisations in community TB care delivery, in order to increase access to early diagnosis and patient centred treatment of TB and MDR TB.

**Key affected populations** Children still need access to effective diagnosis and treatment of TB, currently this is available only in 10 provinces. Beyond a number of pilot projects, the current NTP services are insufficiently geared towards the needs of key affected populations, including migrants, miners and factory workers, close contacts of people with active TB, and the elderly (especially men).

TB control in prisons still needs improvement, especially regarding the implementation of the comprehensive TB/HIV/MDR TB strategy. Access to TB screening is incomplete (covering approximately 2/3 of the prisoners), as is access to ART.

Presently no collaboration exists with other health programs beyond HIV, like ANC and MCH services (to reach children and pregnant women), diabetes care services and doctors working with TNF-alpha blocking medicine( both working with vulnerable populations), tobacco prevention programs (re smoking men, at risk for TB),

**MDR TB** Access to diagnosis and treatment of MDR TB is still limited (only 24% based on 2011 DRS, earlier estimated as 35%). The current treatment regimen is long and toxic and is ineffective for pre-XDR and XDR patients, leading to suboptimal treatment results. At present, prisoners do not have access to MDR diagnosis and treatment at all. MDR treatment by private sector providers is of insufficient quality with low success rates.

Despite existing policies and guidelines, all elements of TB infection control are not in place in health care settings and other congregate settings like prisons. With the increasing complexities of drug procurement and PSCM in an expanding and diversifying care and treatment network, the NTP capacity in PSCM is insufficient. The physical condition of stores and the inventory management system are out of date.

**HIS** The NTP has not yet revised the paper-based and electronic R&R systems (VITIMES and e-TB manager) to meet the 2013 WHO update of TB definitions. In addition, updating of requirements relevant to the introduction of new drugs and regimens for pharmacovigilance, operational research, and program management are still required. Data management capacity is insufficient at all levels.

**Surveillance and research** The Prevalence and the DRS surveys form the foundation for the design of the NTP interventions. However, with the rapidly changing socio-economic situation and the increased availability of SLDs in Viet Nam, by 2015 both surveys previous conducted will be out of date. There are several pressing questions that need answering in order to design effective interventions (e.g. gender disparity in case detection, private sector TB treatment, the most appropriate approaches for different risk groups, etc.).

Electronic recording and reporting systems are not yet fully rolled and in some instances the implementation of studies is suboptimal, impairing the quality of the results.

The implementation of an evaluation framework for new technologies is slow. Pharmacovigilance, necessary for the responsible use of new drugs and regimens is insufficiently included in the NTP practices and RR systems.

**Policies, advocacy and funding** TB is one of the most neglected diseases in Viet Nam. Awareness on TB and its control is very limited among decision-makers. While decentralisation is underway in the government system, contribution from the local government to TB control is often insufficient to tackle TB challenges in the community. Advocacy and capacity building among the local stakeholders including KAP and CBO is critical in the optimal delivery of comprehensive TB services.

The funding situation regarding MDR diagnosis and treatment is unsustainable and no short term solution is expected; however the effort put forward under this NFM proposal may go a long way in controlling and reducing the MDR epidemic, pushing it back to pre-1995 levels, which would result in a much lower funding gap.

**d. The main areas of linkage with the national strategy, including how implementation of this strategy impacts the relevant disease outcomes**

#### **HIV**

Effective implementation of HIV/AIDS prevention and control to reduce HIV transmission is indicated in the national health sector development plan with the target of sustaining HIV prevalence at <3% among general population in 2015. An important key tasks in the national health sector development plan is consolidation and strengthening of health care service delivery especially primary health care network such as district and commune level. Mountainous, remote, isolated and economically disadvantaged areas are prioritized to ensure equitable access to quality health care services<sup>35</sup>.

Another key activity in the national health sector development plan is consolidating, and completing the health care delivery network, particularly at grassroots level. Strengthening commune health stations through the GVN plan for investment in infrastructure, equipment and staff training, as stipulated by Prime Ministerial Decision 950, will facilitate decentralization of HIV service delivery and therefore contribute to sustain national HIV response. The successful Treatment 2.0 pilot in Dien Bien and Can Tho provinces has demonstrated commune health station capacity to deliver HIV services. HIV service delivery will continue to be devolved to grassroots level in coming years, becoming more firmly embedded in the primary health care system.

In addition, the national health strategy aims to strengthen management and effective use of health human resource. Appropriate policies and measures to secure deserving incentives for health workers in different levels, and to attract and retain cadres to work in mountainous, remote, isolated and disadvantaged areas and at the grassroots level have been developed. Recently, GVN issued Decree 56 to allow health staff in charge of some diseases including HIV and TB to receive additional 70% of their salary. The implementation of these government policies will motivate health staff to take on more responsibility and more tasks and also keep adequate human resources at commune level to deliver HIV services. The government also determined to give priority for allocation of at least 30% of state budget for preventive medicine and primary health, in mountainous, remote and isolated areas. These are also a priority for HIV response in Viet Nam. The national health plan sets targets to standardize tender procedures and mechanism procurement and supply of drugs. Implementation of these procedures will also ensure quality of drugs including ARV and TB medicines.

#### **TB**

The National Strategic Plan for TB (2015-2020) is in line with the Five Year Health Sector Development Plan 2011-2015 and the 2013 recommendations of the joint annual health review (JAHR 2013). The Vietnamese government considers the post-2015 Global TB Strategy as the basis for a rational national public health approach to control TB with human resources as the backbone of the control effort and patient centeredness as an essential guiding principle.

The strategies and activities under the 2015-2020 National Strategic Plan will lay the foundation for realizing the ambitious Vietnamese government vision on TB control for 2030. It will be the basis for investments in TB control by the Vietnamese government and will provide the framework to which other stakeholders and donors will be requested to contribute.

In the health context of Viet Nam, importance is given to strengthening health care at the grassroots level, and to encourage investment in human resources for health and health management information systems, while providing financial protection for the disadvantaged and vulnerable groups through the expansion of the health insurance coverage.

**e. Country processes for reviewing and revising the national disease strategic plan(s). Explain the process and timeline for the development of a new plan and describe how key populations will be meaningfully engaged**

#### **TB-HIV strategic alignment**

To date, planning, monitoring and reviewing of the two disease strategic plans have been largely separate. To facilitate greater and ongoing alignment of the TB and HIV strategic response, key representatives from each program will participate in review of both TB and HIV strategies and the development of the future National Targeted Programs.

#### **HIV**

The National Strategy on HIV/AIDS Prevention and Control in Viet Nam until 2020 with a vision to 2030, approved in 2011, guides implementation of national HIV response (see annex 2). The HIV program review is planned in September 2014, which will serve as mid-term review of the national strategy on HIV prevention and control. To plan

<sup>35</sup> National health sector development plan, p 36-38

and conduct the program review, VAAC leads a broad-based consultative process including GVN policy makers, representatives from relevant Ministries, international partners, civil society representatives, and representatives from KAP. The review aims to optimize the implementation of national strategy towards 2020. TB program will also participate in the review to discuss enhanced TB/HIV collaboration.

Strategic investment for HIV is framed through the I-Case, and will complement the National Strategy. In order to construct the I-Case, VAAC has held a series of workshops and developed technical working groups with participation from civil society organizations (CSO), including representatives from PLHIV networks, and KAP representatives. Experiences gained during the I-Case construction suggests that the involvement of CSO is extremely useful and should be further developed in the future when MOH is developing the next National Strategy.

## TB

Between November 2013 and July 2014, the NTP worked together with a number of national and international partners and stakeholders on the development of the National Strategic Plan 2015-2020 based on the National TB strategy. Global and national policy documents, recent external program reviews and missions reports were used as scientific basis, including an extensive WHO re-evaluation of the burden of TB in Viet Nam (2013).. In addition, the NTP invited experts from the London School of Hygiene and Tropical Medicine to assist modelling of the epidemic and impact for evidence based prioritization of interventions.

The whole process of an ongoing country dialogue was inclusive and transparent. Details of stakeholder involvement are available in annex 7.

The next comprehensive program review is due towards the end of 2015, to evaluate the national strategy 2011-2015. This will inform possible adjustments to the 2015-2020 National Strategic Plan and guide possible rescheduling of funds for 2016 and 2017 NFM. A midterm review of the 2015-2020 strategy is planned for 2018, with an end of period evaluation to take place in 2020. Annual and half annual program reviews are conducted with the participation of the HIV program. The MDR component of the National Strategic Plan undergoes annual external monitoring by the WPRO rGLC.

Planning for the post 2017 funding will take place during the first half of 2017 and will be based on the updated NSP 2015-2020.

### 1.3 Joint planning and alignment of TB and HIV Strategies, Policies and Interventions

(2-4 pages, suggested)

In order to understand the **future** plans for joint TB and HIV planning and programming, briefly describe:

- a. Plans for further alignment of the TB and HIV strategies, policies and interventions at different levels of the health systems and community systems. This should include a description of i) steps for the improvement of coverage and quality of services, ii) opportunities for joint implementation of cross-cutting activities, and iii) expected efficiencies that will result from this joint implementation.
- b. The barriers that need to be addressed in this alignment process.

- a. Plans for further alignment of the TB and HIV strategies, policies and interventions at different levels of the health systems and community systems. This should include a description of i) steps for the improvement of coverage and quality of services, ii) opportunities for joint implementation of cross-cutting activities, and iii) expected efficiencies that will result from this joint implementation.**

#### i) Improvement of coverage & quality

The geographic priority for HIV programming will be the 8 high HIV high burden<sup>36</sup> and 22 medium burden<sup>37</sup> provinces. Within these provinces, there will be increased access to early ART for KAP, to maximize the preventative benefits of ART in reducing HIV transmission as well as reducing acquisition of TB among PLHIV, with a view to total ART coverage for PLHIV in these provinces by 2020. Symptomatic TB screening to rule out active TB among PLHIV will be ensured for each OPC visit. IPT for PLHIV who have not previously been enrolled in IPT will be similarly scaled up within these 30 provinces. Once active TB has been suspected, they will be further investigation with CXR and Xpert, either within the OPC or referred to TB services. All OPCs will be linked up as "commune" units in the TB sputum sample transportation system for easy access to Xpert testing. OPCs with sufficient registered PLHIV may be linked into the NTP network as district diagnostic satellite unit with their own Xpert (assuming GF TB grant incentive funding becomes available), referring patients for registration and further

<sup>36</sup> HCMC, Hanoi, Can Tho, Thai Nguyen, Hai Phong, Dien Bien, An Giang, Son La

<sup>37</sup> Quang Ninh, Ninh Binh, Bac Giang, Bac Ninh, Hai Duong, Thai Binh, Nam Dinh, Lai Chau, Yen Bai, Phu Tho, Lao Cai, Vinh Phuc, Thanh Hoa, Nghe An, Khanh Hoa, Tay Ninh, Vung Tau, Binh Duong, Dong Nai, Dong Thap, Long An, Kien Giang

management to the TB services.

TB patients will be screened for HIV and, if found to have HIV infection, will be referred to OPC for immediate ART initiation. ART will be available for all HIV positive active TB patients, even if they reside outside the 30 HIV priority provinces. This is easiest where services are co-located, see section (ii) below.

In the 33 low HIV burden provinces, the NTP will provide HIV testing with incentive funding to active TB patients, to ensure early diagnosis and appropriate management of HIV in active TB patients.

### **ii) Opportunities for joint implementation**

TB and HIV service delivery will continue to become more integrated: Primary health care facilities at commune health stations will identify people with presumptive TB and offer HIV screening, and refer presumptive cases to district health facilities for diagnosis, and will also now be able to screen KAP for HIV infection. HIV testing and ART follow up is already available at commune health station in selected provinces through the Treatment 2.0 pilot and at some GF HIV grant-supported districts. Decentralization of HIV services to commune health facilities will be promoted in the coming phase, which will facilitate integrated HIV and TB service delivery at primary health care facilities. TB treatment initiation takes place at district or provincial level, with treatment provision already available through commune health station, with facility based or community/home based treatment support. Commune health stations will also be able to provide IEC on both diseases, improving awareness of transmission risks and treatment literacy, further supporting testing expansion efforts for both TB and HIV. The HSS grant covers training of district, commune and village health workers in 14 provinces. The HIV and TB programs will provide input into the HSS training curricula and, in collaboration with VUSTA, will collaborate to cover the remaining provinces

At district level, TB and HIV services will initially be co-located within one facility, with plans for further integration. The previously mentioned FHI360 service integration pilot program<sup>38</sup> will expand to a further 4 provinces between 2015 and 2017.

Both programs have electronic recording and reporting systems. The ongoing efforts to improve these systems are an opportunity to ensure interoperability of these systems for safe, confidential and automatic exchange of relevant data.

### **iii) Expected efficiencies**

There is a plan to ensure that HI financing can be used for TB and HIV services. The exact mechanism to ensure this is still under discussion. One plan is to include TB and HIV services within the curative medical system, rather than the preventative arm, as preventive services cannot be covered by health insurance. Another plan is to add therapeutic functions to provide TB and HV treatment services within preventative medicine centres, which will again allow HI funding to be used. Co-location and integration of TB and HIV services will reduce drop out during referral and will ensure timely initiation of both TB and HIV treatment. Joint studies would increase understanding of the co-epidemic. Opportunities are the upcoming TB prevalence survey and DRS, as well as epidemiological and behavioural studies to understand the epidemic and formative research to develop approaches with KAP.

#### **b. barriers that need to be addressed in this alignment process**

Both the NSP 2015-2020 and the HIV investment case aim for the nationwide expansion of combined TB/HIV service provision covering all aspects of collaborative TB and HIV activities. Further alignment of the TB and HIV strategies, policies and interventions at different levels of the health system and community, have been thoughtfully planned. Key barriers for alignment in the past were related to funding, organization of the service, involvement of KAP and will be addressed under the CN as follows:

**Barriers related to funding** have led to a lack of availability of HIV tests and ART, especially for TB patients in HIV low prevalence provinces. Under the NFM sufficient tests will be procured, the HIV program covering the 30 HIV high and medium burden provinces and TB program incentive funding covering the remaining 33 provinces. Starting in 2015, TB patients will be a priority group for ART initiation.

**Barriers related to the organization of services** The need for confirmation of a positive HIV test at provincial level leads to delays the diagnostic process and dropout of patients from the diagnostic process, resulting in uncertainty about the actual HIV status of a proportion of the people tested. Under the NFM scale-up of same day confirmation at the point of care will improve this. After their HIV diagnosis not all PLWH regularly attend the OPC services or have their CD4 count measured, until their health deteriorates and they need to start ART. Patients on ART are regularly checked for TB. Early initiation of ARV treatment will improve the follow-up of PLWH for TB screening while reducing the likelihood of developing TB. While HIV testing can take place at any point of care, a reliable point of care test for TB is not yet available. Diagnosis of TB can take place at district level; however in many instances, patients with sputum smear negative TB are referred to a provincial TB hospital for diagnosis. Better training for district TB staff, expansion of the use of X-ray screening in combination with Xpert testing and sputum sample transportation systems

<sup>38</sup> Improving Quality and Sustainability of TB/HIV Testing and Treatment Services though Service Integration, summary. FHI360, 2014

will increase access to TB diagnosis for PLHIV.

**Barriers related to involvement of KAP** Previously KAP were not well represented in policy influencing bodies related to NTP and HIV programming. However, over the first half of 2014 representatives of KAP were included in the CCM and have joined the Viet Nam Stop TB Partnership. Under the NFM KAP are planned to be involved in the design of the relevant services. VUSTA and the NTP plan to join forces for capacity building for KAP representatives for advocacy and effective participation in national and provincial forums.

## SECTION 2: FUNDING LANDSCAPE, ADDITIONALITY AND SUSTAINABILITY

To achieve lasting impact against the diseases, financial commitments from domestic sources must play a key role in a national strategy. Global Fund allocates resources that are insufficient to address the full cost of a technically sound program. It is therefore critical to assess how the funding requested fits within the overall funding landscape and how the national government plans to commit increased resources to the national disease program and health sector each year.

### 2.1 Overall Funding Landscape for Upcoming Implementation Period

In order to understand the overall funding landscape of the TB and HIV national programs and how this funding request fits within these, briefly describe:

- a. The availability of funds for each program area and the source of such funding (government and/or donor). Highlight any program areas that are adequately resourced (and are therefore not included in the request to the Global Fund).
- b. How the proposed Global Fund investment has leveraged other donor resources.
- c. For program areas that have significant funding gaps, planned actions to address these gaps.

#### Overall Funding Landscape for HIV

- a. **The availability of funds for each program area and the source of such funding (government and/or donor). Highlight any program areas that are adequately resourced (and are therefore not included in the request to the Global Fund).**

Funding gaps persist in Viet Nam's HIV response, despite the apparent funding surplus appearing in the Financial Gap Table (USD16 million in 2014 and USD6 million). This is the result of shifting priorities in the I-Case: new unit costing techniques and donor cost norms not matching the unit costs of the I-Case. A brief explanation of the resource needs estimate, and adjustments made to better capture the funding need in the Financial Gap table are explained in the Willingness To Pay (WTP, annex 8). Since the national AIDS response began it had depended heavily on external resources. The majority of funding in recent years has come from GFATM and PEPFAR. There is a decreasing trend in external resources for HIV: by 34% from 2012-2017 (figure 16). There are no committed major engagements after 2014, outside of PEPFAR and the GF, and this drives the 71 percent decrease in Other donor funding. Both PEPFAR funding, marked by a 29% decrease in and the decreasing allocation amount provided by the GF is reflective of reduced donor support for HIV in Viet Nam<sup>39</sup>.

<sup>39</sup> The financial gap analysis reports funding figures from the United States government (PEPFAR) that reflect the programmatic funding for 2012 and 2013, while figures from 2014-17 were constructed using a method described in the WTP annex. For figure 14, the initially reported PEPFAR projection values from 2014 to 2017 were used to highlight the actual trend in their diminishing financial contribution to HIV in Vietnam. The main idea is that there is an existing funding gap for HIV in Vietnam and donor support for HIV is decreasing.

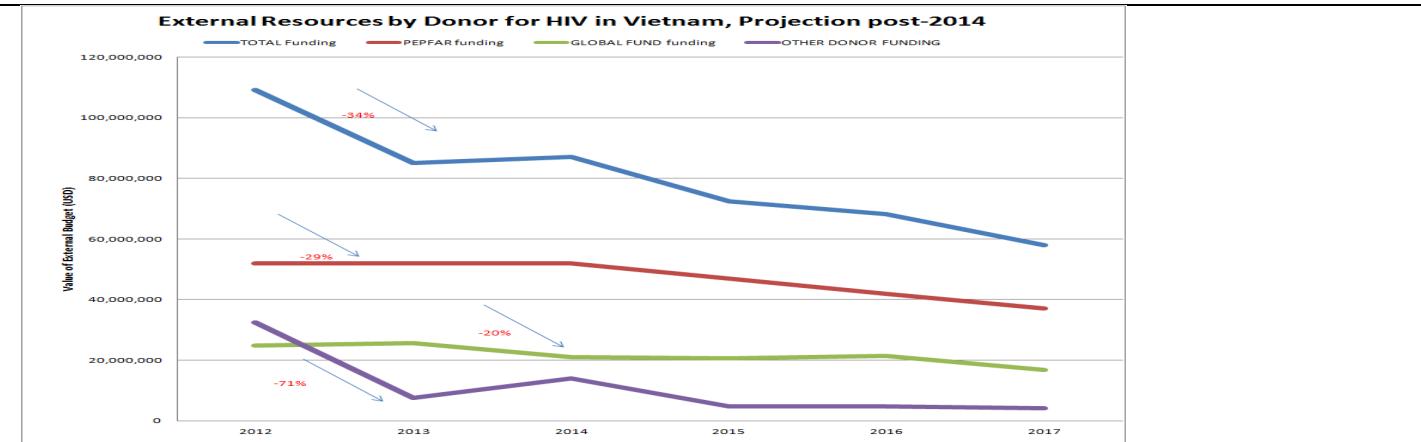


Figure 16: Anticipated external resources for HIV response in Viet Nam, 2012 - 2017

Table 2 describes the expected contribution by the two main external sources and the government and the trend in funding across major programs highlighted in the programmatic gap table for HIV from 2014 to 2017.

TOTAL Funding from 2014 to 2017 (% of National Need and increasing or decreasing)

Program Area	GVN (%)	Increasing/Decreasing	PEPFAR (%)	Increasing/Decreasing	GF (%)	Increasing/Decreasing
ART adults	12	UP	19	STABLE	18	UP
ART Peds	0	STABLE	0	STABLE	68	UP
PMTCT	19	UP	47	DOWN	12	UP
PWID NSP	10	UP	0	STABLE	13	UP
PWID MMT	7	UP	5	UP	5	UP
FSW Condom Promotion	0	STABLE	37	UP	36	UP
MSM Condom Promotion	0	STABLE	28	UP	22	DOWN
HTC PWID	6	UP	16	UP	20	UP
HTC FSW	0	STABLE	27	UP	27	UP
HTC MSM	0	STABLE	4	STABLE	20	UP

Table 2: Anticipated contributions from GVN, PEPFAR and GF, including funding trends

There are other areas (HSS, IEC) which are not analyzed in depth, but a review of these programs highlights the trends and priority areas of the major funding channels. Adult ART will rely on donor funds for 37% of coverage in the next three years and this is a result of the legal rules preventing the GVN from procuring generics procured outside Vietnam. Fortunately, the treatment landscape will be supported by increasing government financing of ART as these legal barriers are removed, paying for approximately 40,000 additional patients over 4 years. Until now, The Global Fund will be the sole funder for paediatric ART under current plans but later years may also see HI funding. Prevention for PWID will see additional funding from all 3 sources, with the government supporting 10% of NSP coverage and 7% of MMT coverage. The level of increased funding from government towards MMT represents a 9% increase from 2014 to 2017, which compares to a 2% increase by PEPFAR and 6% for the Global Fund NFM allocation<sup>40</sup>. Prevention for FSW and MSM will not see the same level in terms of harm reduction (condoms), as this reflects the I-Case strategy highlighting MMT as a priority, cost-effective intervention. HTC for all three KAP will receive funding from both PEPFAR (16% for PWID) and the GF (20% for PWID), but the Government will only provide funding to HTC for PWID (6%). PMTCT will be supported by all donors, with PEPFAR providing funding for 47% of the resource need. All priority programs and other outlined in section 3 that form the national response as outlined in Investment case report a gap and will directly receive support from the allocated amount.

#### b. How the proposed Global Fund investment has leveraged other donor resources

In addition to GF, PEPFAR has been the key donor and this can be seen in the Financial Gap Table as PEPFAR contributes 47% of response in 2014. Their support has been widespread and covers most areas of the national response, and in the past GF has supplemented programs that PEPFAR has also supported. For instance, coverage of ART in specific provinces has been managed by either donor, but there has been an attempt to reduce redundancy among partners. It has been challenging to leverage PEPFAR resources as decisions regarding their funding

<sup>40</sup> This includes the possibility of above allocation funding, since for 2017 no funding was requested for MMT as part of the allocation.

allocations and fund/program management are managed outside the national context.

Most recently, the development of the Concept Note and the prioritized allocation that will occur as a result will be drawn from the National Investment Case (funded by UNAIDS), along with support from other international organizations including USAID, WHO, CHAI and others on technical matters. In this sense the allocation of the GF will be used in more efficient, impact oriented ways because of support from other partners.

### c. For program areas that have significant funding gaps, planned actions to address these gaps

Additional donor support in Viet Nam in addition above is unclear going forward but the signal from most donors is that funding will decrease. Therefore a majority of the funding gap will be addressed by domestic contributions and optimization of existing funds. Table 3 reports the 2015 gap expected for each program, with potential solutions that may be used to address the gap. These are either put in place or under discussion within the national context. In some cases, particularly related to the prevention will have the gap met by purchasing of supplies from the private sector, including for clean needles and condoms. Data illustrates that both of these commodities are already often sought outside of government channels. Some of these solutions and their impact on government HIV funding are found within WTP annex 8. As the GVN is currently at a crucial time in determine its HIV financing policies, it is hoped that new funding streams or restructuring of the current system, will expand coverage, increase funding and/or improve efficiency of the system, thus expanding the impact on existing funds.

Program	Gap as % from 2015	Solutions
Care and Treatment Adults	Adult ART-57%	<ul style="list-style-type: none"> <li>As already decided, USD10 million for the HSS allocation to Vietnam for the NFM was shifted to HIV (changing the disease split for HIV to 77M USD), and this funding will be used to cover ART.</li> </ul>
	Paediatric ART-34%	<ul style="list-style-type: none"> <li>Shift to pooled procurement of ARVs such as VPP, leading to lower costs</li> </ul>
	PMTCT-22%	<ul style="list-style-type: none"> <li>Expand coverage of ART through health insurance.</li> </ul>
Prevention	NSP-76%	<ul style="list-style-type: none"> <li>Methadone procurement can be enhanced and cheaper prices will increase scale-up</li> </ul>
	MMT-82%	<ul style="list-style-type: none"> <li>In urban areas, methadone can be partly paid by users. A pilot in Hai Phong showed PWID were willing to pay for a part of service.</li> </ul>
	FSW Condoms-27%	<ul style="list-style-type: none"> <li>Access to clean needle can expand by self-paid especially in urban area where syringes are widely available for purchasing</li> </ul>
	MSM Condoms-54%	<ul style="list-style-type: none"> <li>Social marketing for condoms will encourage patients to purchase condoms from private sources</li> <li>Funding for NSP is the highest priority above allocation program from GF NFM, and MMT and condom programs are also part of the above allocation request</li> </ul>
Testing and Counselling	PWID HTC-55%	<ul style="list-style-type: none"> <li>Decentralization of HTC using finger prick at commune level and confirmatory at district level can save for specimen transportation.</li> </ul>
	FSW HTC-50%	<ul style="list-style-type: none"> <li>Using three rapid tests for confirmatory can also reduce the cost for HIV diagnosis.</li> </ul>
	MSM HTC-75%	<ul style="list-style-type: none"> <li>HTC for PWID and MSM are part of the above allocation request</li> </ul>

Table 3: Expected funding gap by program, Viet Nam 2015

When existing debates of the National AIDS response are settled and put into action, it is hoped that the resource needs estimate (and funding gaps) will be reduced as more cost-effective interventions are standard practice, management costs will be reduced and cost savings or redundant funding will be achieved through health system integration and decentralization of HIV services.

Efforts to re-distribute the GF allocation were crucial in reducing the treatment gap, as the CCM decided in April 2014 to use 10 M from the HSS allocation to cover ART. This was agreed on by the GF secretariat, and was a pragmatic choice by the CCM to use available funding to address a priority gap. Similarly, the above allocation request being submitted as part of the concept note also seeks to close priority gaps in the national response. This includes for funding for NSP and MMT (see section 3.3) which report significant gaps. Funding for a significant portion of the above

allocation amount may come directly from the Gates Foundation (including up to 40 M USD for HIV and TB in the next 3 years), and efforts at mobilizing further funds from high net worth individuals within Vietnam are on-going, and the investment case, through recommending the ENDAIDS scenario will serve as a means to achieve this.

## Overall funding landscape for TB

### Funding for TB control

TB control has relied on domestic sources making up the majority of the budget and covering most program areas. Government funding at all levels made 58% of all financing (excluding OOP spending) for TB in Vietnam in 2013, contributing USD29 million to the response. In addition to domestic sources, the GFATM has been the key donor, providing USD13.1 million, or 26% across program areas. Figure 17 highlights spending by donors and GVN at all levels. The 74% increase in spending from the government has been channelled through various sources (described later)<sup>41</sup>.

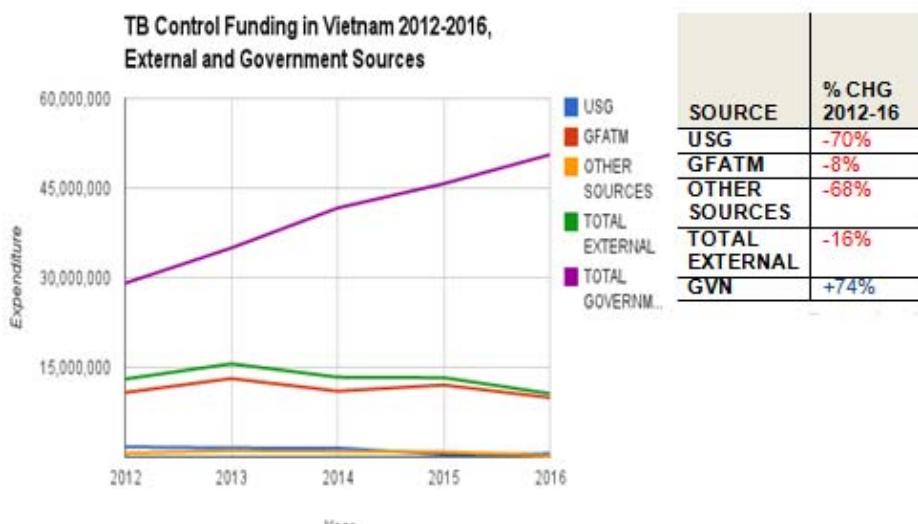


Figure 17 - TB control funding in Viet Nam, 2012-2016, external and GVN sources

The basis for TB control in Viet Nam is funded by the national budget, provincial budgets and the national health insurance. The provincial budgets support activities of the NSP, like some of the necessary provincial supervision, some routine training on NTP management and patient support. It also includes running costs for the NTP operations in the provinces, the provincial TB hospitals and provincial NTP units in social disease departments, and salaries of designated TB staff. The National Lung Hospital pays the salaries of the national level designated TB staff and the premises of the NTP national unit. The Annual State Budget for TB control, which totalled USD5 million USD in 2013, ensures the basic functioning of the TB program by providing funding for the essential laboratory supplies for sputum smear diagnosis and first line TB drugs, since 2014 covering 100% of the first line anti TB drugs for treatment and prevention of drug susceptible TB. It also ensures some of the necessary supervision visits and incentives for health workers for each TB patient diagnosed and treated in accordance with the national TB guidelines. Table 4 highlights the increasing Central Funding towards first-line drugs, reaching USD5.3 million USD in 2014, after a funding shortfall in 2013. This level of financing for first line drugs will increase into the future, but health insurance may cover a large part of the costs. While most other national programs had to take more than 50% funding cuts due to the changes in the GVN budgetary landscape, in 2014 the NTP benefitted from an exceptional raise of funding in 2014.

	2011	2012	2013	2014
Central budget (million USD)	5.4	5.1	5.0	6.6
% of GVN allocation for first line drugs	55%	59%	31%	81%
% first line drug needs covered by GVN allocation	63%	62%	29%	100%

Table 4 – Central budget funding towards first line regimen in Viet Nam, 2011-2014

Health insurance pays for basic hospital services, excluding first-line drugs and other services paid for by the central

<sup>41</sup> 2017 funding excluded from Graph due to allocation funding being disbursed from 2014 to 2016. It is unlikely that GFATM will provide zero funding in 2017, so this figure illustrates the trend excluding that year.

budget. HI made 24% of contributions to TB control from 2012-2014, and annual HI spending on TB increased by almost USD4 million from 2012 to 2014.

VN Government resources for TB control	2012	2013	2014	Percent of total 2012-14
Salaries of designated provincial and national level TB staff (included in NSP)	12,324,535	17,227,601	16,702,914	33
Annual state budget for TB control for FLD, basic diagnostics, some supervision, some training, HW incentives	5,047,619	4,995,238	6,571,429	12
Provincial contributions to NSP activities (running costs NTP operations, supervision, training)	11,682,299	12,734,783	18,370,995	31
Health insurance contributions to TB care (additional to NSP)	8,728,423	11,512,652	12,612,807	24
<b>TOTAL VN GOV investment in TB control</b>	<b>37,782,876</b>	<b>46,470,274</b>	<b>54,258,145</b>	<b>100</b>

Table 5 – GVN resources for TB control 2012-2014

The most important donor for TB control has been the Global Fund with a contribution of USD11-13 million per year over the period 2012-2014. Its main foci were the scale-up of PMDT by ensuring SLD supplies and cultures tests; HIV testing in TB patients; contributing to scale-up private sector; community involvement and PAL; engagement of large non-NTP hospitals; and supporting the initial scale-up of childhood TB care. A summary of previous and anticipated funding from non-Global Fund donors to the TB NSP is given in table 6, below.

Project	Budget USD					Area of Activity
	2013	2014	2015	2016	2017	
CDC	371,532	514,162				TB/HIV, research, Lab, PPM, Paediatric TB
KNCV-TB CAREI (USAID)	1,037,988	843,892				Lab, IC, PMDT, TB/HIV, HSS, M&E, OR, Drug supply and management
WHO	180,006	180,006				TA, research, assessment on MDR, PPM, new TB drugs, Gene Xpert
FHI		99,215				TB/HIV
ACT2	103,011	236,127	56,411			Research
ACT3		120,140	192,242	192,242	341,159	Research
TBTC	175,572	165,246				Clinical trial research
TB Reach						Xpert
UNITAID	195,530	143,450	382,833			Equipment procurement
CHAI		22,929				ACIS
URC	196,667	196,667	196,667			TB/HIV, TB Health Information System
MSH						TA drug and supplies management
<b>Total</b>	<b>2,260,306</b>	<b>2,521,834</b>	<b>828,153</b>	<b>192,242</b>	<b>341,159</b>	

Table 6: Previous and anticipated funding from non-GF donors to the TB NSP 2013-2017

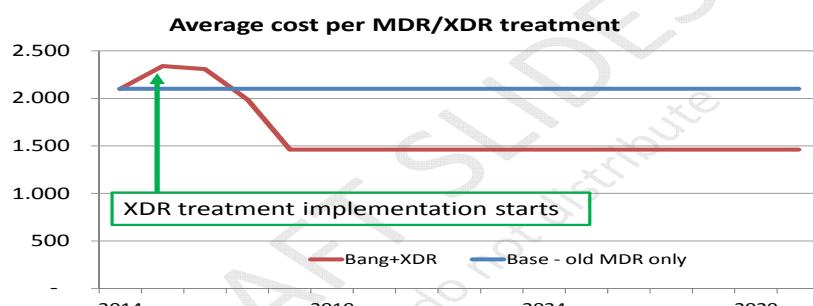
#### b. How the proposed GF investment has leveraged other resources

The total contribution of non Global Fund donors to TB control in Vietnam has averaged USD2.3 million per year over the period 2012-2014. The US Government has been a key donor to the NTP with funding to implementation of the 2011-2014 national plan, amounting to USD5.3 million to date. Over 2014, UNITAID supported the NTP with six Xpert machines and cartridges, over 40,000 of which will be used in 2015 and TBREACH contributed two Xpert machines. FHI and CHAI contribute technical assistance on TB/HIV collaboration and some aspects of the management of second line drugs respectively and are anticipated to continue to do so. GF funding has served to support similar areas at times when funding gaps may have been present.

### c. For program areas that have significant funding gaps, planned actions to address those gaps

Key gaps across program areas remain, but efforts are in place to mitigate and address these funding shortfalls. The increase in government spending that has been witnessed in recent years is reflective of the high-level commitment that will serve to mobilize resources for underfunded areas. The recent rise in provincial spending has been a direct result of advocacy and mobilization from the central government level. Provincial funding for TB control is expected to be one of the key sources of domestic funding moving forward. Increased coverage of TB drugs and services will address funding gaps, as it is hoped that further funding under the HI budget for first line TB drugs may free up resources at the central level for services not covered under health insurance. In conjunction with this shift, accreditation and certification of private sector providers that collaborate with the NTP may enable reimbursement by the health insurance of consultations, expanding the workforce for TB in a sustainable way. Resource allocation for TB at all levels of government will be based on impact and cost-effectiveness oriented priorities. This will be particularly important in addressing the challenge and cost of MDR TB, the reduction of which is a key element of the NSP. The TIME model deployed for the NSP will be a valuable tool going forward in determining which resources will close gaps and save costs over the coming years. For example, the funding of MDR treatment will reflect lower costs in the next 2 years as regimen changes will result in a reduction of the per patient price of TB drugs from the present USD2,100 to approximately USD1,500. The TIME model scenario presented in figure 18 demonstrates that yearly costs may drop by over USD500 below the pre-MDR treatment price by 2019.

## MDR Scenario – MDR Treatment costs



- Baseline (Blue Line): current regimen, no XDR treatment
- Intervention:
  - 84% Bangladesh regimen by 2018
  - pre-XDR and XDR treatment from 2015 (11% and 5%)



Figure 18: Estimated MDR treatment costs to 2030 in Viet Nam (TIME model)

Similarly, other program revisions can further generate efficiencies that can close gaps. Without donor support the use of Xpert tests would not be possible but in the medium term Xpert use may foster efficiencies by if the platform is used for testing of HIV viral load, Hepatitis B, C or other infections. If Xpert is partially replaced by point of care testing, which is cheaper and yields similar results, this improves affordability and coverage of testing efforts.

NTP management at provincial, district and commune level and the support to social organisations engaged in TB service delivery, efficiencies are sought in integration of activities with other programs and general health system support, like the current HSS grant. The Provincial Stop TB Partnerships will advocate for TB funding at the provincial level, to ensure an adequately trained workforce for TB and to gradually take over socio-economic support for vulnerable patients and the necessary coordination and supervision of NTP activities and support to SO's and CSOs

The above allocation funding, and the unfunded quality demand streams may serve to address gaps in specific areas. This includes in particular MDR-TB treatment (USD19 million request), as well as TB treatment and prevention, with a focus on increasing the use of Xpert (USD17 million request).

## 2.2 Counterpart Financing Requirements

**Complete the Financial Gap Analysis and Counterpart Financing Table (Table 1).** The counterpart financing requirements are set forth in the Global Fund Eligibility and Counterpart Financing Policy.

- a. For TB and HIV, indicate below whether the counterpart financing requirements have been met. If not, provide a justification that includes actions planned during implementation to reach compliance.

Counterpart Financing Requirements	Compliant?	If not, provide a brief justification and planned actions
i. Availability of reliable data to assess compliance	<input type="checkbox"/> Yes <input type="checkbox"/> No	n/a
ii. Minimum threshold government contribution to disease program (low income-5%, lower lower-middle income-20%, upper lower-middle income-40%, upper middle income-60%)	<input type="checkbox"/> Yes <input type="checkbox"/> No	n/a
iii. Increasing government contribution to disease program	<input type="checkbox"/> Yes <input type="checkbox"/> No	n/a
<p>b. Compared to previous years, what additional government investments are committed to the national programs in the next implementation period that counts towards accessing the willingness-to-pay allocation from the Global Fund. Clearly specify the interventions or activities that are expected to be financed by the additional government resources and indicate how realization of these commitments will be tracked and reported.</p> <p>c. Provide an assessment of the completeness and reliability of financial data reported, including any assumptions and caveats associated with the figures.</p>		

#### **b. Additional GVN investments - HIV**

Vietnam meets the Counterpart Financing threshold for HIV (20%), despite the high use of donors funds for the national response. The GVN, driven by the a political commitment to "End AIDS" the GVN will be committing further resources to reduce the impact of existing HIV and curb new infection, thereby increasing their Counterpart Financing into the future. For the financial gap analysis, funding commitments from Decision Number: 1899/QĐ-TTg, "Approval of project financing for HIV/AIDS prevention between 2013-2020" signed in October 2013 were recorded as this is the most recent official commitment to increase HIV funding, as it shows a 15% increase between 2015 and 2017 when combining Central and Provincial inputs. Although the specific figures in this document are not broken down by program area, and exact amounts are based on data in 2012, a significant increase from domestic financing for HIV is still expected due to programmatic scale-up through multiple financing channels. Specifically, greater contributions to Adult treatment and to methadone for PWID are expected by the GVN. Sustainability and additionality will be enhanced by key factors and transitions in the near future. First, health insurance has been explored and will likely come to cover a higher amount of PLHIV, including for ART in the near future. Costs of this transition have been mapped out and will be presented to VSS and the National Assembly over the coming months. Second, through the investment case and other strategic tools, VAAC will seek to optimize resources that are high impact and cost-effective, and allocate greater funds to these priority areas, thereby freeing up funds for broader coverage. Third, using optimized allocation scenarios, it is anticipated that more funding will be mobilized from national sources to fund target programs. A detailed analysis of expected funding, and sustainability can be found in the WTP annex 8.

#### **b. Additional GVN investments -TB**

The Government in Vietnam already funds a significant portion of TB control, amounting to 59% of TB financing in Vietnam in 2013, and reflecting a Counterpart financing of 76%. It is expected that the GVN will sustain these investments, and add to them through increased provincial funding and health insurance. Specific scale up targets exist in areas including enhanced SS diagnosis and treating childhood TB, and this in addition to maintaining coverage of existing programs, most notably paying for 100% of First-Line drugs will require increased investment over time. Overall government spending on TB is expected to increase by 33% between 2014 and 2017. The central funding increase will be driven by the provision of services already funded, including first line drugs and basic diagnostics, which will cover new infections. The greatest portion of this increase will come through provincial funding for TB, which will focus on enhancing human resources (through incentives and training) and supporting patients and health workers at the Commune level. Provincial funding will be geared towards managing TB control, and health systems strengthening. Sustainability of the TB response will be ensured through three key mechanisms

that are similar to HIV. First, health insurance, which already provides a level of coverage to TB patients, over 60% of whom are covered to health insurance. Coverage of first-line treatment and basic diagnosis for TB patients and for screening is under discussion and may come into effect near the end of the allocation period. Second, resource mobilization at the national level by Provincial Stop TB Partnerships and to the donor community will continue in the following years, as the expected donor engagement (see table 6) is low after 2015, but there is need and room for impact for further funds. Finally, optimal allocation strategies are being developed on the basis of the TIME model deployed in alignment with this concept note. The linkage of the model to the One Health tool<sup>42</sup>, will enhance funding decisions being made at the MOH level, and can ensure TB control is efficient.

### c. Tracking expenditure for HIV and TB services and Assessment of Completeness

Central means of reporting expenditure for both TB and HIV have been similar in the past. Expenditure reports prepared for the Ministry of Finance, the Ministry of Planning and Investment and the National Assembly. As both diseases are primarily financed through the National Targeted Programs, their annual budget is set in November of each year when the National Assembly determines the value of transfers to sub-national programs and the NTPs. Existing reporting systems to monitor the execution of budgets are completed monthly by service providers and other entities receiving funds. Unfortunately some of these reports lack a more detailed analysis of where expenditures were allocated. Both the National Tuberculosis program and the HIV/AIDS NTPs, along with the provinces deliver proposals on budget allocations submitted to the Ministry of Finance which are based on projected needs on service delivery projections. This mechanism allows for comparison of expenditures to allocations approved by the National Assembly. Provinces who receive funding from the national government also follow a similar budgeting and reporting process. Finally, the health insurance fund is among the largest extra-budgetary financial funds in Vietnam that receives funding through parallel channels outside the national budget. It is therefore responsible for managing and reporting its own expenditure, which is accomplished through bi-annual reports of expenditure.

The data reported to the Ministry of Finance and the National Assembly is comprehensive and accurate as it plays a key role in setting annual budgets. An external review of public expenditure accounting and financial management found that the quality, completeness and timeliness of in-year budget reports were adequate, but issues existed with comparing expenditures with budgeted amounts for specific service areas. Further information regarding specific expenditure reporting systems for HIV and TB can be found in the WTP annex 8.

## SECTION 3: FUNDING REQUEST TO THE GLOBAL FUND

This section details the request for funding and outlines how the investment is strategically targeted to achieve greater impact on the diseases and health systems. While the investments for both the HIV and TB programs should be described, the applicant should also provide information on the expected impact and efficiencies achieved from planned joint programming for the two diseases including cross-cutting health systems strengthening as relevant.

### 3.1 Programmatic Gap Analysis

**A programmatic gap analysis should be conducted for the six to twelve priority modules within the applicant's funding request. These modules should appropriately reflect the two separate disease programs in addition to cross-cutting modules for both programs such as Health System and Community Systems Strengthening.**

Complete a programmatic gap table (Table 2) for the quantifiable priority modules within the applicant's funding request. Ensure that the coverage levels for the priority modules selected are consistent with the coverage targets in section D of the modular template (Table 3).

For any selected priority modules that are difficult to quantify (i.e. not service delivery modules), explain the gaps, the types of activities in place, the populations or groups involved, and the current funding sources and gaps in the narrative section below.

Programmatic gap tables in the format of Table 2 are available for quantifiable modules for TB-HIV, HIV and TB. Difficult to quantify modules (only relevant to HIV and TB) are described, below.

#### HIV-TB: Community system strengthening

KAP networks and CS networks that work on different social, legal, development issues do exist but the coordination between networks are weak. Better coordination will increase synergy and strengthen community response as a whole.

#### Community monitoring

<sup>42</sup> The OneHealth tool is a model developed by the Futures Group used to visualize optimal resources allocations within the health sector for low and middle income countries.

There are substantial gaps between law, policies and implementation which can allow abuses of power and discrimination against KAP to occur. This issue remains widespread and unaddressed, with particular regard to access to health care by PLHIV and transgender people, arrest and harassment of sex workers, exploitation of drug users in rehabilitation centres, and discrimination by some government staff and institutions against KAP. Strengthening CBO and their networks will assist in stronger advocacy to improve the regulatory environment and increase oversight of the implementation. In addition, it will enable sustained and more widespread community advocacy to combat stigma and discrimination against KAP.

#### ***Increase the recognition of the role of CSOs***

Awareness among the Government and donors of the important role of CSOs in HIV response has increased greatly in recent years. However, this increase in awareness is limited to a small circle of government staff who work directly with CSOs. As yet, it has not translated into policies that recognize CSOs as an integral part of the national response. Increasing and broadening recognition of the importance of role of CSOs in HIV response is an essential step in moving towards an inclusive and sustainable response to the epidemic in Viet Nam.

#### ***Advocacy for social accountability***

In many provinces, including those with high HIV prevalence among KAP, there is still a lack of representation by KAP in HIV response. When HIV response is solely carried out by government agencies, their reach into the populations most affected by the epidemic is limited, raising questions about sustainability, quality and effectiveness. Some KAP networks have been established but their capacity is still limited. Support is needed to strengthen their capacity in a number of areas, including governance, technical capacity, coordination, management, and financial sustainability.

As the role of CBOs is being increasingly recognized, questions are being raised about credibility of some organizations. A CBO accreditation package, detailing minimum standards for CBOs, would help to create a foundation from which to build confidence among the community, donors, partners and Government authorities with regard to the legitimacy of CBO.

KAP CSOs have not yet been involved in TB control. As such, training for CSOs is included in the NFM allocation funding to enable them to effectively fulfil their roles as advocates in the national and provincial stop TB partnerships. Awareness raising is planned with the Stop TB Partnerships to fully appreciate the potential of the KAP representatives.

#### ***Removing legal barriers for access***

##### ***Policy Advocacy***

The majority of CBOs in Viet Nam are not registered, which presents with various challenges in accessing funding, developing partnerships, and implementing activities. The existing legal framework for registration of an association currently applies only to associations affiliated with the Government. The current legal framework for civil society to raise funding is quite strict, making it prohibitively difficult for NGOs and CBOs to source funds from local individuals and/or enterprises. As a result, most NGOs rely on international donors to finance their activities, and most CBOs rely on the NGOs to access funding.

While direct Government funding for CBOs is not prohibited under the Budget Law, there is a lack of clear guidance (both in terms of government regulations and documentation CBOs are required to produce to be registered and/or apply for funding from Government) which leads to ambiguity, resulting in government budget decision makers not providing funding to CSOs. The development of a legal framework for the registration of KAP associations and other CBO will be an important step in addressing the funding challenges currently facing these organizations.

In future, HIV treatment will very likely be covered by health insurance, making access to health insurance even more important for KAP to be enrolled. The Amendment of the Health Insurance Law does not exclude KAP, but clear guidelines are required to enable KAP access to health insurance. These issues are likely to be largely addressed by the changes in HI law towards family coverage (whereby if one family member is enrolled, coverage extends to all family members) and, eventually, universal coverage of HI.

##### ***Legal aid services and legal literacy***

Viet Nam has many progressive laws and policies, including those relating to KAP however the majority of KAP are not aware of the laws and regulations, and don't understand the specific legal language. As such, many have difficulty have in accessing their legal rights. CBOs can play an important role in increasing legal literacy among KAP, through their advantages in reaching these populations.

##### ***Practice of legal rights***

Social stigma; fear of transmission; lack of knowledge with regard to current laws and regulations; and a lack of consistent application of regulations in eligibility for and access to health and legal services, have led to violations of the rights of KAP. Ongoing education and information activities to combat stigma and discrimination can play a role in addressing this issue. Strengthened regulatory oversight, however, is another key component in ensuring the right of KAP to access health care and legal services.

#### ***Community system strengthening, Institutional capacity building***

In many provinces, including those with high HIV prevalence among KAP, there is still a lack of representation by KAP

in HIV response. When HIV response is solely carried out by government agencies, their reach into the populations most affected by the epidemic is limited, raising questions about sustainability, quality and effectiveness. Some KAP networks have been established but their capacity is still limited. Support is needed to strengthen their capacity in a number of areas, including governance, technical capacity, coordination, management, and financial sustainability.

As the role of CBOs is being increasingly recognized, questions are being raised about credibility of some organizations. A CBO accreditation package, detailing minimum standards for CBOs, would help to create a foundation from which to build confidence among the community, donors, partners and Government authorities with regard to the legitimacy of CBO.

## TB

### TB care and prevention

**Case detection and diagnosis** By the end of 2014 approximately 20% of the incident TB cases will not be detected yet (CDR 2012 76%, prevalence decreasing with over 4% year). An important part of the 2015-2017 funding request is aimed at closing this gap by finding at least an additional 8% of the incident cases by intensified and active case finding among the groups with the highest prevalence and/or barriers to care (KAP and remote areas, etc.) The presently available diagnostic is mostly ZN SS microscopy, which is not very sensitive. CXR screening, FM microscopy and Xpert testing is needed to improve the sensitivity of diagnostic efforts

**Prevention** With approximately 68% of TB cases due to recent infection<sup>43</sup>, preventive treatment of close contacts could be an effective strategy. Funding is needed for a pilot for preventive treatment of adult household contacts after exclusion of active TB (in conjunction with active case finding among adult and child household contacts), intended for 2015-2016, with evaluation in 2017.

**Engaging all providers** This project is mainly focused on urban areas. In 25 provinces there is a significant private sector and large non-NTP public hospitals that are not yet linked with the NTP. Funding will be needed to implement this model of collaboration to these 25 provinces (18 by the NTP and 7 by PATH as SR), bringing the total to 49. Local resources will be mobilized through the provincial Stop TB partnerships to fund any recurrent costs for this approach. Currently the first version of the ISTC is available in Vietnamese, not including the molecular tests and updated strategies in support of private sector involvement in TB control (also available as app). Private sector providers who give good quality diagnosis and treatment should be eligible for reimbursement. The NTP intends to work on the development of an accreditation system for private providers, which will improve the quality of TB diagnosis.

**Community TB Care delivery** By the end of 2014, community TB care delivery is being implemented in 31 provinces with GFR9ph2 funding, by the NTP (8 provinces), the Farmers Union (17 provinces) and CCHD (6 provinces). CCH combines this with implementation of the comprehensive Practical Approach to Lung Health (PAL). This project is mainly focused on rural populations. Community care delivery still needs to be delivered in 23 rural, remote and mountainous provinces. The NFM funding is requested in order to fund a shift to sustainable implementation and scale-up to 23 provinces (17 by the Farmers Union and 6 by CCHD), with involvement of the NTP for guidance and supervision to ensure a sustainable approach. Community care will include support to MDR patients during their treatment (see MDR section).

**Collaborative activities with other programs and sectors** Currently, no collaboration exists with other health programs beyond HIV, the border police, Ministry of Education (MOE), and the health services of the penitentiary system. The NTP aims to develop collaboration with different programs within the health sector:

- ANC and MCH services
- Diabetes care services
- Doctors working with TNF-alpha blocking medicines
- The tobacco control program

## MDR

**Engaging all care providers** In addition to MDR diagnosis and treatment by the NTP, there are a significant number of patients that are diagnosed and treated by hospitals but not officially notified to the NTP. A recent WHO supported study conducted by the NTP<sup>44</sup> shows that in the “quasi private sector” the risk of unsuccessful outcome is higher in non-GLC patients (Hazard ratio: 4.6, 95% CI: 1.8-11), with many people lost to follow-up. Additional funding is needed to meet with the treatment providers to (i) encourage them to follow NTP procedures and regimens for MDR TB, (ii) notify their cases, and (iii) ensure treatment to cure

**Infection control** To reach nationwide scale-up of TB IC implementation of the IC policies, monitoring of TB in healthcare workers and IC equipment is required. In addition, procurement of N95 respirators is needed for 54 provinces.

<sup>43</sup> TIME model July 2014

<sup>44</sup> Report on Prescription habits for MDR TB; page 28

**Key affected populations** Currently, prisoners do not have access to diagnosis and treatment of MDR TB.

#### **Procurement and supply chain management**

TA is needed to advise the NTP on the required technical specifications for the needed 3 and 4FDC's and the different procurement options and to assist the SLD quantification and procurement which is increasingly complicated with the introduction of new drugs and regimens. With recent and future changes in treatment regimens revision and training on PSCM SOPs is needed from national to district level. Some of the drug stores need renovation. Random checking of GDF and nonGDF SLD's will be done under the HSS project in 2015 and 2016, so no additional funding will be needed for this until 2017 .

**Improvement of PSCM system** The NTP inventory system for equipment and supplies is still incomplete, making suboptimal use of possibilities for repair under warranty and timely replacement of spare parts. Funding will be needed for technical assistance to assess the present system and advise improvements, followed by incorporation of these improvements in the electronic R&R system (VITIMES) under the HIS section, the development of SOP's followed by training and supervision, ( in 31 overlapping provinces adjusted to be complementary to the HSS project training).

#### **HIS and M&E**

**Routine reporting** The VITIMES electronic recording and reporting system for drug susceptible TB was developed with GFR9 co-funding. Nationwide coverage will be achieved in 2014. Funding is required for further development of both the paper-based and electronic systems to comply with program requirements (such as pharmacovigilance and PSCM) and new WHO definitions.

The electronic R&R system (co-founded by GFR9ph2) is essential for the success of PMDT, especially to ensure excellent procurement and supply chain management for SLDs. Further expansion is needed in pace with the expansion of PMDT in the country with data quality assurance through systematic distance monitoring and included in routine supervision visits. Funding is required for e-course development on use of eTB manager.

**Analysis review and transparency** Implementation research is essential for to ensure adjustment and effectiveness of interventions and to provide a basis for rational decision making. Its usefulness is illustrated by the many studies (funded from different sources) guiding recent and planned program interventions (active case finding among TB contacts, quasi private sector engagement for MDR treatment, adjustments to Xpert rollout, and intensified case finding among men and elderly people). In the coming years, funding is needed for: enhanced surveillance for universal access; risk group identification and evaluation of risk group policies; demonstration studies for new drugs and regimens (for DS, MDR and XDR TBTB); evaluation of new or newly used diagnostic tools, validation of CAD4TB. In addition, further use of the TIME model in Viet Nam (initiated under WHO funding in 2014), with capacity building by the LSHTM for the NTP unit towards optimal use of the model will enable the prioritization of interventions and high impact use of the available financial resources. To increase the human resources available for operation research the NTP will forge links with relevant universities across the country.

**Surveys** Since 1996, Viet Nam has undertaken one prevalence survey and 4 drug resistance surveys, .The Prevalence survey from 2006 started the development of risk group policies, pro-poor policies, attention to smear negative TB as a source of TB transmission, and the DRS' guide the programmatic management of drug resistant TB. The latest survey in 2011 showed an alarming level of preXDR and XDR TB, which sparked discussions with MOH on the possibilities for protection by law of SL drugs.

In accordance with WHO guidance, the next DRS is due in 2015, to monitor the DR situation and to provide a baseline for the important current effort to bring down the still-rising MDR epidemic. Given the rapid social developments in Viet Nam, the value of the 2006 PS to guide strategies is close to expiration; new information is needed to guide the long term TB elimination strategic interventions. Funding is to implement the DRS in 2015 and during the period 2015-2016 for a new PS. The total cost of the PS is estimated to be USD1.8 million, USD600,000 of which may be available from other sources, leaving a gap of USD1.2 million to be requested from the NFM.

### **3.2 Applicant Funding Request (2-4 pg, suggested)**

Provide a strategic overview of the applicant's funding request for TB and HIV, including both the proposed investment of the allocation amount and the request above this amount. Include the specific elements related to joint programming such as health systems and community systems strengthening. Describe how the request addresses the gaps and constraints described in sections 1, 2 and 3.1. If the Global Fund is supporting existing programs, explain how they will be adapted to maximize impact.

#### **TB/HIV**

The overall goal of TB/HIV joint activities in Viet Nam is to minimize the incidence of active TB among PLHIV and mortality and morbidity of HIV positive active TB cases. To achieve this goal, Viet Nam proposes a framework consisting of: (i) prevention of active TB among PLHIV, (ii) early diagnosis of active TB in PLHIV and HIV in TB patients (iii) early treatment of both TB and HIV, and (iv) coordination, linkage and integrated service delivery of TB and HIV. Geographic priority will be given to the 8 high and 22 medium HIV burden provinces to maximize the impact

of interventions.

#### **(i) Prevention of active TB among PLHIV**

PLHIV, when co-infected with TB have over 10 times greater risk of developing active TB due to their immune-compromised situation than those without HIV. Timely initiation of ART in PLHIV helps maintain and recover immune function, and thus provide powerful prevention against development of active TB among PLHIV. At present, many PLHIV start ART with severe immunodeficiency which leads to elevated risk of active TB and associated deaths. One of the highest priorities in Viet Nam is to promote timely initiation of ART among PLHIV before advanced immunodeficiency occur (see more details in HIV sub-section, below).

Additionally, Viet Nam aims to further expand IPT. Existing national guidelines supports provision of IPT upon ruling out active TB using the WHO-recommended clinical algorithm. In addition, to provide IPT to current HIV patients, the GF grant will further strengthen the capacity of clinicians, and provide IPT to 18,900 PLHIV in 2015, increasing to 29,906 in 2017 (= 70% of the PLWH in care in 30 GFATM supported provinces), contributing to 33% of the national target in 2017; and together with GVN, this will cover 66% of the national target by 2017. With the GF grant, infection control at HIV care OPC will be strengthened. Administrative infection control at OPC will be prioritized, including promotion of cough etiquette for patients, minimizing patient time in the facility, and separating patients who have symptoms consistent with TB. Implementation of infection control will be monitored following National guidelines<sup>45</sup>.

#### **(ii) Early diagnosis of active TB in PLHIV**

Once PLHIV develop active TB, early diagnosis of TB and HIV is critical to reduce associated morbidity and mortality. HIV positive active TB cases may be first diagnosed at either TB or HIV service. If a person's HIV status had been diagnosed and he/she was enrolled in OPC before she/he develops active TB, it should be detected as early as possible through TB screening. Viet Nam will strengthen intensified case finding at HIV care OPC. PLHIV will be screened using clinical algorithm at every visit, and people with symptoms compatible with TB will undergo further investigation. Where feasible, Xpert will be used for the diagnosis of active TB in PLHIV. There are currently 32 Xpert machines deployed in Viet Nam, with a total of 46 to be in place by the end of 2014. GF grant will support specimen transport and consumables for the Xpert.

On the other hand, some PLHIV are diagnosed with active TB at TB services before they are enrolled in HIV clinic. In these cases, HIV status should be diagnosed immediately. To do so, GF will support provider-initiated HIV testing and counselling (PITC) for 68,000 patients at TB services each year.

NFM TB allocation funding is planned to support PITC for all TB services each year reaching over 95% of TB patients. In addition, 92 Gene Xpert machines will be purchased with TB grant 1<sup>st</sup> tier above allocation funding for OPC with more than 500 registered PLHIV.

#### **(iii) Early treatment of TB and HIV**

Once a person is diagnosed with HIV infection and active TB, early initiation of TB and HIV treatment is crucial: without ART, mortality among PLHIV with active TB is very high. In line with WHO guidelines, the national guidelines recommend ART be provided to all PLHIV with active TB, and in case a person is not on ART, ART should be initiated as soon as TB treatment is tolerated, and within 8 weeks after TB treatment initiation. Viet Nam will enforce implementation of such guidelines, through strengthening capacity of provincial health staff and clinicians in charge of TB and HIV services at all the levels. This will also be catalysed via promoting linkage and integration of TB and HIV services; see section (iv), below.

Will allocation funding, the plan is to provide ART for 1,680 (2015) PLHIV with active TB increasing to 2,430 in 2017, contributing 45% of the national target for ART coverage among PLHIV with active TB in the focus area. With support from GVN and other donors the national target will be fully achieved in 2017. Please note: this number is sub-set of the ART target number.

#### **(iv) Coordination, linkage and integrated service delivery**

Viet Nam will promote interface between TB and HIV at all levels, to facilitate data sharing, linkage of services, and planning for integrated service delivery. VAAC piloted decentralized and integrated HIV service delivery at primary health care facilities (commune health station), and plans to further decentralize HIV services to communes. As TB services are available at all the communes in the country, with further decentralization of HIV services, NTP and VAAC will jointly promote TB and HIV integrated service delivery at commune health station. Commune health staff are responsible for HIV testing and counselling, directly observed therapy for TB, and follow-up of pre-ART and ART patients, which includes TB screening. Current GF HSS project will support GF HIV and TB projects and facilitate capacity building of commune health staff in the provinces where GF HSS health workforce component operates.

At the same time, provincial and district facilities will continue to play vital roles in TB and HIV treatment. At an increasing number of those facilities, co-location and/or integration of TB and HIV are promoted, to minimize the loss during the referral between the two services. VAAC and NTP aims to establish TB/HIV integrated service delivery

<sup>45</sup> National Guidelines for the Infection Control of Tuberculosis in Health Care Facilities, Congregate Settings and Households in Viet Nam, Hanoi 2010.

sites at selected district facilities in 12 provinces during the 2015- 2017 period, some of which will also integrate MMT services for PWID. NTP will also coordinate with VAAC to expand public-public mix of TB services (TB diagnosis at non-TB hospitals) especially at the provincial general hospital where HIV services are available. To promote linkage of TB and HIV services, PAC staff and provincial TB staff will be trained to enhance coordination of the two services at provincial and district levels.

## HIV

Viet Nam's HIV response focuses on KAP which include PWID, FSW, MSM, and sexual partners of PLHIV. Geographic priority is given 22 high and 8 medium HIV burden provinces, based on reported HIV cases and estimated ART needs. For interventions for key populations, the program will focus on 26 provinces with high burden of injecting drug use, accounting for 80% of all PWID; 19 provinces with high burden of sex work, accounting for 70% of all FSW; and 15 provinces with a high burden of MSM. All these provinces are a sub-set of 30 high and middle burden provinces, annex 1.

### 1. Use of antiretrovirals for treatment and prevention of HIV infection (Treatment, care and support)

Antiretroviral therapy (ART) is a high impact intervention that not only promotes survival of PLHIV, but also prevents HIV transmission. GF funds will be invested into 30 high and middle burden provinces which account for approximately 80% of total ART needs in the country. There has been growing evidence showing earlier initiation of ART is associated with lower mortality, less active TB, and less HIV transmission. In order to maximize the impact of GF investment on ART, following strategic approach will be used to promote earlier initiation of ART.

First, Viet Nam aims to adopt clinical recommendations from WHO 2013 guidelines (new national guidelines expected in quarter 3 in 2014). ART will be provided irrespective of CD4 count for children under 5 years of age, pregnant women, PLHIV with active TB and/or chronic HBV infection with advanced liver disease, and HIV positive partners in serodiscordant couples. For adults, threshold for ART initiation will be kept at CD4 count at 350 cells/mm<sup>3</sup> in 2014 due to financial constraint; however, as soon as resources are secured, Viet Nam aims to raise the threshold to 500 cells/mm<sup>3</sup> to enhance the ART's impact. TDF+3TC+EFC fixed dose combination (FDC) will be prescribed as the preferred choice for the standard first line therapy.

Second, ART will be provided irrespective of CD4 count for key populations in the 30 provinces. This proposed policy is based on three recent modelling studies using Viet Nam's local data.<sup>46,47,48</sup> These three studies consistently reported that the earlier access to ART among key populations will considerably and cost-effectively reduce new HIV infection and AIDS deaths in Viet Nam's epidemic. Guided by these studies, Viet Nam has started operational pilot to provide immediate ART among key populations. One pilot being conducted in two provinces (Dien Bien, Can Tho) has enrolled 126 index cases in serodiscordant relationships who were predominantly PWID (58% reporting injection drug use), and started immediate ART. In another pilot conducted in other two provinces (Thanh Hoa, Thai Nguyen), approximately 150 HIV positive PWID started ART regardless of CD4 count. In both pilots, immediate ART was provided upon consent after being informed of potential benefits and risks of early ART. Preliminary analysis suggests that people with higher CD4 counts (>350 cells/mm<sup>3</sup>) achieve viral suppression to similar extent as those with CD4 count < 350 cells/mm<sup>3</sup>, and that these interventions are likely feasible and acceptable<sup>49</sup>. Based on careful review of the pilot, implementation will be optimized, and expanded to 30 high burden provinces.

Third, in line with operational recommendations from WHO 2013 guidelines, ART and HIV care services will be decentralized and their integration into primary health care system and TB and MMT services will be promoted, in order to enhance access and sustainability. Viet Nam has implemented Treatment 2.0 pilot in 2 provinces (now expanded to other provinces), in which HIV testing and ART follow-up were decentralized to commune health station (primary health care facility). In this pilot, people diagnosed at commune health stations and linked to care had significantly higher median CD4 counts at ART initiation than those diagnosed at district facilities (294 cells/ mm<sup>3</sup> vs 88 cells/ mm<sup>3</sup>), suggesting that such decentralization facilitated earlier HIV diagnosis.<sup>50</sup> With existing grant from GF, the model has been expanded in the high burden provinces. Further discussion is underway to integrate HTC, ART, MMT and TB services at district and commune health facilities. ART will also be provided at selected TB hospitals. In the remote areas with high HIV burden, where access to CD4 count is limited, ART will be provided irrespective of CD4 count, in order to not to miss the opportunity to prevent unnecessary AIDS deaths and HIV transmission. GF-supported health system strengthening components provides the health management training, which will catalyse the integrated service delivery.

<sup>46</sup> Masaya Kato, Reuben Granich, Duong D. Bui, et al. *The potential impact of expanding antiretroviral therapy and combination prevention in Viet Nam: Towards elimination of HIV transmission*. JAIDS, vol. 63, number 5, August 15, 2013.

<sup>47</sup> Jeffrey W Eaton\*, Nicolas A Menzies\*, John Stover, et al. *Health benefits, costs, and cost effectiveness of earlier eligibility for adult antiretroviral therapy and expanded treatment coverage: a combined analysis of 12 mathematical models*. Lancet, Published online 10 December 2012.

<sup>48</sup> Results from the AEM modeling as part of Investment Case preparation (unpublished).

<sup>49</sup> Do, T.N., et al. *Immediate antiretroviral therapy among serodiscordant couples for treatment and prevention: Experiences in two provinces in Vietnam*. in 20th International AIDS Conference. 2014. Melbourne, Australia.

<sup>50</sup> Bui, D.D., et al. *Promoting expanded and earlier access to HIV treatment: Treatment 2.0 in Vietnam*. in 20th International AIDS conference. 2014. Melbourne, Australia.

Fourth, we will further promote engagement of community partners, e.g. peer educators, village health workers, PLHIV support group, key population network and civil society organizations. Those partners will be trained and supported by VUSTA and MOH to work to build treatment literacy among key populations and confidence in the health care system, to create their demand for earlier access to HTC and ART, and to support adherence and retention across the cascade. Greater interaction between health workers and community partners will also support referral between HIV, TB, MMT and other health services.

Fifth, with GF funding, MOPS will provide ART for 3,095 HIV positive prisoners at 23 prisons in 2015, increasing to 3,325 prisoners living with HIV in 38 prisons by 2017.

Sixth, Viet Nam will expand viral load (VL) testing to timely diagnose treatment failure and to enhance quality of treatment services. The current practice is to use viral load in targeted manner, but the new national guidelines recommends routine VL testing at 6 months after initiation and once every year thereafter. Viet Nam aims to roll out dry blood spot (DBS) technique (currently being piloted) in 2015 to improve transport of specimens. Above-allocation funds will be used to further accelerate routine VL tests within 30 provinces. We will also use existing Xpert machines to expand access to VL testing once the Xpert VL testing cartridge becomes commercially available (or upon availability of other point-of-care VL technology).

With GF allocation, 125,145 ART person years (45,855 adults and 5,005 children in 2017) will be supported in 30 high and medium HIV burden provinces, including pregnant women and prisoners. With contributions from GVN and PEPFAR, 100% of the national target for coverage of eligible PLHIV will be achieved in these provinces.

## **2. HIV testing and counseling (HTC) among key populations and the partners**

Early diagnosis of HIV and effective linkage to care following diagnosis are foundation for timely initiation of ART and to generate full impact of ART. GF grant will be strategically invested to facilitate earlier diagnosis especially among key populations and their partners.

First, Viet Nam will diversify HIV testing and counselling service delivery approaches. In addition to facility-based HTC, Viet Nam will introduce community-based HTC in 30 high and middle burden provinces, in order to promote HTC uptake among key populations. Second, community partners (especially peer educators), supported by MOH or VUSTA, will reach and create demand for early and periodic uptake of HTC (at least once a year) among key populations, and facilitate the linkage to care upon HIV positive diagnosis. Third, at health facilities, PITC will be expanded to TB patients, and PWID attending MMT services in the 30 provinces. Fourth, as substantial HIV transmission occurs from male PWID to their female sexual partners (1.1), couples and partner HTC will be strengthened and concordant positive and serodiscordant couples will be linked to care and treatment. Furthermore, in the 62 prioritized high burden districts, PITC will be offered to all the pregnant women attending antenatal care at commune health station. GF will support early infant diagnosis for 2,000 infants annually, using dried blood spot and PCR technique to be conducted at two national laboratories. (Please note that, for modular table and budget, we separated those items related to elimination of mother-to-child transmission).

An interim testing algorithm comprising 3 rapid tests was approved in 2014 (Until 2013, only provincial laboratories were authorized to conduct confirmatory testing). The roll-out of this new algorithm is expected across the country in the 2015-17 period. HIV screening testing will be expanded to commune health stations prioritizing high burden communes in high burden provinces, as well as at TB, MMT and ANC services. Results will be available same day for non-reactive tests. Adoption of this algorithm will facilitate confirmatory testing at district level facilities, enabling timely diagnosis and same-day confirmation.

GF funded HTC will focus on reaching 65,311 PWID in 26 provinces in 2015 (increasing to 77,356 PWID in the same area by 2017); 16,716 FSW in 87 districts in 17 provinces (2015, increasing to 24,953 by 2017); and 15,143 MSM in 66 districts in 15 provinces (2015, increasing to 17,978 in 2017). In conjunction with efforts by GVN and other donors, GF will contribute meeting 91.7% of the national HTC target among PWID in 2015. The national HTC target of 50-62% coverage for FSW will be fully met during the life of the grant; while some 46.6% of the national target for HTC testing among MSM will be achieved by 2017, in conjunction with other partners.

With above allocation, priority will be given to providing basic equipment for commune and district health centres to facilitate decentralization of HIV testing. In addition, training in HTC delivery will be provided for commune and district health workers to ensure the accuracy and quality of HIV testing. This will facilitate expansion of HTC will be in the current areas of focus, reaching an average of an additional 20,292 PWID and 21,465 MSM each year in order to meet government targets. In order to investigate innovative ways to further improve uptake of HIV testing, above allocation funding will be used to support an operational pilot to explore the feasibility of introducing HIV self-testing among MSM.

## **3. Prevention among PWID and their partners**

The GF investment will focus on 26 provinces with high burden of injecting drug use, accounting for 80% of all PWID.

Access to sterile injecting equipment is a key strategy in prevention of HIV transmission among PWID. The national target is to reach 50% of PWID (approximately 136,000 PWID) by 2015 and 60% of PWID by 2020 with access to clean needles. Viet Nam aims to reach this target with mix of free distribution, and behavioural change communication. Currently, some 80% of PWID report that they purchase clean needles and syringes (NS) through pharmacies and

other traditional outlets, with more than 97% of PWID reporting using sterile equipment last time they injected. Free NS distribution will continue among PWID living in 26 provinces with high burden of injection drug use, which is expected to promote interaction between PE and PWID to support BCC and HTC referral. Use of low dead space syringes (LDSS) will be promoted; one third of needles/syringes to be procured with GF allocation will be LDSS.

By 2017, GF allocation funding will reach 43,144 PWID in 26 high burden provinces with distribution of free needles, prioritizing those who have not accessed MMT. These 26 provinces account for approximately 80% of all estimated PWID in Viet Nam. With above allocation funds, the remaining 66,700 PWID who are not reached with the GF allocation, GVN support, or MMT will be the first priority for NSP supported by above allocation funding. With above allocation funding, the national target will be reached each year.

MMT will remain a priority harm reduction intervention and drug dependence treatment among PWID who has dependence with heroine. Responsibility to provide MMT services will be gradually shifted from the national programme (VAAC) to local authorities. With allocation funding GF supports the provision of methadone (only the drug but not the management) to service 23,000 clients until the end of 2016, at which point local government will provide budget for MMT procurement in line with Prime Minister's Decision 1008, governing the use of provincial budget for MMT provision (annex 9). If above allocation funding becomes available, GF will support further supply of Methadone to expand the MMT program to an additional 30,000 PWID at the end of 2017.

MMT will also be decentralized; satellite dispensing sites will be developed at commune health stations, facilitating integration of MMT into the primary health care facilities. This will also reduce service delivery costs and expand the access to those who are unable to attend district facilities on daily basis. MMT sites will provide treatment literacy and provider initiated testing and counselling (PITC) services to support earlier diagnosis among PWID (1 time per year). In addition, 50 commune based dispensing sites will be developed by the end of 2015 and 100 by the end of 2016, contributing to the further integration of MMT into the primary health care system. Current HSS grant of GF will support providing equipment for MMT sites at 23 districts and 12 communes.

Peer educator outreach activities continue to provide essential linkage of hard to reach PWID to HIV services. Peer educators will provide treatment literacy to create demand for periodic HTC uptake, and social marketing of condoms and needle syringe.

#### **4. Prevention among MSM, FSW and their clients**

The GF investment will focus on 19 provinces with high burden of sex work, accounting for 70% of all FSW; and 15 provinces with a high burden of MSM.

MSM harm reduction and behavioural prevention activities will prioritize high-risk MSM: those MSM who report having unprotected sex with another man. Distribution of free condoms and lubricant facilitates contact between PE and MSM and supports BCC and HTC referral activities. Priority activities will include social marketing of condoms and lubricant, as well as free condom distribution. GF allocation will support over 550,000 free condoms and the same quantity of free lubricant to reach 18,000 MSM with free condom distribution in 2017. With above allocation funding, condom distribution will be expanded to meet the gap, of 10,400 MSM in 2015, decreasing to 7,900 by 2017.

Forms of sex work have diversified over the past years and now include mobile sex workers in addition to the traditional classifications of venue-based and street-based. This has resulted in a cohort of FSW that is very difficult to access. PE activities will be essential in accessing hard to reach FSW. To further facilitate access, areas of know high density of FSW – including certain urban hotspots, tourist areas, industrial zones, and along the Viet Nam-Cambodia border – will be prioritized for the key behavioural prevention intervention: social marketing of high quality condoms. Free condoms will continue to be distributed among street-based FSW, and as a way to facilitate contact between PE and FSW. GF will support over 7.5 million condoms to be distributed free for FSW between 2015 and 2017, reaching 17,718 FSW in 2015. GF funding will provide a further 36 million condoms to be available through social marketing, which together with free distribution part expect to cover 68% of the estimate FSW in these 19 provinces by 2017. In conjunction with coverage by GVN and other donors, more than 80% of estimated FSW nationwide will be reached by 2017.

#### **5. HIV strategic information**

##### *Surveillance*

VAAC conducts annual HIV sentinel surveillance, incorporating simple behavioural component (named "HSS+"), which is increasingly used by VAAC and provincial AIDS centres in planning the HIV response. HSS+ has been implemented in 40 provinces with various populations. Current direction is to prioritize the three key populations (PWID, MSM, and FSW) and reduce frequency by doing surveillance in alternate years (20 provinces in each year), while case reporting and program data will be used to complement the surveillance data to monitor the epidemic. GF allocation amount will support HSS+ for 2 populations in 7 provinces in 2015 and 2016, and 3 provinces in 2017.

##### *Health management information system for patient monitoring*

In Viet Nam, due to rapid scale-up of ART, many HIV care OPCs face challenges in monitoring of large cohorts of patients only with paper based systems. Furthermore, many people are getting lost between HIV diagnosis and care enrolment, and it has been perceived that a more effective system to monitor the linkage needs to be developed. In

response to this need, VAAC, in collaboration with WHO, CDC and CHAI, have started working to develop electronic patient monitoring system to be deployed to the HIV care OPCs. The system will be piloted in 3 provinces in August 2014 and VAAC aims to scale up to broad part of the country in 2015–2017. Furthermore, the health information exchange interoperability mechanism and exchange standards will be also developed concurrently to facilitate the linkage among HIV information systems, which will enable monitoring of the linkage from HIV diagnosis to care, and long term retention, and connection with national comprehensive health information system. To facilitate the roll out of the electronic information system, GF allocation will support introduction or replenishment of basic computers for selected OPCs, training of health care workers at OPC and provincial AIDS centres, and mentoring support by central technical team to provinces. This is expected to help address loss over the HIV care cascade, and generate improved strategic information for planning, quality improvement and enhanced accountability.

#### *HIV Drug Resistance (HIV DR) surveillance*

For ART to maintain effectiveness and generate expected impact, the programme has to monitor and minimize HIV drug resistance (HIV DR). Based on WHO's new guidance updated in 2014, Viet Nam aims to implement HIV DR surveillance and monitoring, consisting of pre-treatment HIV DR (PDR) survey to inform the responsiveness of the first line ART regimen, acquired HIV DR (ADR) survey to inform the responsiveness of the second line ART regimen, and monitoring of HIV DR early warning indicators (EWI), to inform clinic factors that favours emergence of HIV DR. The WHO protocol recommend random sampling of ART facilities (Viet Nam aims to sample 20 ART facilities) to obtain national representative sample. With above allocation amount, Viet Nam proposes to implement PDR survey in 2015; and to implement ADR survey in 2017 and annual monitoring of HIV DR EWI.

#### **6. Community system strengthening**

The involvement of community based organizations and networks is an integral component of the implementation strategy, providing the community reach and understanding essential to effectively engage and empower vulnerable groups and PLHIV as key actors in Viet Nam's HIV response. The success of HIV prevention, care and treatment interventions depends on the robust response of those people directly affected by the disease. Their response may come in different forms according to local context: maximizing the utilization of existing services, providing needed services, advocating for policy change, or implementation and scale-up of intervention programs. As donor-funded programs are scaling down, it is even more important that community systems are strengthened, enabling KAP to take a larger share of responsibility for their own well-being.

CSO have demonstrated ability to access particularly hard to reach populations at higher risk of HIV infection, including MSM and the primary sex partners (PSP) of KAP. By enhancing the synergy between government and civil society organization activities, greater numbers of vulnerable and people at higher risk of infection from HIV may be reached, and at earlier stages of infection.

In previous funding rounds, GF has provided considerable support to the steady development of the community system for HIV response, resulting in the establishment and growth of national networks for PWID, of SW, and of MSM and TG. These networks have built on the foundation of hundreds of community-based organizations (CBO), created by members of these populations.

Momentum is high at the moment for the development of the networks as well as for their engagement in policy and program development but certain processes needed for their sustainable participation and contribution still need to be established. CBOs and networks need to be legally registered (currently not possible due to the existing legislation), their capacity needs to be officially assessed and recognized, and their participation need to be formalized both programmatically and financially. With NFM funding, the legal barriers still facing these organizations will be addressed, with a view to achieving legal registration of KAP associations. In addition, VUSTA will continue to work on building the capacity of existing CBO and their networks so they can better provide HIV-related services as well as advocating for solutions to the issues raised by KAP.

#### **TB**

##### *Overview and prioritization of the allocation and above allocation funding request*

In 2011, Viet Nam reached the MDG for TB, reversing the trend of the TB epidemic. TB mortality, incidence and prevalence all show a declining trend. Maintaining the TB control effort at the present level will lead to a continuation of this decline till around 2025, when the epidemic will stabilize at around 70% of the current level, failing to reach the Vietnamese target of 95% decline of the epidemic by 2030, and global elimination in 2050. TIME modelling<sup>51</sup> shows that increased and earlier case finding followed by effective treatment will be the most important factors driving the decline of the epidemic of both drug susceptible and drug resistant TB. As such, this concept note aims to support the 2015-2020 NSP, focusing on reaching the remaining 20 % of the patients (mostly in key affected populations and people with barriers to access) and scaling-up MDR diagnosis and care to overcome the MDR epidemic.

The total request by the NTP (MOH) for the NFM is USD 71 million for the years 2015-2017, consisting of USD22 million of allocation funding and USD47,9 million of above allocation funding.

<sup>51</sup> TIME Modelling, Mission Report, 2014

The eligibility of the Vietnam TB program for above allocation funding, combined with the possibility of funding through the Gates Foundation's High Net Worth Individuals Network raised the hopes that in this period a bold step can be taken in reaching the "difficult to reach" 20% of the incident TB cases in Vietnam, while pushing back the MDR epidemic to its pre 1995 levels.

### **Allocation Funding**

The total TB allocation under the NFM is USD33 million, including the 2014 and 2015 R9Phase 2 funding. After extensive reprogramming the 2014 budget was approved for USD13 million, having been made very cost efficient with GF salary incentives being phased out by 2016 and transitioning to government cost norms to be applied starting in 2015. As approval was given in July 2014, only 11 million is expected to be disbursed by the end of 2014, leaving USD 22 million to plan activities for allocation funding, based on the government cost norms.

Because of the under-allocation of the TB grant the NTP (MOH) was allowed to plan the total allocated amount for the years 2015 and 2016. With the VN government ensuring basic passive case-finding and first line drugs, the allocation (USD12 million in 2015 and USD10 million in 2016) is meant to sustain the 2014 level of activities focused on TB care and prevention in KAP and vulnerable populations (26%) and MDR diagnosis and treatment (55%). For the year 2017 in total USD9.4 million above allocation funding of is meant to ensure the same (table 7).

**Table 7: Breakdown of allocation and above allocation prioritized funding amounts per year**

	Yr 1	Priorities above alloc'n	Yr 2	Priorities above alloc'n	Yr 3	Priorities above alloc'n	Total
Allocation	12.087.713		9.998.026		0		22.085.740
Above allocation	9.606.192		13.724.336		24.580.376		47.910.903
Ensuring 2014 level of functioning						9.238.610	(9.238.610)
First tier prioritization	6.993.904		6.516.548		6.612.080		(20.122.532)
Second tier prioritization	1.738.497		5.938.725		7.357.646		(15.064.868)
Unfunded quality demand	873.790		1.269.063		1.297.039		(3.439.892)
Grand Total	21.693.905		23.722.362		24.580.376		69.996.643

### **Above Allocation Funding**

Prioritization of the above allocation funding as summarized in table 7 follows the NSP in its strategic priorities and in its aim to ensure equitable access.

**Our first concern (first tier prioritization)** for the above allocation amount is to secure the 2014 basic level of activities for 2017. This will ensure an overall case detection rate of 80.5 % (including children at 1.2% of the total case finding), HIV screening of 70% of all TB patients and detection and treatment of 1,500 MDR patients per year (28% of the MDR cases among notified TB patients, which will prevent an increase of the burden of TB and MDR TB, but will not push the combined MDR/TB epidemics down (see the rationale in section 3.3).

**The next priority (first tier prioritization)** is increasing MDR diagnosis and treatment to covering 55% of all MDR among notified patients and providing equitable access by increasing case finding of TB and MDR TB among the highest risk groups and vulnerable people (PLHIV, prisoners, children and remote populations), as well as piloting of contact tracing among all contacts of TB patients, expansion of hospital-DOTS linkage (these being the last "low hanging fruit" for intensified case finding). Together this is expected to increase the case detection rate to 84%, with children at 6% of total case finding and 96% of HIV testing among TB patients. Also included in the first tier prioritization are strengthening of procurement and supply chain management, the prevalence survey (PS) over the years 2015-2016 and the drug resistance survey (2015). The PS will help to better understand (and consequently address) the extreme disparity in TB levels between men and women and will provide a solid basis for further targeted investments in TB control against the background of the rapidly changing socio-economic situation of Vietnam. The DRS is needed to closely monitor the effectiveness of the MDR interventions and will lay the essential basis for the responsible scale-up of the chosen standardized 9 month regimen. Operational research is a WHO requirement and therefore essential in the case of implementation of the 9 month MDR regimen and new drugs. These are necessary to enable the scale-up and costs savings from 2019 on (see rational in section 3.3. below).

**The second tier prioritization** is to expand intensified case finding and care of TB and MDR TB to all high risk and vulnerable people, detecting 89% of all incident cases of TB. This also includes drug sensitivity testing (by Xpert) in new TB patients, which harbour over half of the MDR patients among notified pulmonary TB, increasing the MDR case detection and treatment coverage to 60%. Community engagement in lower priority groups and operational

studies for yield, effectiveness and implementation aspects of all new interventions are included here.

**The Unfunded Quality Demand** includes validation of CAD4TB (computer assisted digital Chest X-Ray reading) for use in Vietnam, to overcome the shortage of qualified X-ray readers especially in peripheral settings, as digital X-rays slowly are replacing analogue ones; piloting of e&mHealth for M&E. It also includes research into the further development of Cell-scope technology for the automated diagnosis of Smear positive TB in Hanoi.

**Table 8: Breakdown of allocation and above allocation prioritized funding amounts per module.**

	Allocation	%	Above all	%	First tier	Second tier	UQD	Full request	%	
2017 basic functioning					priority					
TB care and prevention	3,720,605	17%	17,103,822	36%	1,397,160	5,717,233	8,628,218	1,361,210	20,824,427	30%
TB/HIV	2,097,840	9%	2,913,844	6%	988,905	1,879,238	45,700		5,011,683	7%
MDR-TB	12,117,294	55%	19,324,966	40%	5,228,453	9,181,768	4,914,747		31,442,260	45%
PSCM	118,949	1%	747,997	2%	8,381	245,899	493,717		866,945	1%
HIS and M&E	581,826	3%	5,362,848	11%	283,877	2,710,288	290,000	2,078,682	5,944,674	8%
Community systems strength	0	0%	48,812	0%	0	18,107	30,705		48,812	0%
Program managem't	3,449,227	16%	2,408,615	5%	1,376,834	370,000	661,782		5,857,842	8%
<b>Subtotal</b>					<b>9,283,610</b>	<b>20,122,532</b>				
<b>Grand Total</b>	<b>22,085,740</b>		<b>47,910,903</b>		<b>29,406,142</b>		<b>15,064,868</b>	<b>3,439,892</b>	<b>69,996,643</b>	

If none of the above allocation funding is available, any savings from the years 2014–2016 will be used for second line TB drugs in 2017, to prevent the amplification of drug resistance in case no effective treatment is available. A more rapid transition of the first line drug budget over the period 2016-2017 (total maybe an estimated maximum of USD4 million) to health insurance coverage could be another option to free annual State budget for activities; however as the health insurance system is still fragile, this might pose risks. HIV testing for TB patients would be limited to high HIV prevalence provinces and high risk groups only (USD1.3 million) and X-ray screening of prisoners, though less effective, would be reduced and replaced by symptoms screening only (USD700 thousand). In combination with possible partners funding and the planned advocacy and expected increase in provincial funding this may fund the basic level of activities needed in 2017.

Detailed item-by item prioritization is provided in the detailed budget, sheet “priority”, linked to the detailed budget explanation and assumptions. A description of the interventions is given below.

## A. TB Care and Prevention

### *Diagnosis*

Laboratory network development: while the VN government ensures staffing, premises, sputum smear examination and incentives for detection of TB, more sensitive tools are needed for increased and earlier case finding. Over the past years, LED fluorescence microscopy and Xpert MTB/Rif testing were introduced in a new diagnostic algorithm, making optimal use of both “old” and new diagnostic techniques, with support of the KNCV led USAID funded TBCAREI project, followed by initial rollout with GFR9ph2 funding. The CN request is for

- nationwide scale-up of the new algorithm and the new techniques, including procurement of additional Xpert machines and LED FM microscopes, maintenance and quality assurance for all equipment and techniques.(allocation funding)
- Scaling up the sample transportation network in all provinces as piloted under the TBCAREI project and subsidizing sample transportation in remote and poor provinces (largely allocation)
- Coordination and policy development (above allocation 2<sup>nd</sup> tier)

Chest X-ray (CXR) has become part of the diagnostic algorithm for SS negative patients and is increasingly used as a screening tool to for targeted use of follow-on tests such as Xpert. However the quality of CXR reading is suboptimal. The CN request is for

- Training for improved X-ray reading. (allocation)
- Procurement of digital Xrays for 15 prison hospitals (above allocation 2<sup>nd</sup> tier)

### *Intensified case finding in remote and mountainous settings*

In 2013, active case finding was organized in 9 remote and mountainous that have a very low case detection rate. This was funded by GFP9ph2. The activity resulted in a 25% increase in case finding, which indicates weak routine service delivery. The CN request is for strengthen routine service delivery and to engage communities in referrals as well as for continuation of the effective collaboration with the border police health posts to provide access to care for remote populations, (above allocation, 1<sup>st</sup> tier).

### *Treatment*

GVN ensures staffing, premises, first line TB drugs and incentives for treatment. In addition, GF currently supports training and quarterly supervision of staff is required at district and commune levels to maintain the quality of the diagnostic processes, treatment and reporting. Over the coming grant period, funding is requested for training of new NTP staff through a comprehensive three month course for NTP management. From 2015 forward, support for only once yearly supervision from provincial to district and district to commune level is included in the request (allocation). Funding for the other supervisory activities will be raised from the provincial budget. The request also includes the development of mHealth access to the web-based R&R system to facilitate more focused M&E of provinces and districts (above allocation, 2<sup>nd</sup> tier)

The TB Alliance expects the results of their PAMZ trial to be available in 2017. If the results are favourable, Viet Nam could be selected to run a demonstration project under program conditions. Funding is needed to prepare demonstration districts to allow for receiving such a project, as soon as sound data are available (above allocation, UQD).

### *Prevention*

Expansion of IPT for childhood contacts to 45 more provinces is included in allocation and basic 2017 funding .With approximately 68% of TB cases due to recent infection<sup>52</sup>, preventive treatment of close contacts could be an effective strategy to reduce transmission. Funding is needed for a pilot for preventive treatment of adult household contacts after exclusion of active TB (in conjunction with active case finding among adult and child household contacts), intended for 2015-2016, with evaluation in 2017, included in 1<sup>st</sup> tier priority above allocation

### *Engaging all care providers*

In 24 provinces public hospitals and private practitioners have been engaged to participate in the NTP efforts for case finding and treatment. The most used models of engagement are referral of people with symptoms compatible with TB (mostly private doctors and pharmacists) and referral of patients after diagnosis (mostly the large public hospitals with microscopy unit and CXR facilities). This is financed through the GFR9ph2 funding by the NTP in 21 provinces, and PATH in three provinces. This project is mainly focused on urban areas. The CN request includes implementation of this model of collaboration to a further 25 provinces (18 through the NTP (allocation) and seven through PATH) (above allocation, 1<sup>st</sup> and 2<sup>nd</sup> tier), bringing the total to 49. Local resources will be mobilized through the provincial Stop TB partnerships to fund any recurrent costs for this approach. Translation of the International Standards of TB Care into Vietnamese for easy access to the best information for private sector providers (also available as app) is included in 1<sup>st</sup> tier priority. The inclusion of TB diagnosis and treatment in the health insurance is an important step towards sustainable funding of TB control. Private sector providers who give good quality diagnosis and treatment should be eligible for reimbursement. The NTP will develop an accreditation system for private providers, to be eligible for HI reimbursement.

### *Community TB Care delivery*

By the end of 2014 community TB care delivery will be implemented in 31 provinces with GFR9ph2 funding, through the NTP (8 provinces), the Farmers' Union (17 provinces) and CCHD (6 provinces). CCHD combines this with implementation of the comprehensive Practical Approach to Lung Health (PAL).

This project focuses largely on rural populations. A shift to sustainable implementation and scale-up is required to introduce this approach in a total of 23 provinces (17 through the Farmers Union and 6 through CCHD), with involvement of the NTP for guidance and supervision to ensure a sustainable approach. Community care will include support to MDR patients during their treatment (see MDR section) (allocation and above allocation). Comprehensive guidance is needed for district and commune staff for community engagement in TB/HIV and PMDT (allocation).

NFM funding will be requested for the development, hand-over and scale-up effort, while local resources will be mobilized through the provincial Stop TB partnerships to fund any recurrent costs for this approach.

### *Key affected populations: Children*

By the end of 2014 the new approach to childhood TB will have been implemented in 10 provinces, co-jointly by the KNCV led USAID funded TBCAREI project (pilot in 3 provinces) and the NTP with GFR9ph2 funding (first step of scale-up). This CN request includes maintaining this level of functioning (allocation) and 1<sup>st</sup> tier priority above allocation for the training and monitoring and also the CXR and Xpert testing for nationwide scale-up. The GVN will pay for sputum smears and paediatric drugs.

### *Key affected populations: Prisoners and pre-trial detention centres*

Basic TB control and TB screening (on entry and periodic) has been introduced in all prisons. CXR screening however does not yet cover the whole prison population. People in pre-trial detention presently do have very limited access to TB diagnosis and treatment. Additional funding is needed for expansion of coverage of combined symptom and CXR screening in the prisons and introduction of this intervention in the pre-trial detention centres.

### *Key affected populations (risk group policies)*

<sup>52</sup> TIME model July 2014

Screening of TB in risk groups is currently confined to childhood contacts of TB patients (see the childhood TB section), prisoners (TB/HIV section), health workers in TB hospitals and PLHIV (HIV program intervention). In order to increase case detection and to provide equitable access to TB services for populations who presently have barriers to access, with NSM funding the NTP will develop specific approaches suitable for each of the populations with special risks or circumstances, including: People in MMT, Migrants, Miners and factory workers (screening programs in collaboration with company health services and with co-funding by the companies involved). Close contacts of people with active TB (CXR and symptoms screening of adult household contacts). In a 2013 meta analysis, pulmonary TB was microbiologically confirmed in 1.3% of contacts in the first 6 months after start of contact examination<sup>53</sup>. The elderly (especially men) will be reached through integration in rural community care delivery programs (Farmers Union) and through screening in collaboration with the Veterans' Union and the Elderly People's Clubs . To develop specific approaches for some groups formative research, involving the populations at risk, is needed. All activities are planned under above allocation funding with priority to the highest impact interventions (screening of prisoners, household contacts ) and mobilization of companies to invest in TB control.

#### *Collaborative activities with other programs and sectors*

Currently, no collaboration exists with other health programs beyond HIV. With GF support NTP will to develop collaboration with different programs within the health sector: (2<sup>nd</sup> tier priority above allocation)

- ANC and MCH services to integrate periodic screening for symptoms of TB into their work practices, followed by referral of people with symptoms of TB
- Diabetes care services to integrate periodic screening for symptoms of TB into their work practices, followed by referral of people with symptoms of TB
- Doctors working with TNF-alpha blocking medicines to screen and treat for latent TB prior to start of these drugs
- Link with the tobacco prevention program to integrate the prevention of TB
- Link with the MOE and medical schools to include TB screening into the curricula for a wider group of health professionals
- Additional funding will be required for policy development workshops, once commitment is obtained through VN government funded meetings
- To reach populations in the remote border areas, the NTP currently collaborates with the border police force, funded by GFR9ph2. The national TB Program and VAAC will intensify this collaboration in a comprehensive TB/HIV services approach,

## B. MDR module

### *Diagnosis and treatment of MDR TB*

By the end of 2014, one third of the people in need of MDR treatment among notified pulmonary TB patients will have access to diagnosis and treatment of MDR TB. This is co-funded by the KNCV led USAID funded TB CAREI project, which covers part of training, TA, upgrading of laboratories, treatment wards, and IC, with the GFR9ph2, providing drugs and additional training. The CN request includes maintaining this level of diagnosis and treatment of 1500 patients per year (allocation funding) and above allocation funding to expand diagnosis and treatment to over 60% of all in need. This will be achieved by extending geographical coverage of services through the establishment of an MDRI treatment centre in the central highlands, expansion of PMDT implementation to all provinces (from 41 at the of 2014), and by widening the diagnostic algorithm to include all patients. It includes individual support to all MDR patients to enable them to follow their treatment till cure.

The introduction of two new regimens - a 9 month regimen for simple MDR TB and the use of new drugs for pre-XDR and XDR patients, with the necessary pharmacovigilance (additional to HSS routine system) – is included in allocation and 1<sup>st</sup> tier priority above allocation funding to enable successful scale-up of MDR TB. To determine which regimen is suitable for which patients all MDR patients will be tested for resistance against the most important second line TB drugs (allocation for basic and above allocation for expansion cohort) . Essential support by partners to the scale-up process is included in 1<sup>st</sup> tier above allocation funding)

### *Engaging all care providers*

In addition to MDR diagnosis and treatment by the NTP, there are a significant number of patients that is diagnosed and treated by hospitals but not officially notified to the NTP. A recent WHO supported study by the NTP<sup>54</sup> shows that in the “quasi private sector” the risk of unsuccessful outcome is higher in non-GLC patients (Hazard ratio: 4.6, 95% CI: 1.8 – 11), with many people lost to follow-up. Additional funding is needed to meet with the treatment providers to (i) encourage them to follow NTP procedures and regimens for MDR TB, (ii) notify their cases, and (iii) ensure treatment to cure, while adopting patient centred approaches and innovative tools for patient support during their treatment. This initiative will initially will focus on HCMC and K74 hospitals as they have the largest number of patients outside the official cohorts (1<sup>st</sup> tier above allocation funding).

<sup>53</sup> Fox GJ, Barry SE, Britton WJ, Marks GB. Contact investigation of tuberculosis: a systematic review and meta-analysis. ERJ 2013

<sup>54</sup> Report on Prescription habits for MDR TB; page 28

### *Infection control*

With KCNV/USAID-TBCAREI support and GFR9ph2 co-funding, the NTP has developed a national TB infection control policy and accompanying guideline. TB IC has been introduced in nine provinces, and the use of N95 respirators in all MDR care and treatment settings. Additional funding is needed for nationwide scale-up of implementation of the IC policies, monitoring of TB in healthcare workers and IC equipment as well as the procurement of N95 respirators allocation for and above allocation following PMDT expansion).

### *Key affected populations*

Prisoners currently have access to TB screening and diagnosis, and increasingly HIV diagnosis and treatment and care, funded in large part by GFR9ph2, with KCNV/USAID-TBCARE co-funding. There is no access to MDR diagnosis and treatment. As prisoners are a risk group for MDR TB, the National Target Program, together with MOPS, place high priority to the development of MDR TB services for prisoners. During 2015-2017, MDR diagnosis and treatment will be initiated in each of the 7 socio-economic regions (allocation), and one prison in each of the 7 regions will be equipped and prepared for management of MDR TB, in close collaboration with the civilian MDR treatment centres (1<sup>st</sup> tier priority above allocation funding). MOPS will provide staff and the facilities. Community care programs will be engaged in care for prisoners released during treatment, to help them continue their treatment till cure.

## **C. Procurement and supply chain management**

### *Operationalization of PSCM*

Over the period 2012-2014, the first line regimen changed and new second line TB regimens and drugs were introduced. GVN funding for first line drugs (FLD) increased. To ensure the use of good quality 3 and 4 FDC the MOH may consider procurement of FLD through the Global Drug Facility (GDF). This would require a change in the regulations on procurement. The CN request plans for an assessment of the drug procurement and funding situation to advise the NTP on the required technical specifications for the needed 3 and 4 FDC and the different procurement options, as well as for TA to assist the second line drug (SLD) quantification and procurement which is increasingly complicated with the introduction of new drugs and regimens. (1<sup>st</sup> tier priority above allocation)

Renovation of drug stores is included as 1<sup>st</sup> tier priority above allocation. Random checking of GDF and non-GDF SLD will be conducted with both allocation and 2<sup>nd</sup> tier above allocation funding. Random checking of FLD will be conducted under the HSS grant in 2015 and 2016, so no additional funding will be needed for this until 2017.

### *Improvement of PSCM system*

The NTP inventory system for equipment and supplies is still incomplete, making suboptimal use of possibilities for repair under warranty, timely replacement of spare parts, and so on. The CN request is for an assessment of the present system and advise improvements, followed by incorporation of these improvements in the electronic R&R system (VITIMES) under the HIS section (1<sup>st</sup> tier priority above allocation), the development of SOPs followed by training and supervision, (training conducted by NTP in 32 provinces with the HSS grant covering the remaining 31 provinces) (2<sup>nd</sup> tier priority). Quality assurance of drugs after tendering is included in allocation funding.

## **D. HIS and M&E**

### *Routine reporting*

The VITIMES electronic R&R system for DS TB has been developed co-funded by the KCNV led USAID funded TBCAREI project and the GFR9. The request is for further development of the paper based and as well as the web based patient based data collection system , to comply with program developments, the new WHO definitions, and PSCM.(allocation and 1st tier priority above allocation funding).

Essential for the success of PMDT are close monitoring of the condition of patients, good clinical management, regular bacteriological follow-up and excellent procurement and supply chain management of quality assured second line TB drugs. The electronic R&R system used to facilitated all these aspects in Viet Nam is eTB manager, installed over the past years, co-funded the KCNV led USAID TBCAREI funding in collaboration with MSH and GFR9ph2. Further expansion in line with the expansion of PM is included in allocation and 1<sup>st</sup> tier above allocation funding.

As any R&R system is only as good as the data that are entered into it, it is important to incorporated systematic data quality assurance for the electronic R&R tools into routine supervision visits. In line with the subject the NTP will develop an e-Course for data quality assurance for all NTP staff (allocation).

### *Analysis review and transparency*

Implementation research is essential to ensure the appropriateness and effectiveness of interventions, and to provide a rational foundation for decision making. Its usefulness is illustrated by the many studies (funded from different sources) guiding recent and planned program interventions, including active case finding among TB contacts, quasi private sector engagement for MDR treatment, adjustments to Xpert roll-out, and intensified case finding among men and elderly people. New topics for funding in the coming years include (i) enhanced surveillance for universal access; (ii) risk group identification and evaluation of risk group policies; (iii) demonstration studies for new drugs and regimens for DS, MDR and XDR TB; (iv), evaluation of new or newly used diagnostic tools; and (iv) validation of CAD4TB. In addition, further use of the TIME model in Viet Nam (initiated under WHO funding in 2014), with capacity building by the LSHTM for the national NTP unit to use the model will enable sound prioritization of interventions and high impact use of the available financial resources. To increase the human resources available for operation research the NTP

will forge links with the universities nationwide. First tier priority is given to studies with direct impact on interventions and studies mandatory to comply with WHO requirements for the use of new drugs and regimens. Second tier priority is given to studies on health financing access and the development of research partnerships with universities.

#### *Surveys and research*

In accordance with WHO guidance the next DRS is due in 2015, and will provide an invaluable baseline for the important current effort to bring down the still rising MDR epidemic. Given the rapid social developments in Viet Nam the value of the 2006 PS to guide strategies is close to expiration; new information is needed to guide the long term TB elimination strategic interventions. Therefore funding will be needed in 2015 for the DRS and for the period 2015-2016 for the new PS. The total cost of the PS is estimated to be 1.8 million USD600,000 USD of which may be available from other sources, leaving a gap of 1.2 million USD as 1st tier priority above allocation (both PS and DRS). A validation study of CAD4TB in Viet Nam, a low cost and effective solution<sup>55</sup> can be found in the application of Computer Assisted Diagnosis for TB (CAD4TB) which automatically “reads” an X-ray and gives a score which assists decision making on follow-up testing<sup>56</sup>, for introduction in places with digital X-ray machines, which are increasingly replacing older analogue machines,(above allocation first priority)  
The further development of Cell-Scope is included as Unfunded Quality Demand.

#### *Community systems strengthening*

As CSO's of KAP have not yet been involved in TB control, training is needed to enable them to be effective TB advocates and to effectively fulfil their roles in the national and provincial stop TB partnerships. Likewise awareness raising is needed with the Stop TB Partnerships to make full use of the potential of the KAP representatives (both 1<sup>st</sup> tier priority above allocation).

### **E. Management**

#### *Policy, planning, coordination and management*

Mobilization of increased local resources for TB control from the provincial budgets is essential for sustainability of TB control over the coming years. Therefore in 2014, the NTP is piloting fund raising for greater allocation of the provincial budget in two provinces. Based on this experience over the period 2015–2017, Stop TB Partnerships will be established in all provinces, giving priority to the richer ones. These will include all local stakeholders, also representatives of KAPs. These will be trained in advocacy for TB control and fund raising. The aim is to significantly increase the provincial contributions, which will be monitored for accountability accountability (allocation, some above allocation, follow-on activities to be financed through provincial fundraising).

Inclusion of new partners, businesses and the use of social media will strengthen the partnerships at national and provincial level (above allocation).

Policy development with the different ministries will be largely covered by the VN Gov budget, except for specific policy development workshops with external TA (above allocation).

To ensure that the most important NTP management tools are in place, twice a year program supervision form the national to the provincial level and periodic coordination and planning meetings at national, regional and provincial levels. These form the two-way communication channels that ensure the well functioning of the NTP and are requested as allocation funding.

The GF grant management requires additional activities and inputs, including board meetings, office equipment and specific planning and coordination with sub recipients and contract partners

<sup>55</sup> The Sensitivity and Specificity of Using a Computer Aided Diagnosis Program for Automatically Scoring Chest X-Rays of Presumptive TB Patients Compared with Xpert MTB/RIF in Lusaka Zambia , Monde Muyoyeta a.o. April 04, 2014 DOI: 10.1371/journal.pone.0093757

<sup>56</sup> ZAMBAR study

### 3.3 Modular Template (3-4 pages, suggested)

Complete the **modular template (Table 3)**. Note that the template allows access to modules that are specifically relevant to TB and HIV components, in addition to modules that are cross-cutting for both diseases.

To accompany the modular template, for both the allocation amount and the request above this amount, explain:

- a. The rationale for the selection and prioritization of modules and interventions for TB and HIV, including those that are cross-cutting for both diseases.
- b. The expected impact and outcomes of the interventions being proposed. Highlight the additional gains expected from the funding requested above the allocation amount.

#### TB/HIV

Proposed TB/HIV interventions will reduce the TB-associated morbidity and mortality in PLHIV, and promote survival.

One of the most important priorities is to promote linkage and integrated service delivery of HIV and TB. In the situation where many people get lost during the referral between HIV and TB services, GF investment cannot produce the expected outcomes and impact on TB/HIV interventions. Establishing the functional linkage, feedback mechanism between the services, and TB/HIV integrated service delivery are expected to substantially reduce the loss between the two services, and enhance effectiveness of ART to reduce TB-associated deaths in PLHIV.

Investment in ART and IPT among PLHIV without active TB is expected to considerably reduce active TB in PLHIV.

Early diagnosis of active TB and HIV, and timely treatment of both TB and HIV among PLHIV with active TB, is critically important to address their high mortality. Without Xpert testing, many PLHIV with active TB may be undiagnosed. Investment in promoting access to Xpert testing will obviously improve the TB case finding in PLHIV.

#### HIV

The following over-arching principles were used to prioritize the modules for GF investment for HIV component , guided by the national strategy, investment case (1.2) and careful review of the latest epidemiological data (1.1):

- Combination of high impact interventions to reduce HIV transmission, AIDS deaths and TB incidence,
- Prioritizing three key populations and their sexual partners, with special focus on PWID and their partners where over 60% of new HIV infection occurs at present.
- Focusing on 30 high and middle burden provinces (mapping of these provinces in annex 1)

Based on the analysis using Asian Epidemic Model, this concept note aims to achieve the targets described in section 1.2a towards 2020. If the proposed scenario is fully funded as shown in the Financial Gap Table, the following impact is expected. GF investment will make central contribution in achieving this impact.

New HIV infections (total)	74% reduction from 15,603 in 2013 to 4,031 in 2020
New HIV infections (IDU)	83% reduction from 7078 in 2013 to 1223 in 2020
New infection averted in 2014-2020	25,476
AIDS deaths averted in 2014-2020	19,961

#### Allocation request – Rationale, expected outcomes and impact and priority order

Based on the above principles, the modules below were prioritized for GF allocation amount with the following rationale and the priority order.

##### 1. Use of antiretrovirals for treatment and prevention of HIV infection (HIV treatment, care and support)

Use of antiretrovirals for treatment and prevention is the highest priority in the proposed concept note (HIV component), and we propose to allocate the largest portion of the allocation funds for this module. VAAC placed high value on the fact that ART is both life-saving and powerful prevention in addition to its potential to reduce TB incidence. Available data suggest that once PLHIV are on ART, a large majority (>90%) are achieving viral suppression in Viet Nam (1.1), and the team is confident that ART is generating its impact in preventing HIV transmission, premature deaths and new active TB. Modelling suggests early access to ART by key populations is highly cost-effective and generates high impact (1.2, 3.2). Another reason that ART was prioritized for this concept note is that ownership and funding sources for harm reduction program is gradually shifted towards local government. GF allocation will be invested, adding to government and PEPFAR contribution, to fill all the gaps against the proposed national targets (3.1).

Civil society organizations will work closely with health services in building treatment literacy, promoting demand for timely ART initiation, and supporting retention and adherence for HIV treatment, which will contribute in enhancing its survival and prevention impact. Civil society will also address the legal barriers facing key populations in terms of accessing health care, health insurance and other support services is an essential step in ensuring their rights to health care, freedom from harassment, and to full participation in society. Allowing KAP to fully participate in society contribute towards combating stigma and discrimination, enabling KAP to remain part of the community and to realize their full

potential.

## **2. HIV testing and counseling (HTC) among key populations and their partners**

HTC is entry point for both prevention and treatment among key populations. Early diagnosis and effective linkage to care before reaching the advanced stage of HIV infection is the foundation to achieve full ART benefits in reducing mortality and transmission. Without investment in diversified model of HTC services, and efficient linkage to care, investment in ART will not achieve the projected impact. On the other hand, once tested HIV negative, HTC provides an important opportunity to provide and link to relevant prevention services. GF allocation will be invested, together with government and PEPFAR contribution, to fill a large majority of gap to achieve the country targets (83% for PWID, 99% for FSW, and 27% of MSM against the country targets, with combined investment by all funding sources). There are also areas where substantial sexual transmission happens from the male key populations to their female partners. Partner HTC and PITC among pregnant women in 62 priority districts will efficiently identify those women, and enhance the impact of ARV interventions.

Civil society will play crucial roles in reaching out to key populations, promoting demand for earlier and periodic HTC, and supporting linkage to care, which will improve uptake of HTC among key populations.

## **3. Prevention among PWID and their partners**

Asian Epidemic Model estimated, in 2014, among 14,672 new infections, 46% occurs in PWID, and 13% in sexual partners of PWID, indicating the injection drug use as the most important driving force for the epidemic in Viet Nam. We placed the highest priority in investing into interventions among PWID. In addition to early access to HTC and ART as discussed above, NSP and MMT are prioritized. The government and GF allocation will achieve 55% of the country targets (2017), while above allocation will support the remaining gap of 45% to achieve full country targets. The local government is expected to contribute significantly in expanding the NSP. There does not seem strong association between NSP coverage and non-sharing behaviour (1.2, Figure 13), and data suggest high proportion of PWID are accessing clean needles through commercial outlets rather than NSP. However, it is very likely that distribution of needles and syringes are facilitating interaction between peer educators and PWID, and contributing to adoption of safe injection practices, referral to HTC and MMT, and support for treatment adherence. We therefore believe that needle syringes procured through allocation and above-allocation will achieve further gain in impacting HIV transmission among PWID and from PWID to sexual partners.

MMT is also prioritized. MMT not only addresses HIV transmission, but also is very effective drug dependence treatment, and improves ART adherence; therefore it contributes for outcomes and impact of prevention and treatment of HIV. At the same time, we promote contribution of provincial government, combined with small user fee by clients. Combined contribution from the government, PEPFAR, and GF will reach 92% of the country target in 2017, while the government will support 37%, GF will support 55% and the remaining by PEPFAR.

Civil society will play central roles in reaching to PWID. Large proportion of peer educators will be trained and supported by civil society to reach and provide the package of interventions among PWID, and support access to and retention on MMT.

## **4. Prevention among MSM, FSW and their clients**

MSM and FSW have lower estimated incidence and lower prevalence than PWID, but are still important key population in Viet Nam's epidemic. The proposed investment by GF allocation, combined with government and PEPFAR contribution, will reach the national target for FSW, and 83% of that of MSM in 2017.

Prevention package including condom distribution in MSM and FSW will not only help to prevent sexual transmission directly, it will facilitate peer educator contact with MSM supporting BCC and treatment literacy, playing an important role in increasing demand for HTC and, ultimately, earlier initiation to ART to enhance its impact. Prevention activities among FSW may reduce HIV transmission to their male clients and thus reduce transmission outside the current key populations.

Stigma and discrimination against MSM and FSW continues to create a barrier for this population in accessing prevention interventions. Civil society will support addressing stigma and discrimination, which will facilitate access to prevention, testing and treatment and enhance their impact.

## **5. HIV strategic information**

We also propose strengthening of surveillance and data system to effectively guide the proposed high impact interventions as one of the high priority for the GF support. Monitoring and addressing the gap across the cascade of HIV services, from HIV diagnosis, linkage to care, timely ART initiation, long term retention and viral suppression, is critical for ART to have proposed impact. In reality many people are lost after diagnosis before reaching the HIV care OPC, which undermines the investment made into the HTC. The number of PLHIV on ART is growing and they live longer, making it difficult to maintain quality of data on ART patients. The proposed investment in electronic patient monitoring system will enable longitudinal follow-up of PLHIV from diagnosis, linkage to care, and long term retention on ART. The system will allow the national and local team to address the gap and help improve the outcome and impact of investment into HIV response. With the above allocation, we will enhance interoperability between HIV and TB information system to facilitate data exchange.

HSS+ and acquired HIV drug resistance survey will be supported by allocation amount, and pre-treatment HIV DR survey and monitoring of HIV drug resistance early warning indicators will be supported by above allocation amount. HSS+ will provide behaviour and prevalence data, which enables Viet Nam to monitor the dynamic of the epidemic, and outcome and impact of investment in HIV response. HIV drug resistance surveys will help monitor and optimize the quality of ART program and responsiveness of the first line and second line regimens.

## **6. Community system strengthening**

Community based organizations (CBO) and networks play an essential role in providing support and representation to KAP and their families. They are an important component in HIV response, with an advantage in accessing to hard-to-reach populations in order to promote HIV awareness, treatment literacy, and demand for HTC. CSOs are organized, are capable of providing services and representing the community, and are experienced in mobilizing their communities. Strengthening existing CBO and networks will create a strong, grassroots component to HIV response and will contribute to future sustainability.

### ***Above-allocation request – Rationale, expected outcomes and impact and priority order***

Viet Nam proposes the following rationale and following order of priority for above-allocation request.

#### **1. Interventions among PWID**

PWID bear the highest HIV incidence, and high priority is placed in investing into interventions among PWID. We propose the above allocation be made to fill the gap of NSP for PWID and MMT to achieve full national targets.

#### **2. HIV testing and counselling among key populations**

With above-allocation, we propose above allocation be invested in the following activities for HTC. These activities are critical in ensuring the quality of HIV testing, and expanding the coverage and uptake of HTC services among key populations.

- Provision of basic equipment for HIV testing – screening testing at commune health station, and confirmatory testing at district health center (using point-of-care HIV testing algorithm). This includes refrigerator (to store rapid test kits), and freezer (to store positive specimens at confirmatory testing sites, which is required by current Vietnamese regulation, and is essential for expansion). We are trying to use the existing equipment as much as possible (this is why we included this in above allocation rather than allocation) but we also assume that some 30% of newly established testing facilities require introduction or replenishment of the equipment. These equipment are essential items not to hamper the proposed decentralization of HTC.
- Training on HIV testing and counselling (HTC), combined with that on viral load testing, for district health centre staff (confirmatory testing) and for commune health station staff (screening test and community-based HTC).
- Filling remaining gap of HTC among PWID and MSM to achieve full country targets.
- Operational pilot to introduce HIV self-testing among key populations. Innovation could potentially improve uptake of HIV testing in key populations, but the operational issues, such as linkage to care, and quality assurance need to be well addressed through operational researches.

#### **3. Ensure quality of ART programme**

With above allocation amount, VAAC will accelerate roll-out of routine viral load testing (once a year), which enables clinicians to monitor the treatment outcomes, and detect possible treatment failure earlier, thus contributing to improved quality of HIV treatment. Use of dried blood spot (DBS) will be introduced to facilitate specimen transport, and routine viral load testing will be expanded in a phase manner. This will include pilot of operationalizing DBS technique. The funds will also be used to introduce innovative (point-of-care) technology to monitor viral load, which is expected in the market in 2015.

#### **4. Strengthening strategic information system**

Implementation of HIV drug resistance (HIV DR) country plan is proposed for GF support using above allocation, which will help monitor and improve emergence of HIV DR, and the quality of overall ART program. The pre-treatment HIV DR survey will inform the level of HIV drug resistance among the people newly starting ART, and responsiveness of the standard first line ART regimens. The acquired HIV DR survey will inform the level of HIV drug resistance among the people who are on ART, and responsiveness of the standard second line ART regimens. EWIs will monitor the condition of ART sites which might enhance emergence of HIV DR. The following activities are requested:

- 1) Pre-treatment HIV DR survey in 2015, and acquired HIV DR survey in 2017 (those who are on ART for 12-15 months; those who are on ART for 48+ months) in line with new WHO HIV DR strategy, both of which will include approximately 400 patients from randomly selected 20 ART facilities.
- 2) Annual monitoring of HIV DR early warning indicators (EWIs) from ART facilities.

Further strengthening and expansion of electronic HIV patient monitoring system. With above allocation, interoperability between TB and HIV information system will be established, and made functional in 30 high burden provinces.

#### **5. Viral hepatitis testing algorithm and hepatitis C treatment**

PWID in Viet Nam bear very high prevalence of hepatitis C (HCV), while the treatment is not affordable for vast majority of PWID. Viet Nam has finalized the National Action Plan for viral hepatitis, which promotes access to HCV diagnosis

and treatment. We would like propose GF to support, using above-allocation funds to support following activities related to diagnosis and treatment of viral hepatitis:

- 1) Development of national testing algorithm for hepatitis B and C.
- Pilot treatment of hepatitis C among 500 PWID. Viet Nam bears high burden of viral hepatitis, while access to treatment is very limited. The pilot aims to use public health approach to HCV treatment, and maximally utilized existing HIV and MMT infrastructure. With the GF support, we will revise the national guidelines on HCV treatment, provide training of HIV/MMT providers, laboratory exam for diagnosis and monitoring (including HCV viral load), peer training. We propose sofosbuvir + ribavirin with or without IFN as treatment regimen for this pilot

## TB

As argued in section 1 TB mortality (- 4%), incidence (- 2.6%) and prevalence (- 4.4%) all show a declining trend. The allocated funding amount under the NFM, together with the expected Viet Nam government allocation will be sufficient to maintain the TB control effort at the present level in 2015 and 2016.

Results from the TIME model, however, show that if the TB response is maintained at the present level the epidemic will first stabilize and by 2020 will rise again with prevalence and mortality increasing approximately 0.4 % per year over the period 2020-2030 (figure 19.1 and 2). In this scenario Viet Nam will fail to meet the target of 95 % decline of the epidemic by 2030 and global elimination in 2050.

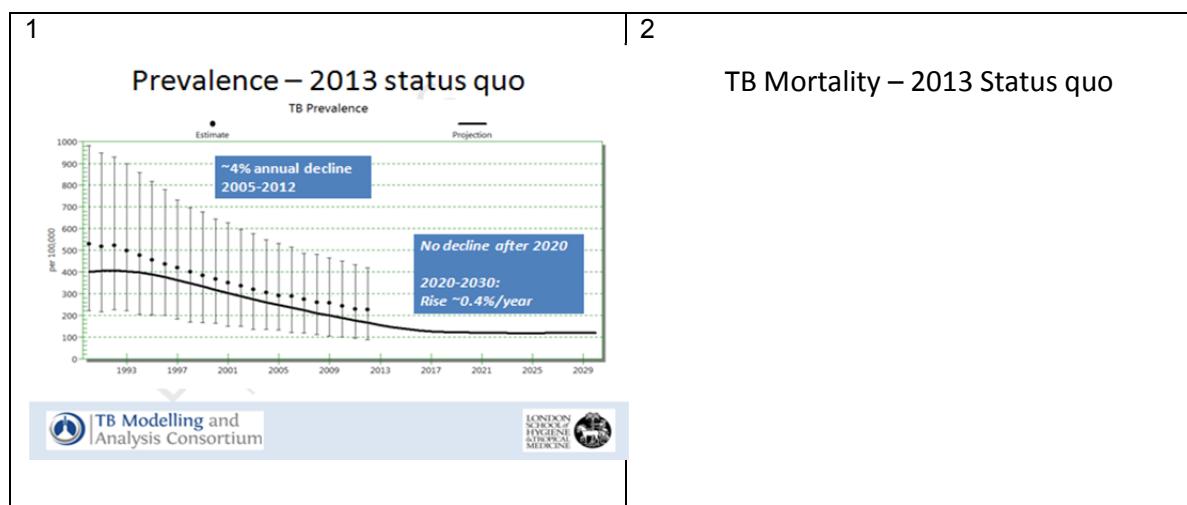


Figure 19: TB Prevalence (1) and mortality (2) in Viet Nam, 2013 status quo response

With the current state of technology, a continued decline of epidemic can only be achieved by (i) increased and earlier case finding, combined with (ii) immediate provision of effective treatment. In addition infection control measures are important, especially in congregate settings where TB transmission is likely to take place (hospitals, prisons), as well as prevention of progression to disease in PLHIV and other vulnerable people.

An increased effort for case finding means that the notification of TB patients will increase, relative to the level of the epidemic. In the modelled scenario, with an 8% increase in case detection rate over the period 2015- 2017, and maintained at that level, the number of notified patients will go down, due to the declining incidence, as shown in Figure 19.3 and 19.4, comparing the scenario with 8% increased case detection with continuation of the present TB response.

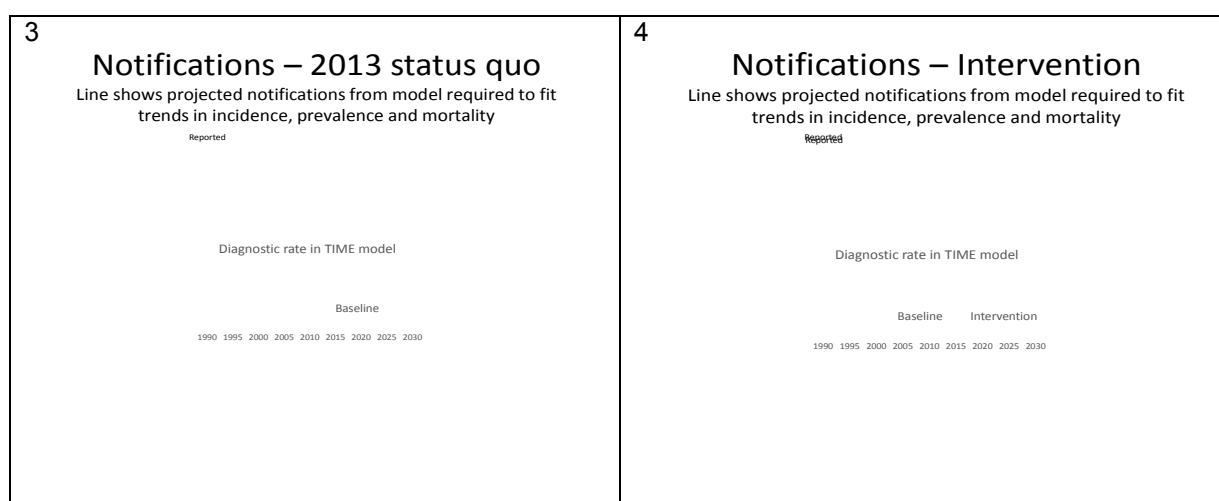


Figure 19: Predicted changes in notification rate from current case detection (3) and 8% increase in case detection (4)

The overall 8% increase in case detection, to be achieved over the period 2015-2017 and subsequently maintained at that level should result in a continued decline of around 4% in prevalence and mortality for the period 2015-2020, pushing the prevalence below 100/100,000 and mortality towards 10/100,000 as shown in figure 19.5 and 19.6.

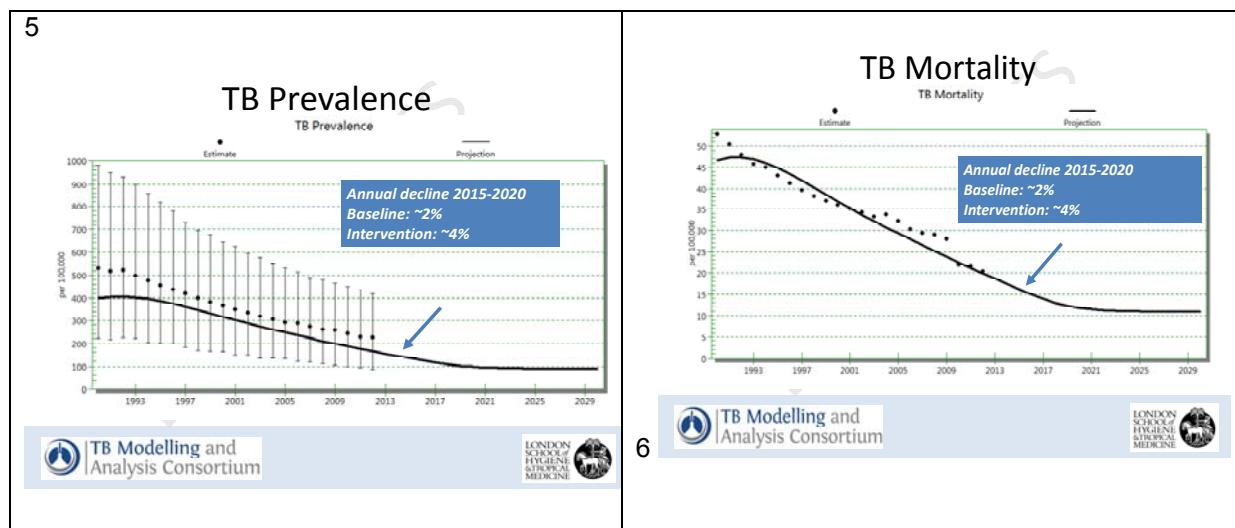


Figure 19: Predicted decline in TB prevalence (5) and mortality (6) with 8% increase in case detection between 2015 and 2017 in Viet Nam

Figures 19.5 and 19.6 also illustrate that a continued push for increase in case detection is needed for a continued decrease in the epidemic beyond 2025; maintaining the status quo will ultimately result in a stabilization of the epidemic instead of a continued decline. Future economic growth is expected to add to the decline of the TB epidemic in Viet Nam. However, because the mechanism is unknown, it is not included in TB models, including TIME.

#### Controlling the MDR TB epidemic

An important threat to the success of the TB elimination effort is the current rising trend of drug resistant TB, as concluded from the four drug resistance surveys conducted since 1996. With the NFM allocated funding the 2014 level of services can be sustained during the period 2015-2016. Without scale-up of diagnosis and treatment of MDR TB beyond the level of 2014, the percentage of TB among previously treated and new patients will continue at approximately the current 25% among previously treated and 4-5% among new patients. Also the annually costs for MDR diagnosis and SL TB drugs will continue at the present level.

However, with above allocated funding nationwide scale-up of PMDT is possible, which would allow to diagnose most MDR patients among notified pulmonary TB over the period 2015-2017 (figure 19.7). As the TIME model shows, this would lead to a reversal of the MDR epidemic within a period of 5 years and to a significant reduction of the level of MDR TB among both new and retreatment patients, effectively by 2025 bringing the MDR epidemic among new and previously treated patients back to its pre-1995 levels (figure 19.8).

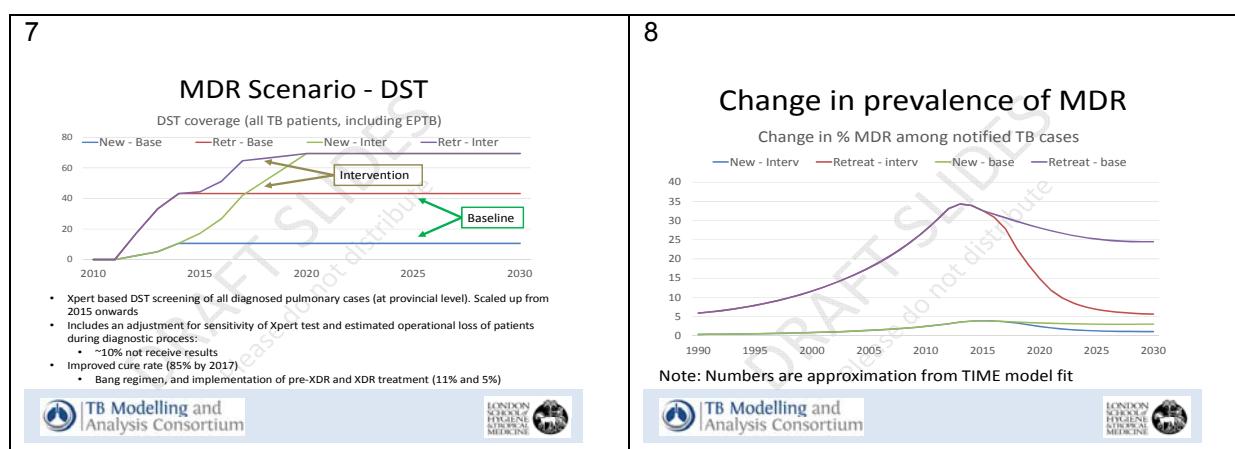


Figure 19: Predicted changes in rate of MDR diagnosis (7) and prevalence (8) following nationwide scale up of PMDT in Viet Nam to 2030

Of course this decline can only be achieved if the diagnosed patients are adequately treated.

Therefore the NTP is switching to a combination of 2 treatment regimens (in line with the WHO guidance for the application of these regimens, with the standard 20 month WHO regimen for patients who opt out): a standard 9 month regimen for simple MDR TB and an individualized regimen using new and additional companion drugs for the more complicated pre-XDR and XDR patients (and the standard WHO regimen for not eligible patients). SLD testing is done to allocate patients to the different treatment regimens. During the transition period the average drug price will be higher, due to the backlog of complicated pre-XDR and XDR patients requiring more expensive treatment, quickly

falling when the transition is completed. This is illustrated by graph 9.

With the cost of SLD treatment being the largest component of MDR management the SLD costs for treatment of the diagnosed patients was calculated for the scenario in which the 2014 situation is sustained (allocated funding only for 2015-2016) compared to the situation that (with the above allocated funding) the extra effort is made to diagnose (and treat) most MDR patients. Figure 19.9 shows that the initial increase in diagnostic effort is reflected by an initial increase of total SL drug cost above the 2014 status quo level, but already in 2018 falls below this to a level of approximately 1/3 of the drug costs required for the 2014 status quo scenario (figure 19.10).

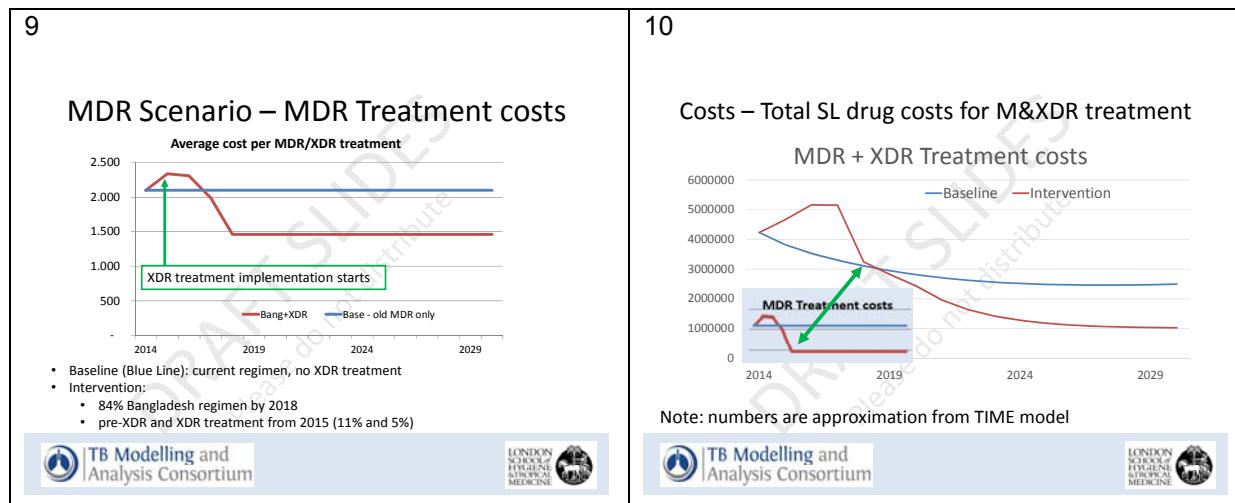


Figure 19: Predicted MDR treatment costs (9) and total second line drug costs to 2030 in Viet Nam (status quo and increased diagnosis and treatment of MDR TB patients)

It is clear that the additional costs of this effort to overcome the MDR epidemic - approximately 32 M US\$ in diagnosis and treatment over the period 2015-2017 - will be recovered as the MDR program becomes cost saving, which according to the TIME model will be around 2019 (based on the proposed expanded program with the new drug combinations). Although this will require an important financial and programmatic effort, delaying the scale up will be even more costly in term of lives lost and finance needed to eventually control the MDR epidemic.

Combining increased case finding with scale-up of PMDT for full access to DST and MDR treatment will work synergistically, leading to an even quicker reduction of the burden of TB.

To estimate lives saved, the TIME modelling team applied case fatality ratios used by WHO and UNAIDS for their 2013 estimates of TB mortality by HIV status (2013 GTB report, pg 104). Compared to a baseline where none of the notified cases would have received treatment, the Viet Nam TB control effort in 2013 saved approximately 40,300 lives. Over the period 2015-2017 the total number of lives saved when sustaining the current TB control effort amounts to 112,900. The proposed combined additional effort of increased case detection and nationwide PMDT scale-up would (above allocation) lead to an additional 16000 lives saved to a total of 128900, an increase of 14% for those years only. These estimates do not include the long term impact of TB control efforts, for example the effect that reduced transmission will have over time.

## TB care and prevention

### Increasing active and passive case finding in high risk groups

Prisoners have an estimated TB incidence 5-20 times the national average. Current on entry and periodic TB screening reaches approximately half of all prisoners. By end 2013, the national comprehensive TB/HIV/MDR approach was implemented in 18/54 prisons, with access to routine diagnosis and treatment of TB in all prisons. On-entry TB screening followed by periodic screening reached approximately half of the prisoners; approximately 2% of the screened prisoners were found to have TB. Over the coming years this will be maintained through combined VN government (basic diagnosis and FL treatment), MOPS (personal, premises, food support) and NFM allocation funding (screening). With above allocation funding expansion of the combined approaches to the remaining prisons will significantly contribute to the goal of increased TB case finding and will reduce transmission of TB in these settings. Deployment of CXR and Xpert MTB/Rif testing will allow for detection of early forms of TB and immediate selection of an appropriate treatment regimen. Important in this respect is the expansion of MDR treatment to the prisons (with above allocation funding, see MDR section).

**Close contacts** of TB patients have a high incidence of TB, estimated at 1.2%<sup>57</sup>. The TIME model estimates that 68% of TB in Viet Nam results from recent infections. Therefore, systematic case finding among contacts of TB patients could be an effective way to reduce further transmission. At present this is only performed for children. Above allocated

<sup>57</sup> Fox GJ, Barry SE, Britton WJ, Marks GB. Contact investigation of tuberculosis: a systematic review and meta-analysis. ERJ 2013

funding will allow for expansion of contact examination to all close contacts, by CXR screening followed by appropriate additional testing (Xpert, LED FM or ZN SS) will increase the early detection and treatment of (pre-clinical) forms of TB. This will be implemented in conjunction with the role-out of the new childhood TB policies, saving costs for separate training.

**Elderly people** > 64 years have a TB incidence over 3 times the national average (see epidemiology section). Regular health checkups with TB symptom screening, in collaboration with “clubs for the elderly” and in remote areas integrated with the introduction of PAL will achieve earlier detection of disease. The allocation funding will support the consolidation of this approach in 6 provinces. The above allocation funding will allow for expansion to 6 more provinces. Sensitivity of sputum smear examination at district level will increase with the gradual replacement of normal light microscopes by LED fluorescence microscopes (see below).

**Health care workers** - CXR screening with follow-up testing by Xpert will increase early detection of TB and allow for appropriate treatment allocation. This is placed in allocation funding. The notification of TB among Health Care workers is a measure for the effectiveness of TB Infection Control in health care settings

**PWID** have an increased vulnerability for TB. Screening will be offered to PWID in conjunction with MMT services. This collaboration can increase access for PWID to diagnosis and successful treatment and is provided in the above allocation funding.

**Migrants** are vulnerable to develop disease, through stress, difficult living conditions and often a relatively high epidemiological burden. Enhanced access programs with screening and social protection usually are effective in reducing the burden of disease in these groups. The interventions are planned in the above allocated funding. They will be developed in collaboration with representatives of the migrants with a focus on the provinces with the highest number of migrants in South Western Mekong delta (migrants from Cambodia)

**Miners:** Collaboration with mining companies for periodic TB screening and access to HIV counselling and testing and routine TB diagnosis and treatment in the framework of occupational health is expected to increase case finding and to decrease diagnostic delay. Deployment of a combination of CXR and Xpert testing or LED FM will increase sensitivity and will allow for diagnosis of subclinical forms of TB. These efforts are expected to attract funding from the companies themselves and therefore the facilitation is place in allocation funding.

**NCDs** To a lesser extent, people with non-communicable diseases that favour the development of TB, such as diabetes, kidney disease and people using immune modulators like TNF-alpha blocking medication are a risk group for the development of TB. Smokers, who are at higher risk of many NCD, are also a population at higher risk of TB. Collaboration with NCD services will be forged to include TB screening in routine checkups, making use of CXR and symptoms screening. The facilitation of this is placed in allocation funding.

#### **Increased access for communities with low access to TB services by adjusting the services to the needs of the communities (populations in remote and mountainous areas, children, urban poor)**

**Populations in remote and mountainous areas:** increasing access to the services for diagnosis of TB will be realized by collaboration with the border police for provision of services to the civilian population. Combining TB symptom screenings with community meetings will increase early diagnosis. The organisation of sample transportation for advanced testing will be a priority. In cases with very low case finding campaigns can help kick-start community awareness on TB. In these areas collaboration with social organisations like the Farmers Union, Veterans Union, Youth Union and Women's Union will increase community services delivery: referrals and treatment support.

**Children** With the present low proportion of notification of childhood TB (only 2% of the total number of notified cases), there is room for a 7% increase of notification through an expansion of diagnosis of TB in children<sup>58</sup> (TIME model). Early diagnosis through systematic contact tracing and the use of CXR and Xpert, in addition to clinical assessment and history of contact examination, combined with treatment of LTBI in small children exposed to TB in the household will help to prevent the occurrence of TB in an especially vulnerable group. Though very important from a humanitarian point of view and significantly increasing the notification and case detection rates, this effort will result in a limited effect on the epidemiological trends.

**The urban poor** will benefit from a combination of engagement of non-NTP public and private sectors and increased community care delivery by engagement of social organisations. Studies show that there is room for increased and especially earlier notification in collaboration with the private sector and the general public sector. A study on health seeking behaviour<sup>59</sup> showed that patients experiencing cough interpreted this as a non-serious disease and primarily seek health with private sector providers (in the southern provinces) or pharmacies (northern provinces), avoiding the crowded general health services. When symptoms do not resolve they switch to the public sector, where often additional delay occurs before a patient is eventually diagnosed with TB. The TIME model suggests that presently un-notified patients from the private sector are already contributing to the current rate of decline of the epidemic

<sup>58</sup> TIME for Viet Nam, results from workshop

<sup>59</sup> Hoa N B, et al. Health seeking behavior among adults with prolonged cough in Viet Nam. Tropical Medicine Internal Health 2011. 16:1260-7

(approximately 8-10%), given the higher than actually notified projection of notification from the model (the second graph of this section). That suggests that the effect of increased case notification from the private and non-NTP public sector lays mostly in the reduction of diagnostic delay and early initiation of appropriate treatment, directly impacting transmission and thus the epidemic.

### **Increased sensitivity of testing will be realized by deployment of more sensitive diagnostic and screening methods**

With NFM allocation funding, conventional ZN microscopy will be gradually replaced by LED FM microscopy (50 per year), increasing sensitivity of microscopy in the implementing sites with approximately 10%.

Xpert will increasingly be used for diagnosis of TB among vulnerable groups (PLHIV, Children) and to diagnose R resistance as a proxy to MDR TB (only 1% of R resistant cases are not resistant for Isoniazid – 2011 DRS, preliminary results). For this aim additional Xpert machines will be procured with above allocation funding, allowing for nationwide scale-up of Xpert testing in all new and previously treated eligible people. Cartridges will be procured from allocated funding to the level that will allow the maintenance of the 2014 diagnostic and MDR treatment capacity; NFM above allocation funding however will all scale-up to cover all eligible patients, including support to sputum transportation, ultimately to overcome the MDR epidemic.

**Chest X Ray:** Diagnostic algorithms primarily based on SS examination are increasingly substituted by algorithms with X-ray as a screening tool to identify people eligible for follow-on testing by for instance Xpert MTB/Rif. This increases sensitivity of the diagnostic algorithm, allowing for early diagnosis of clinical and subclinical forms of TB. CXR reading Increasing capacity to read and interpret CXR will add to the sensitivity of the CXR. This needs training of clinician in recognition of CXR signs consistent with TB. The NFM allocation funding is planned to contribute to training on Xray reading to make optimal use of existing capacity.

Computer assisted diagnosis for TB (CAD4TB) is designed to assist the selection of people eligible for follow-on testing in high CXR case load situations or in situations where skilled readers are scarce. This requires digital X-ray machines, which are increasingly used in the Vietnamese health system. The NFM above allocation funding is planned to enable validation of CAD4TB to the Vietnamese people (as this is a new tool for Viet Nam) and subsequent introduction of CAD4TB in peripheral or high throughput digital X-Ray units around the country to assist in increasing the sensitivity of the diagnosis of TB.

### **Prevention of progression to disease in children**

Prevention of TB disease in children is realized by providing IPT to under five years old household contacts of TB patients. In 2013 preventive treatment of under 5 years old household contacts was shown to be feasible reaching 89% completion rates in a KNCV supported pilot in 4 provinces and is being rolled-out for nationwide application. Under the NFM, 72% coverage of the people in need will be reached (from 9 % in 2013), of which 11% by VN government funding, 17% by NFM allocation and 72% by NFM above allocation funding.

## **MDR TB**

### ***Interventions to scale-up earlier diagnosis and treatment for MDR TB***

#### **a. Diagnosis and treatment of MDR TB**

Treatment success of the first MDR TB cohorts (2009-2011) ranged from 73-78 %. Although well above the global average of 50% this is an unsatisfactory percentage from an epidemiological point of view, allowing the creation and transmission of additional resistance.

An important cause of the slow scale-up and limited treatment success rate is the long duration and the side effects of the present 20 month MDR TB regimen. During scale-up the present level of treatment success may not be maintained due to the complexities of the treatment. In addition, the increasing rates of resistance against fluoroquinolones and second line injectables among MDR TB patients, which are due to the inadequacy of the present 20 month regimen for pre-XDR patients and chaotic private sector treatment, will further reduce the success of the present treatment.

In 2014 a start is made with the introduction of rapid second line DST for all MDR patients, followed by a 9 month MDR treatment for simple MDR or a regimen containing bedaquiline for patients with pre-XDR and XDR TB under operational research conditions, guided by specialized treatment centres.

This is expected to enable the NTP to achieve universal access to M/XDR treatment while improving the overall treatment success to over 80%. Under the present epidemiological conditions the average price of the different new regimens per person will be the same or below the price of the 20 month regimen for all patients (GDF on line product catalogue).

With support of the NFM grant further implementation and roll-out of these newer regimens are planned, as well as the diagnosis of MDR and XDR TB necessary for appropriate treatment allocation. With allocation funding the 2014 level of diagnosis and treatment can be maintained during 2015 and 2016 (1500 patients treated per year – 30% of the people in need - while shifting to the new regimens and improving treatment outcomes). With above allocation funding scale-up is planned from 2015 towards in 2017 reaching nationwide coverage of diagnosis and treatment of MDR patients among previously treated and new patients. With above allocation funding MDR diagnosis and treatment can be rolled

out in the penitentiary system, by setting up MDR treatment in 7 regional penitentiary facilities around the country, in close collaboration with the MOPS (which contributes human resources and premises) and the provincial MDR treatment centres for clinical and programmatic support and guidance and for the continuation of treatment when prisoners are discharged while still on treatment.

Together this is expected to ultimately lead to the decline of the MDR epidemic (see rational from the TIME model above), which from 2019 on is expected to result in savings on the required annual budget for second line drugs. Excellent procurement and supply chain management is needed to manage the complexities of the phasing in and out and expanding distribution of drugs for the different regimens and the necessary ancillary drugs (see under the priority module HIS for the further implementation of e-TB manager and the priority module on PSCM)

As MDR treatment comes with high costs to patients and society alike, prevention is better than cure.

A switch to 4 and 3 FDC's (RHEZ and RHE respectively) for first line treatment is therefore desirable (see the priority module PSCM). Engagement of private sector providers, large non-NTP hospitals and linking non-GLC cohort patients to elements of patient support will help the early diagnosis of TB and MDR TB alike and is also aimed at improving treatment practices, contributing to the prevention of the creation of additional MDR and XDR TB. With the NFM allocation funding 15 hospitals can be engaged , the NFM above allocation funding allowing for inclusion of 25 more hospitals and private sector involvement in 43 provinces.

#### **b. TB infection control**

TB IC consists of a package of 5 interventions ranging from 1) administrative measures which diminish the exposure of people to TB through better organisation of the services, to 2) physical measures and adjustments (installing appropriate ventilation systems, upper air UV radiation etc.), 3) personal protection using N95 respirators, 4) periodic TB checkups in health care workers and other exposed personnel and finally 5) managerial measures to ensure all measures are well applied and monitored.

While difficult to quantify this is generally accepted worldwide as an effective intervention in hospitals and congregate settings like prisons. The NFM allocation (and cumulatively above allocation) funding will allow roll-out of TB IC to 70 (100) large general hospitals and 35 (51) prison facilities.

Notification of TB among health care workers is accepted as an indirect parameter of the effect of the interventions. Over the program period the use of this parameter will be further developed, based on a KNCV supported pilot of monitoring TB notification of healthcare workers in the 63 provincial hospitals, with support from NFM allocation funding.

#### **Supportive modules**

With 81% of the total request directly linked to diagnosis, treatment and prevention of TB and MDR TB among most affected and vulnerable populations, the remaining 19% is needed for the supportive systems as summarized below. Roughly 30% of the total request is included in the allocation to sustain the basic service delivery. Another 65 % is supporting scale-up and the surveys and studies that constitute good public health practice of surveillance, monitoring of impact and evaluation of interventions. The last 5 % is included as unfunded quality demand (research project).

	Allocation	Allocation %	Above allocation	Above %	Full request	Full %
PSCM	118,949	1%	747,997	2%	866,945	1%
HIS and M&E	581,826	3%	5,362,848	11%	5,944,674	8%
Community systems strengthening	0	0%	48,812	0%	48,812	0%
Program management	3,449,227	16%	2,408,615	5%	5,857,842	8%
	<b>4,150,002</b>	<b>19%</b>	<b>8,568,272</b>	<b>17%</b>	<b>12.718.273</b>	<b>19%</b>

Table 9: Allocation of funding for supportive modules

### 3.4 Focus on Key Populations and/or Highest Impact Interventions – 1 page suggested

This question is not applicable for Low Income Countries.

For TB and HIV, describe whether the focus of the funding request meets the Global Fund's Eligibility and Counterpart Financing Policy requirements as listed below:

- a. If the applicant is a lower-middle income country, describe how the funding request focuses at least 50% of the budget on underserved and most-at-risk populations and/or highest-impact interventions.
- b. ~~If the applicant is an upper middle income country, describe how the funding request focuses 100% of the budget on underserved and most-at-risk populations and/or highest-impact interventions.~~

#### HIV

The HIV epidemic in Viet Nam continues to be overwhelmingly concentrated among KAP, including people who inject drugs, female sex workers, and men who have sex with men. As such **83.7%** of programming by budget (table 10) is focused on interventions for those key populations (needle syringe program, MMT, condom) or to deliver other high impact interventions (ART). HIV program activities are tailored to geographical areas of greatest disease burden, with particular focus on the 8 HIV high burden and 22 medium burden provinces for joint TB-HIV activities.

KAP focused/highest impact modules	Budget USD	Budget %
Treatment, care & support	30,361,333	52.04%
Prevention programs for PWID & partners	11,157,632	19.19%
Prevention programs for FSW and their clients	3,755,563	6.46%
Prevention programs for MSM & TG	1,266,626	2.18%
PMTCT	1,560,321	2.68%
Prevention programs for other vulnerable populations	645,468	1.11%
Total	48,646,943	83.66%

Table 10: Budget allocation by USD and percentage for modules focused on KAP and high impact interventions

#### TB

The Government of Viet Nam guarantees the human resources, premises and running costs of the national TB control program. In addition it pays for the consumables for basic diagnosis of TB (sputum smear) and first line TB drugs for treatment and prevention, including paediatric formulations. The government also provides small incentives for health workers involved in the diagnosed and full treatment of each patient, in accordance with the national guidelines. Also  $\frac{3}{4}$  of the necessary investment in the coordination and supervision of NTP functions by provincial and district level are provided by the (local) governments.

The NFM proposal aims to realize two strategic approaches that together will help Viet Nam to more rapidly reduce the TB epidemic and push MDR back to the very low pre-1995 levels. This will result in future savings. Under the NFM funding is requested for

- (i) Increasing case detection from 81% till 89% by the application of new and more sensitive diagnostic techniques necessary for increased and earlier case finding. This is focused on new sections of the population, especially KAP with a relative high risk of TB, people with specific vulnerabilities for TB or barriers to access TB services (26% of allocation and 41% of above allocation request); and
- (ii) Scale-up of diagnosis and treatment of M&XDR TB reaching at least 60% of incident MDR among notified TB patients in 2017 (55% of allocation and 40% of above allocation funding).

The summary table below shows the combined investment in case detection, treatment and prevention in KAP and vulnerable populations, TB/HIV and MDR TB comprises **81%** of both allocation and above allocation funding, with most supportive investments also geared towards serving the priority populations (table 11).

	Allocation	Alloc %	Above alloc	Above %	Full request	Full %
TB care and prevention	3,720,605	17%	17,103,822	36%	20,824,427	30%
TB/HIV	2,097,840	9%	2,913,844	6%	5,011,683	7%
MDR-TB	12,117,294	55%	19,324,966	40%	31,442,260	45%
Total	17,935,739	81%	39,342,632	82%	57,528,370	82%

Table 11: Summary per module of requested GF investment

## SECTION 4: IMPLEMENTATION ARRANGEMENTS AND RISK ASSESSMENT

This section requests information regarding the proposed implementation arrangements for this funding request. Defining the implementation arrangements for the program including the nominated Principle Recipients (PRs) and other key implementers is essential to ensure the success of the programs and service delivery. For the concept note for TB and HIV, the Country Coordinating Mechanism (CCM) can nominate one or more PRs, as appropriate given the country context.

### 4.1 Overview of Implementation Arrangements

For TB and HIV (including HSS if relevant), provide an overview of the proposed implementation arrangements for the funding request. In the response, describe:

- If applicable, the reason why the proposed implementation arrangement does not reflect a dual-track financing arrangement (i.e. both government and non-government sector PRs).
- If more than one PR is nominated, how co-ordination will occur between PR(s) for the same disease and across the two diseases and cross-cutting HSS as relevant.
- The type of sub-recipient management arrangements likely to be put into place and whether sub-recipient(s) have been identified.
- How coordination will occur between each nominated PR and its respective sub-recipient(s).
- How representatives of women's organizations, people living with the two diseases and other key populations will actively participate in the implementation of this funding request.

#### a. Dual Track Financing Arrangements

After discussion at the CCM meeting on 12 August 2014, it was decided that VUSTA would very likely become a PR, following a process of self assessment which will then be submitted to CCM for approval and endorsement. After four years of project operation under the support of the MOH, VUSTA's capacity for program management, financial management, monitoring and supervising management has been strengthened and now is likely to meet Global Fund requirements. As a PR, VUSTA will be able to be even more active in planning and implementing outreach activities as well as in mobilizing resources from the Government and International organizations to support these activities. They will work in partnership with MOH to lead and implement the new funding model (NFM) programming, in close partnership with line ministries and departments, provincial coordinating entities, and the key SR: the Ministry of Public Security (MOPS) and its prisons.

The NTP will be the sole PR for the TB section. The largest part of the grant is reserved for the diagnosis and treatment of MDR TB, with drug procurement an important component. This falls completely within the mandate and competencies of the NTP. The next large investment is in TB care and treatment, focusing on case detection, increasing access for high risk and vulnerable populations. There is no NGO partner that has a specific mandate for any of these populations or areas. Also a significant part of this is meant for prison populations, again an area that needs to be taken care of mainly by the NTP P, in collaboration with the Ministry of Public Security.

Rather than appointing a single NGO PR, adding to the management complexities with limited added value on program implementation, the plan is for the NTP to have a number of sub-recipients and contract partners to assist in implementation of the grant. By "outsourcing" well described tasks to the different partners, linked to clear coverage and outcome indicators, the NTP's implementation capacity will increase sufficiently to digest the requested funds, without adding disproportionately to the management costs.

#### b. PR Coordination

VAAC, NTP, HSS Coordination between the three GF PR currently active in Viet Nam will be realized through coordination of annual and quarterly plans, mutual sharing of quarterly and annual reports on overlapping intervention areas and timely exchange of routine program and project indicator reports and quarterly coordination meetings that

will be documented and in which progress, problems, opportunities and plans are discussed. While not yet a PR, VUSTA will also take part in these activities to ensure adequate participation from civil society representatives and organizations and in preparation for their likely promotion in 2015.

MOH has issued Decision No. 2496/QD-BYT dated 18/07/2012 promulgating the regulations on coordination between the National Target Program on HIV/AIDS and the Project of Tuberculosis Prevention within the Health National Target Program. The coordination activities were carried out in (1) planning, (2) epidemiological supervising, monitoring and evaluating (3) diagnosis for TB and HIV infection, (4) diagnosis and treatment of HIV/AIDS for TB patients, (5) diagnosis and treatment of TB for people living with HIV, (6) management of TB and HIV patients. At both central and local level, a Coordination Board for TB-HIV, including leaders from the two programs, has been formed and meets every six months (central level) or every three months (local level) to set up plan and monitor the implementation of TB and HIV coordinated activities at all levels.

#### **c. Sub-recipient management arrangements**

Currently, the Viet Nam Administration of HIV/AIDS Control (VAAC) remains the sole PR for the HIV component of the GF grant. As PR, VAAC will lead and implement Phase 2 in close partnership with line ministries and departments, provincial coordinating entities, and two main SRs: the Ministry of Public Security (MOPS) and its prisons, and the civil society SR, the Viet Nam Union of Science and Technical Association (VUSTA). Although still single track, the proposal incorporates significant involvement of civil society partners. Civil society organizations (CSO) provide the community reach and understanding essential to effectively engage and empower vulnerable groups and people living with HIV/AIDS (PLHIV) as key actors in the HIV/AIDS response.

The SRs will provide periodic reporting on implementation and achievements to PR, highlighting any potential challenges or bottlenecks in a timely manner. PR will provide regular supervisory visits and oversight.

The NTP has the intention to continue with the current SRs while renegotiating their activities and management costs and adding 1-2 new SRs under the new project.

In July 2014, the NTP conducted a transparent process, described in annex 10, for selection of potential partners to assist implementation of the National Strategic Plan. In total 13 organisations responded with proposals of different levels of maturity and relevance. The NTP intends to engage them all and will start negotiations to agree on effective and relevant interventions and reasonable management costs with each of them. The eventual number of sub-recipients, as well as the amount allocated to each of them will depend on the eventual size of the grant.

#### **d. PR/SR coordination arrangements**

VAAC coordination of SR occurs through the Central Program Management Unit (CPMU). CPMU coordinates with the two SR – MOPS and VUSTA. MOPS then manages all grant activities within the prison system, while VUSTA coordinates the civil society response, coordinating grant activities of Vietnamese NGOs, CSOs and CBOs. In addition, CPMU coordinates the Provincial AIDS Committees (PACs) in each of the GF focus provinces who link in to the primary health care system (Figure 20).

Detailed plans for VAAC coordination of their SR are articulated in *The Coordination Framework for Implementation of PR and SR Activities at Local Level Health Activities* (annex 11), which pertains to both central and local level activities. Service delivery coordination will largely take place at lower administrative levels (i.e. district and commune) through linking KAP and PLHIV with HIV testing, care and treatment services at healthcare stations.

District Health Centres will be responsible for coordinating local level activities for effective implementation. Feedback on local coordination will be reported to PAC and VUSTA (at provincial level). These two units will have quarterly and unplanned meetings as required to resolve identified issues and obstacles. In addition, joint surveillance trips by VAAC and VUSTA will help evaluate the effectiveness of local level coordination and help the CPMU address issues, as required.

At the central level, the VAAC will meet every 6 months with its SR to assess the performance of coordination framework and make adjustments as necessary if implementation of this framework does not work well at local level.

Coordination between the NTP and their SRs and contract partners will be realized through annual and quarterly plans, monthly (documented) meetings for systematic discussion of progress, problems and opportunities and for joint planning. The NTP will monitor the program implementation by SR's and contract partners through their reporting obligations and monitoring visits to project sites. Information exchange, coordination with the wider group of NTP partners will take place through quarterly VSTP meetings, where the opportunity will be provided for feedback on the implementation by the stakeholders.

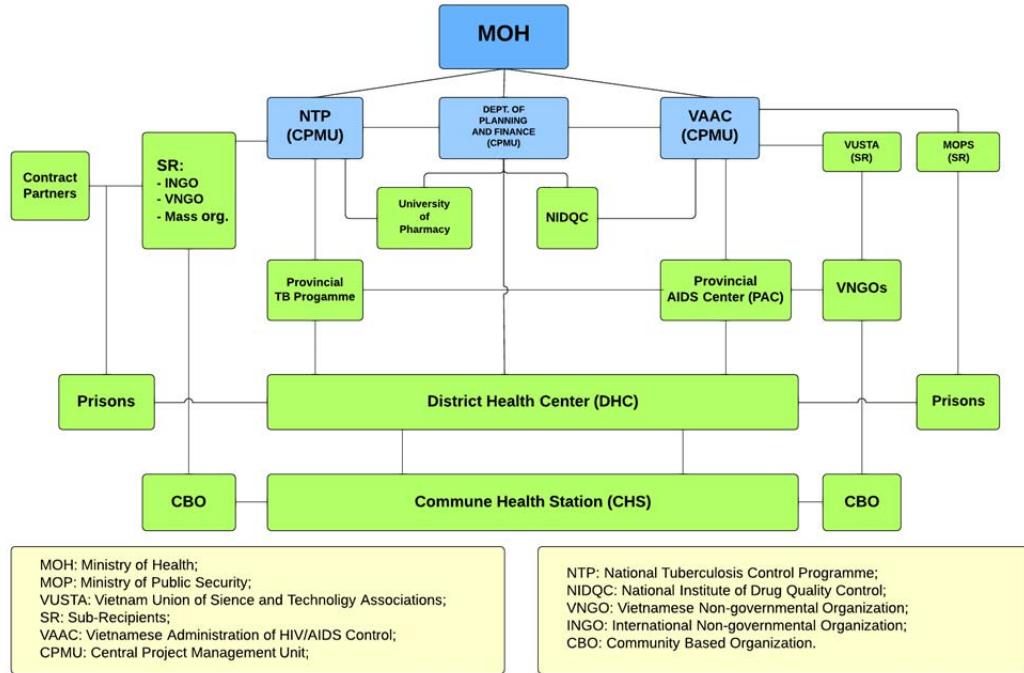


Figure 20 Organizational Chart for TB and HIV PR and SR and relevant partners, institutes and health care delivery point, Viet Nam 2014

Once VUSTA is promoted from SR to PR, these arrangements will necessarily change somewhat. The proposed new organizational structure is shown in annex 12.

#### e. Active involvement of women's groups and KAP in program implementation

VUSTA coordinates the involvement of civil society organisations (CSO), most of which are comprised of both KAP and PLHIV, including women's organizations. Representatives from these groups have participated in strategic discussions throughout the design and preparation of this concept note. Women's organizations participate in advocacy activities to encourage pregnant women and women living with HIV to access HIV services. CSO will continue to be an integral component of the implementation strategy, providing the community reach and understanding essential to effectively engage and empower vulnerable groups and people living with HIV/AIDS (PLHIV) as key actors in the HIV/AIDS response. CSO have also demonstrated ability to access particularly hard to reach populations at higher risk of HIV infection, including MSM and the primary sex partners (PSP) of KAP. By enhancing the synergy between government and civil society organization activities, greater numbers of vulnerable and people at higher risk of infection from HIV may be reached, and at earlier stages of infection.

Representatives of key affected populations are members of the national Viet Nam Stop TB Program and the provincial STPs and will thus be informed and invited to provide their feedback. The activities that are directed as specific KAP will include KAP representatives in the design and oversight of activities.

## 4.2 Ensuring Implementation Efficiencies (1 page suggested)

Complete this question only if the CCM is overseeing other Global Fund grants.

From a program management perspective, describe how the funding requested links to any existing Global Fund grants, or other funding requests being submitted by the CCM at a different time. In particular, explain how this request complements (and does not duplicate) any human resources, training, monitoring and evaluation, and supervision activities.

The TB, HIV and HSS grants will have complementary roles regarding the grassroots health workforce development. The HSS grant will focus on strengthening the workforce and grass roots level capacity for service delivery. The HIV component is working towards decentralizing HIV activities and integrating them into commune health stations. The TB grant aims to mobilize the commune and village health networks and community involvement to raise awareness in communities and to participate in service provision, including referral and treatment support.

The workforce strengthening activities undertaken through the HSS grant will strengthen the capacity of district and commune health staff to deliver TB and HIV services, such as HIV testing and counselling, and follow up of patients receiving HIV treatment and care, TB screening and treatment supervision and support. These activities will

complement human resource training in M&E and supervision to deliver HIV and TB services at grassroots level.

The NTP and VAAC will work with the HSS implementers to ensure up to date TB information and HIV information (e.g. benefits of early HIV testing) is included in all HSS curricula for district, commune and village health workers as well as in the community doctors' pre-service training.

The pharmacovigilance activities under the HSS grant are supportive of the introduction of new TB drugs and regimens. ADR cohort event monitoring (CEM) for second line anti-TB drugs through the national ADR database will be integrated into the e-TB Manager (TB budget Concept Note). Cohort Event Monitoring (CEM) will be implemented in 2015 in 3 provinces in support of the use of bedaquilline (a new TB drug). Development of guidelines on ADR Management for all TB drugs (FLD, SLD) is ongoing.

HSS also implements pharmacovigilance for the HIV program in 31 provinces by training to improve capacity for healthcare workers at different levels and broaden supervision in order to improve ADR reporting within the HIV program. An ADR reporting guidance has been issued by VAAC to strengthen HIV pharmacovigilance. In 2015, targeted spontaneous reporting approach recommended by WHO will be implemented in six provinces.

The quality testing of drugs at point of care ensures availability of quality ARV and TB drugs to patients.

#### 4.3 Minimum Standards for Principal Recipient (PR) and Program Delivery

**For both TB and HIV complete the table below for each nominated PR. For more information on Minimum Standards refer to the Concept Note Instructions.**

PR 1 Name	VAAC - MOH	Sector	Health
Does this PR currently manage a Global Fund grant(s) for this disease component or a stand-alone cross-cutting HSS grant(s)?	X Yes <input type="checkbox"/> No		
Minimum Standards	CCM assessment		
1. The Principal Recipient demonstrates effective management structures and planning	The Viet Nam Administration for HIV/AIDS Control (VAAC), under MOH, is recognized as taking very good leadership in HIV/AIDS prevention and control in Viet Nam. With support from CPMU consisting of sufficient number of qualified, experienced staff (including technical, financial, procurement, and M&E staff), VAAC has managed the GF grant for more than 10 years. Over this time, the structure has shown its effectiveness in planning and management of the GF grant.		
2. The Principal Recipient has the capacity and systems for effective management and oversight of Sub-Recipients (and relevant Sub-Sub-Recipients)	VAAC at central level and the provincial AIDS centers (PACs) under its aegis have sufficient technical & managerial capacity and experience in managing and oversight SRs and implementing units at lower levels. VAAC has provided oversight to VUSTA, MOLISA and Ministry of Public Security as SRs for several years in the framework of existing GF grant. Both VAAC and PACs have further showed their ability to provide technical support or contact for capacity building for HIV/AIDS service delivery at district and lower level.		
3. The internal control system of the Principal Recipient is effective to prevent and detect misuse or fraud	The internal control system for preventing/detecting frauds in the structure of PR/CPMU has been established and strengthened over the past years to ensure complying with financial policies/regulations of both the GF & GVN. External and internal auditors are selected each year according to GF guidelines. As evidence, the OIG did not find any major financial frauds by PR/CPMU and its system in during the last audit in 2012.		
4. The financial management system of the Principal Recipient is effective and accurate	The accounting system of VAAC/CPMU has been set up and improved year by year. The BRAVO financial software which is currently being upgraded (2014) will help facilitate better management and monitoring of actual spending in comparison to budget, as well as minimizing human errors.		
5. Central warehousing and regional warehouse have capacity, and are aligned with good storage practices to ensure adequate condition, integrity and security of health	CPC1 (Central Pharmaceutical Company No 1) provides current storage and distribution for ARV and Methadone drugs from all resources, including the GF, PEPFAR and the national program. CPC1's central & regional warehouses are aligned with good storage practices (ISO 9003) to ensure the adequate condition, integrity and security of drugs, and are furnished with appropriate equipment and trained staff. In addition to CPC1, other		

products	domestic pharmaceutical companies are gradually improving their capacity to meet international requirements.		
6. The distribution systems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment / program disruptions	CPC1 has an appropriate distribution system and transportation arrangements from the central house to treatment sites in 63 provinces. Sufficient trained staff are assigned to manage distribution and delivery activities. The CPMU, in close collaboration with CPC1, maintains the logistics-management information system (LMIS) with requisition and stock-reporting tools in place to anticipate and minimize risk of stock-outs. In recent years, there have been no reported cases of treatment interruption due to inappropriate transportation arrangement.		
7. Data-collection capacity and tools are in place to monitor program performance	The national monitoring and evaluation system (VAAC) defines relevant indicators for routine monitoring of interventions (National M&E framework) that are aligned to the goals/objectives of the national HIV/AIDS program. The HIV sentinel surveillance (HSS) is carried out annually to monitor impact/outcome indicators. Decision 28 from the MOH on national HIV/AIDS program routine reporting introduces adequate mechanism/tools on how to report indicators accurately. The PR/CPMU requests PACs to use supporting tools for data reconciliation from each level to ensure quality of the data collected.		
8. A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	A routine reporting system is in place in all 63 provinces nationwide based on Decision 28 from MOH, and all provinces are now able to report in a quarterly basis. Current practice in most provinces is to use paper based reporting forms. VAAC is currently making effort to set up an online reporting system from service delivery points to central level in coming years.		
9. Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	Almost all drugs and other health products procured with GF resources are procured through VPP, and thus comply with GF quality requirements. For ARV drugs, during the last years, VAAC/CPMU has complied with the Global Fund's regulations on monitoring the quality of products in our supply chain.		
<b>PR 2 Name</b>	National Lung Hospital, Ministry of Health (MOH)	<b>Sector</b>	<b>Health</b>
Does this PR currently manage a Global Fund grant(s) for this disease component or a stand-alone cross-cutting HSS grant(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>Minimum Standards</b>	<b>CCM assessment</b>		
10.The Principal Recipient demonstrates effective management structures and planning	The National Lung Hospital (NLH) has been assigned by the MOH to lead and coordinate the National Tuberculosis Control Program in Viet Nam (NTP), which is globally recognized for its well-structured organization and effective management. It is currently managing a total of approximately 11000 TB units, including 1 at national, 2 at regional, 64 at provincial, around 850 at district and around 10000 at commune levels. The network is increasingly expanded to non-NTP partners among them closed settings, public and private sectors and other civil society organizations. Key functions of the program such as training, technical guidance, procurement and M&E for quality diagnosis and treatment of TB, TB/HIV and MDR TB has always been ensured.		
11.The Principal Recipient has the capacity and systems for effective management and oversight of Sub-Recipients (and relevant Sub-Sub-Recipients)	Experiences in coordinating the nation-wide system of various TB service providers indicate the NTP's capacity to manage and oversight SR and Sub-SRs, both in terms of technical and managerial aspects. Effective SR and contract partner management has also been proved during implementation TB Round 1, 6 and 9 grants.		
12.The internal control system of the Principal Recipient is effective to	The internal control system to prevent and detect misuse or fraud has for long been established and strengthened over the years by the NLH/NTP. State, external and donor audits with satisfactory results have confirmed		

prevent and detect misuse or fraud	effectiveness of its internal control system.
<b>13.</b> The financial management system of the Principal Recipient is effective and accurate	The NTP has a robust financial management system at both central and local levels, with well-established management process and procedures including supporting tools, qualified staff and regular capacity building and M&E.
<b>14.</b> Central warehousing and regional warehouse have capacity, and are aligned with good storage practices to ensure adequate condition, integrity and security of health products	The NTP has always maintained a good PSCM system, including warehouses at central, regional, provincial, district and commune levels, which is capable of managing necessary pharmaceuticals, health products and equipment for the whole national TB control network. PSCM M&E is carried out regularly. Further improvement of the PSCM system including warehouse is planned in the Concept Note to meet increasing demand.
<b>15.</b> The distribution systems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment / program disruptions	The NTP has always maintained a good PSCM system, including distribution and transport arrangement from central to local levels, with clear guidance and routine monitoring to ensure supply health products to end users to avoid treatment/program disruptions. The system is also supported by MSH, CHAI and other technical partners for continued improvement.
<b>16.</b> Data-collection capacity and tools are in place to monitor program performance	The Viet Nam NTP has for long proved its data-collection capacity and is also acknowledged as one of the country with best TB data quality. A National M&E Framework is regularly developed and updated with adequate tools to monitor program performance. The paper-based R&R system is applied nation-wide to all reporting units and has been coupled with the case-based web-based system for several years. Specific data-collection tools for additional requirement on MDR-TB is also in place.
<b>17.</b> A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	The paper-based and electronic reporting systems have national coverage to NTP units and are expanding to participating non-NTP units. The regulation on reporting time is applied consistently and a routine desk and on-site verification mechanism is put in place to check for data accuracy.
<b>18.</b> Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	Product procurement by the NTP with GF funding is either conducted through IDA, FIND as requested or assured by VinaControl upon importation/delivery thus complies with quality requirements. A routine in-country supply chain management system is in place with responsible staff at all levels and regular monitoring and reports. The NTP also get support from HSS project for quality control of pharmaceuticals.

#### 4.4 Current or Anticipated Risks to Program Delivery and PR(s) Performance (1-2 pages, suggested)

- a. With reference to the portfolio analysis, describe any major risks in the country and implementation environment that might negatively affect the performance of the proposed interventions including external risks, PR(s) and key implementers' capacity, past and current performance issues.
- b. Describe the proposed risk mitigation measures (including technical assistance) included in the funding request.

#### HIV

There are four key anticipated risks to the implementation environment. These are detailed, below, with proposed mitigation measures.

- i. *Reduction in incentive* For many years, internationally funded HIV projects have supported allowances and salary top-ups for project management and service delivery staff, creating an expectation among the staff of these projects. From 2016, GF will no longer support allowances or incentives for government officers involved in the program, including those at service delivery level. GF will use GVN cost norms for all GF supported activities. Some other donors, however, are reluctant to adopt this policy, which may negatively affect motivation of health care workers.

*Proposed mitigation* Current legislation (Decrees No. 56/2011 and 96/2012) allows for government staff working in TB or HIV to receive an occupational allowance of up to 70% paid by the government, which would compensate in part for previous project support. There is an opportunity to mobilize local government to broader implementation of these Decrees. In addition, GVN will take this opportunity to advocate for harmonization of donors' supported activities towards government cost norm

- ii. *Increased HIV service needs* HIV service needs are estimated to increase annually in the coming years, while available funding continues to decline. Services related to HIV diagnosis and treatment will need to be expanded and decentralized to lower levels (district and commune). The demand for capacity building among health workers for all levels and particularly at district and commune level is substantial.

*Proposed mitigation* Efforts will be taken to mobilize more resources from GVN and other donors to build capacity. To promote efficiencies, all resources should be coordinated within one integrated plan at central and provincial level to allow better use of funding for capacity building. Should above allocation

- iii. *Expansion of HTC* In order to meet ART expansion targets, greater numbers of PLHIV will need to be diagnosed. Reaching undiagnosed PLHIV will become increasingly difficult, given that the easier to reach KAP are likely to already know their HIV status and to undergo periodic testing.

*Proposed mitigation* (i) Mobilize community network including CBO/peers to increase treatment literacy and demand for HTC among KAP; (ii) Hasten the roll-out of point-of-care HIV testing algorithm and expand confirmatory HIV testing at district level; (iii) decentralization of screening HIV testing to communes and communities.

- iv. *OI Treatment* Many PLHIV receive ART and CD4 monitoring through donors, while OI drugs and basic laboratory tests are not supported by GF allocation. It is expected that health insurance to take those costs; however, in reality, health insurance has not been able to pay for those items.

*Proposed mitigation* Recent changes to the health insurance law, including a move towards family coverage and universal coverage, combined with clearer definition of benefit package will likely facilitate health insurance to gain capacity to cover HIV services, including OI drugs and basic laboratory tests.

## TB

For the TB request the main anticipated risks and the proposed mitigations are the following

- i. *Reduction in incentive* Internationally funded TB projects have supported allowances and salary top-ups for project management and service delivery staff, creating an expectation among the staff of these projects. From 2016, GF will no longer support allowances or incentives for government officers involved in the program, including those at service delivery level. For GF supported activities the NTP will use GVN cost norms. Some other donors, however, are reluctant to adopt this policy, which may negatively affect motivation of health care workers for routine program implementation duties

*Proposed mitigation* Current legislation (Decrees No. 56/2011 and 96/2012) allows for government staff working in TB or HIV to receive an occupational allowance of up to 70% paid by the government, which would compensate in part for previous project support. There is an opportunity to mobilize local government to broader implementation of these decrees. In addition, the CCM will advocate for harmonization of donors' supported activities towards government cost norm

- ii. *Lack of financial management capacity* Insufficient capacity at the NTP to manage the planned finance. Currently the NTP central unit annually manages USD14-16 million per year. The NTP is managing these funds responsibly (with GF A1 rating), spending USD6-8 million directly through the activities of the NTP national unit and the remaining funds through sub-recipients and other partners.

*Proposed mitigation:* The aim of the NTP is to continue to manage an activity budget of approximately USD 6-8 million per year (excluding procurement) at national level. Management of the remaining funds will be outsourced to a limited number of trusted and reliable partners to co-implement the National Strategic Plan as sub-recipients for the period 2015-2017 with NFM funding. In addition, the NTP will decentralize more management works to 3 central TB hospitals (Pham Ngoc Thach Hospital, 71 Hospital and 74 Hospital).

- iii. *Insufficient uptake of Xpert testing* due to (resistance to) change in procedures (sending sputum samples to provincial TB Units for testing)

*Proposed mitigation:* Central procurement and distribution of packaging materials, for standardization and to reduce the possibility of stockout; adjustment to M&E tools to account for the number of tests sent, linked to patient based data collection. Strengthening leadership at provincial level to improve the relationship between clinical and laboratory staff in practice and motivate all people by showing benefit of Xpert testing for patients and for TB control as a whole, including community mobilization to increase demand for testing

- iv. *Sample transportation* Currently the sample transportation system is somewhat dysfunctional due to high postage costs and lack of awareness

*Proposed mitigation:* The NTP has had an agreement with the National Post Office on specimen transportation applied nationwide with the same cost as normal goods. The NTP will communicate with the provincial health services to monitor and guide the functioning of the sample transportation system; in addition community mobilization for people to request to be tested and awareness raising and advocacy for fundraising for TB control at

provincial level will increase local pressure and accountability for a well functioning system..

- v. *Procurement and distribution of Xpert Cartridges* The uninterrupted supply of cartridges is essential to the achievement of the NTP objectives. The scale-up will require large quantities of cartridges to reach the provinces in a timely manner.

*Proposed Mitigation:* The NTP has applied Xpert for more than 3 years and the cartridges procurement and distribution is now less difficult. In addition, the NTP has experienced partners such as MSH, KNCV, and CHAI to provide support as needed.

- vi. *Difficulties in procurement of second line TB drugs and ancillary drugs* During scale-up and expansion of PMDT, maintaining an uninterrupted supply of SLD and ancillary drugs while preventing overstocking and expiry of (expensive) drugs may pose a challenge to implementation

*Proposed mitigation:* NTP has been implementing PMDT scale up since 2011 and is well aware of the challenges. NTP has developed strong technical partnerships over the past years, which support smoothly functioning drug procurement. The full implementation and reinforcement of the use of e-TB manager will be an important step in securing adequate PSCM.

- vii. *Discontinuation of GF funding in 06 centers*

*Proposed mitigation:* TB units in 06 centers are integrated into the routine NTP network, functioning like district TB units (for large centers) and commune units (small centers). Basic TB diagnosis and treatment services, including TB drugs and laboratory supplies and M&E will be ensured by the NTP using domestic budget in collaboration with MOLISA, who provides support for infrastructure and human resource. MDR treatment for patients in need will be ensured through collaboration with the provincial TB units, in line with PDMDT expansion .

#### CORE TABLES, CCM ELIGIBILITY AND ENDORSEMENT OF THE CONCEPT NOTE

Before submitting the concept note, ensure that all the core tables, CCM eligibility and endorsement of the concept note shown below have been filled in using the online grant management platform or, in exceptional cases, attached to the application using the offline templates provided. These documents can only be submitted by email if the applicant receives Secretariat permission to do so.

<input type="checkbox"/>	Table 1: Financial Gap Analysis and Counterpart Financing Table
<input type="checkbox"/>	Table 2: Programmatic Gap Table(s)
<input type="checkbox"/>	Table 3: Modular Template
<input type="checkbox"/>	Table 4: List of Abbreviations and Attachments
<input type="checkbox"/>	CCM Eligibility Requirements
<input type="checkbox"/>	CCM Endorsement of Concept Note



# Optimizing Viet Nam's HIV Response: An Investment Case

October, 2014



# **Optimizing Viet Nam's HIV Response:**

## An Investment Case

October, 2014

## Executive Summary

- There has been great progress against Viet Nam's epidemic, but HIV remains a formidable challenge -- AIDS is still among the top causes of premature death.
- Donor funds are shrinking. If bold decisions are not made soon to increase domestic funding, Viet Nam will face a resurgence in HIV infections and AIDS deaths, and very high future resource needs. A gradual, predictable, and responsible transition from donor to domestic funding is required.
- Viet Nam is working toward Ending AIDS by 2030: this means reducing HIV incidence and AIDS-related deaths to levels that no longer represent a major health threat to any population.
- The Investment Case identifies priorities and solutions to increase the effectiveness, efficiency and sustainability of the national response to HIV.
- Priorities:
  1. Bring to scale evidence-based and comprehensive harm reduction for key populations
  2. Scale up HIV testing and treatment, including immediate treatment for key populations
  3. Focus resources on key populations in high-burden areas
  4. Sustainable financing, including increasing the state budget and the role of health insurance
  5. Integration and decentralization of HIV service delivery systems, including health systems strengthening
  6. Sufficient supply of ARV drugs, methadone, reagents and other commodities for the HIV response
- Adopting the above set of priorities and undertaking concrete actions to achieve them can put Viet Nam on course to "Ending AIDS by 2030".

## I. Introduction

The response to HIV in Viet Nam is at a crossroads. Over the past 25 years, significant progress has been made in preventing new infections, reducing AIDS-related deaths, and gradually scaling up harm reduction interventions and treatment and care in high-burden provinces. These achievements have been made through the combination of strong Government leadership across multiple sectors, the participation of affected communities and civil society, and an effective collaboration between the Government of Viet Nam and international development partners.

However, Viet Nam is facing formidable challenges in sustaining the national response to HIV. International donor contributions are shrinking, while domestic resources remain limited. The accumulated number of HIV infections and AIDS-related deaths continue to increase. HIV transmission has new and complex dynamic that make it more difficult for intervention. Stigma and discrimination related to HIV remain significant barriers to service uptake, and program coverage is still limited. Instead of continued progress against the epidemic, there is a real danger of losing hard-fought gains if Viet Nam does not significantly increase domestic investment for HIV in the coming years.

Despite these challenges, Viet Nam aims to achieve the ambitious targets in the National Strategy on HIV/AIDS Prevention and Control in Viet Nam till 2020 with a vision to 2030, which are consistent with the global targets set out in the Political Declaration of the United Nations General Assembly Special Session of 2011. Viet Nam also supports the new treatment target “90-90-90 by 2020” (90% of all people living with HIV will know their HIV status; 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy; and 90% of all people receiving antiretroviral therapy will have durable viral suppression), and the global goal of “Ending AIDS by 2030”.<sup>1</sup>

In light of both Viet Nam’s ambitious goals for its response and the serious challenges remaining, the Ministry of Health’s Viet Nam Administration for HIV/AIDS Control (VAAC) has developed an HIV Investment Case in consultation with development partners and other stakeholders. The Investment Case analyses Viet Nam’s HIV epidemic and response, examines the impact and implications of various future scenarios, and establishes priorities that aim to make the response more effective, efficient and sustainable, toward the global goal of Ending AIDS by 2030.

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1. This means reducing HIV incidence and AIDS-related deaths to levels that no longer represent a major health threat to any population.

## II. Methodology

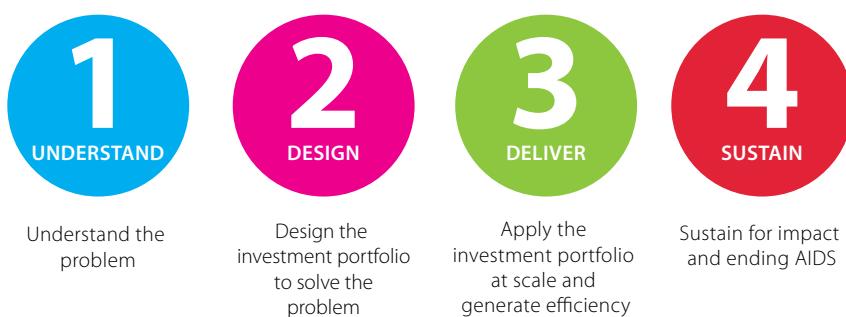
### ***The Investment Approach***

Despite impressive progress across the world, the global HIV response is falling short. In the context of decreasing donor resources for HIV, it has become increasingly clear that global investment in HIV must be more effective, more efficient, and sustainable over the long term.<sup>2</sup>

The “investment approach” provides a way to make this happen. In 2011, a group of stakeholders<sup>3</sup> responded to the above concerns by elaborating an “investment framework” for national responses to HIV.<sup>4</sup> This new approach promotes targeted investment and better priority-setting based on a nuanced understanding of epidemics, combined with interventions that have been proven to work. It relies on the idea that more effective investment is in itself more efficient – in part because it offers “value for money” – and is also offset by gains in terms of the HIV response and by other economic and social gains. In addition, savings will be made over time due to economies of scale and more efficient service provision. The investment approach is based on human rights and universal, equitable service provision, and addresses the stigma and discrimination that serve as barriers to equitable service provision. It is also premised on inclusion, participation, informed consent and accountability.

### ***Development of Viet Nam’s Investment Case for HIV***

Investment Cases prioritize high-impact strategies, and tailor HIV investment to national contexts. This makes investment cost-effective and efficient and ensures that it results in the maximum benefits by basing programming and resource allocation on the best available evidence. UNAIDS promotes a four-step process to support the planning of enhanced investment:<sup>5</sup>



2. Joint United Nations Programme on HIV/AIDS (UNAIDS). *Smart Investments*. 2013.
3. Joint United Nations Programme on HIV/AIDS (UNAIDS); Futures Institute, School of Public Health and Imperial College Business School, Imperial College London; The Global Fund to Fight AIDS, Tuberculosis and Malaria; International Treatment Preparedness Coalition; International Clinical Research Center, Department of Global Health, University of Washington; National AIDS Programme, Brazil; Office of the US Global AIDS Coordinator, US President's Emergency Plan for AIDS Relief; The Bill & Melinda Gates Foundation; UNICEF; Strategic Health Programmes, Department of Health, South Africa; Global HIV/AIDS Unit, Health, Nutrition, and Population, The World Bank; World Health Organization; Institute of Tropical Medicine, Belgium; US Centers for Disease Control and Prevention; International AIDS Society; Family Health International, Great Lakes University of Kisumu; National AIDS Control Council, Kenya; Center for Global Development; The Clinton Foundation.
4. Schwartländer, Bernhard et al. *Towards an improved investment approach for an effective response to HIV/AIDS*. The Lancet, Volume 377, Issue 9782. 2011.
5. Joint United Nations Programme on HIV/AIDS (UNAIDS). *Investing for results. Results for people. A people-centred investment tool towards ending AIDS*. 2012.

The steps identify the people who must be reached, and the basic programmes to reach them, as well as the critical social and programme enablers that are indispensable to making the programmes work effectively.

This process, which is based on country-level evidence and the global understanding of those interventions that have the highest impact, results in a concrete strategy – an Investment Case – to address the most urgent aspects of country-level HIV epidemics effectively, and to ensure that the response to HIV is both efficient and sustainable.

The process of developing Viet Nam's Investment Case was led by the Ministry of Health (Viet Nam Administration for HIV/AIDS Control) starting in April 2014, with collaboration from relevant Government sectors, development partners and civil society. A Steering Committee, composed of representatives of the Ministry of Health, the Viet Nam Union of Science and Technology Associations (VUSTA) and international stakeholders, and a Technical Working Group (see Annex 1 for the list of participants in each group) were established to ensure appropriate levels of technical participation and policy guidance. Inputs were sought from civil society representatives from across the country, including representatives of networks of people living with HIV (PLHIV), people who inject drugs (PWID), female sex workers (FSW) and men who have sex with men (MSM). The consultative process included a meeting to share the draft Investment Case with Government ministries, international partners and civil society.

The analytic work for the Investment Case began with the review and analysis of national and international qualitative and quantitative evidence, as well as global best practice for effective interventions. This included Viet Nam's substantial, recent and rigorous epidemiological and response data, including: National AIDS Spending Assessments (NASA); Integrated Biological and Behavioural Surveys (IBBS); HIV Sentinel Surveillance (HSS) and HSS with a behavioural component (HSS+); national HIV estimations and projections; programme coverage data for high-impact interventions; project and programme evaluations; and other special studies (see Annex 2 for a full list of sources).

Much of the above data were used as inputs for an AIDS Epidemic Model (AEM) exercise.<sup>6</sup> The AEM uses existing data to provide a picture of an epidemic and enables policymakers to estimate the future impact of proposed policies and programme coverage levels, as well as the size of investment required. The Technical Working Group was responsible for collecting and inputting existing epidemiological, behavioural and programme data and the estimated unit costs of existing interventions. Three workshops were held by the Technical Working Group to develop, validate and analyse a baseline model and a set of scenarios for the response (see Annex 3 for a more detailed description of the modelling exercise and unit cost estimations, including the assumptions used and limitations of the model).

In addition to the AEM, the Technical Working Group reviewed the available evidence, coordinated inputs from stakeholders, and relayed analysis and recommendations to the Steering Committee. Senior VAAC leaders chaired two consultations with civil society in the north and south of Viet Nam in order to obtain feedback from PLHIV, PWID, FSW and MSM, as well as people working on HIV in community-based organizations. Input was sought on their priorities for the response in future, including the best ways to ensure that PLHIV and key populations at risk can access the prevention and treatment services they need. The Technical Working Group also contributed to the final analysis of the AEM.

The Steering Committee used the evidence and recommendations provided by the Technical Working Group and civil society to make the final selection of elements and scenarios for Viet Nam's Investment Case. The resulting decisions

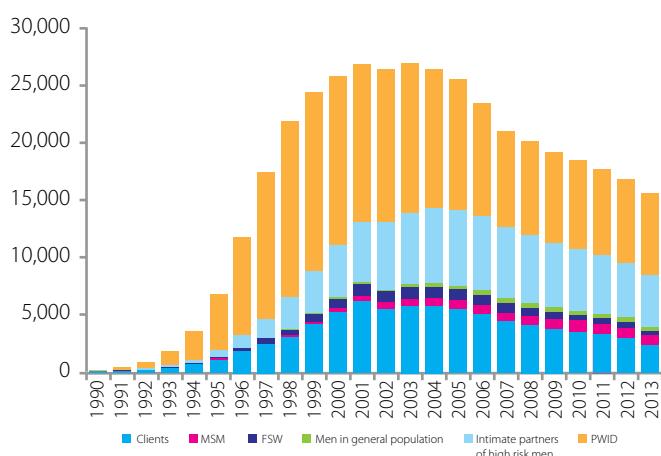
6. For more information on the AIDS Epidemic Model, see: Nalyn Siripong, Wiwat Peerapatanapokin, Robert Puckett and Tim Brown. *Assessing HIV Program Impacts with the AIDS Epidemic Model (AEM). A Tutorial Introduction to the AEM Suite of Tools and Workbooks*. East-West Center Research Program. 21 August 2013.

and priorities are focused on interventions that would achieve the greatest impacts on the HIV response, and on measures to both reduce costs and increase efficiency in order to ensure the sustainability of these interventions.

### III. Viet Nam's response to HIV: progress and challenges

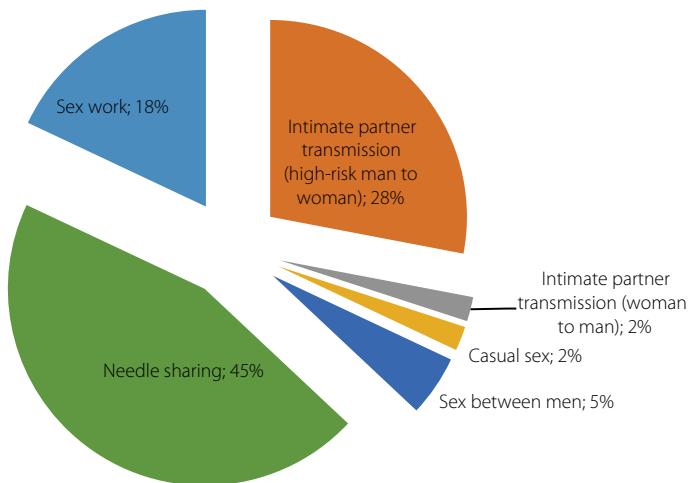
According to 2013 estimations and projections, in 2014 there are an estimated 256,000 people living with HIV (PLHIV) in Viet Nam.<sup>7</sup> The epidemic is concentrated primarily among PWID, MSM and FSW (see Figure 1). In addition, a substantial proportion of all new infections are occurring within intimate partner relationships.<sup>8</sup> Indeed, in 2013 the greatest number of new infections occurred among men who share needles while injecting drugs and between high-risk men and their long-term female sexual partners; 45% and 28% respectively (see Figure 2).<sup>9</sup>

**Figure 1: Annual New HIV Infections: by Risk Population, 1990-2020**



Source: Viet Nam AEM, 2014.

**Figure 2: New HIV infections in 2013 by mode of transmission**



Source: Viet Nam AEM, 2014.

- 7. EPP Technical Working Group, Ministry of Health. *Preliminary results of HIV estimations and projections in Viet Nam 2013, 2013.*
- 8. The term 'HIV transmission in intimate partner relationships' is used to describe the transmission of HIV to women from their long-term male partners who inject drugs, have sex with other men or are clients of sex workers. (UNAIDS, 2009)
- 9. VAAC. Viet Nam AIDS Epidemic Model. 2014.

In 2013, average HIV prevalence among PWID was 10.3%; among FSW it was 2.6%; and among MSM it was 3.7%.<sup>10</sup> These populations are mostly concentrated in large urban centres and mountainous Northern provinces. HIV prevalence varies among areas. For example, HIV prevalence among MSM in Ha Noi and Ho Chi Minh City is estimated to be up to 16%<sup>11</sup> but is only under 2% in other provinces.<sup>12</sup>

### **Successes**

The response to Viet Nam's HIV epidemic has been prioritized through the establishment of a National Committee of senior leaders of relevant ministries and mass organizations who meet regularly under the leadership of a Deputy Prime Minister to guide policymaking and oversee implementation of the national HIV strategy. Directive 54 of the Party's Central Committee Secretariat on Strengthening Leadership on HIV/AIDS and the Law on HIV/AIDS Prevention and Control serve as legal and policy foundations for the multisectoral delivery of HIV services and the protection of the rights of PLHIV. Based on this foundation, the National Strategy on HIV/AIDS Prevention and Control till 2020 with a vision to 2030, the 2012-2015 National Target Programme on HIV/AIDS Prevention and Control, and a comprehensive set of implementing decrees and technical guidelines have been established. Under the direction of the National Committee and with the support of the international community, VAAC guides Provincial AIDS Centres and works with related sectors and organizations to coordinate and implement the national HIV programme from central to local level.

Under this strong and consistent leadership, Viet Nam has achieved important successes against the epidemic. The number of new infections reported to the Ministry of Health decreased rapidly between 2007 and 2009, and has stabilized at around 14,000 per year since 2010.<sup>13</sup> There has been a significant decline in HIV prevalence among PWID thanks in large part to targeted harm-reduction interventions.<sup>14</sup> By the end of 2013, the percentage of PWID among those surveyed and who reported using sterile injecting equipment the last time they injected was 97.3%. In addition, the methadone maintenance therapy (MMT) programme had been expanded to 92 sites in 32 provinces serving 18,000 PWID.<sup>15</sup>

New infections among FSW and their clients have also declined due to condom use and treatment of sexually transmitted infections. Nearly 73% of FSW reported having received free condoms in the last month, and 92% said they used a condom with their most recent client.<sup>16</sup> An evaluation of the scale up of Viet Nam's harm reduction interventions from 2004 to 2009 estimated that between 2% and 56% of potential infections among PWID and FSW were averted by syringe and condom distribution, depending on the level of programme coverage achieved.<sup>17</sup> Behaviour change communication and condom and lubricant distribution targeting MSM have also been rolled out in recent years. In 2013, over 66% of MSM surveyed reported the use of a condom the last time they had anal sex with a male partner, and 41.2% of PWID reported the use of a condom at last sexual intercourse.<sup>18</sup>

Prevention of mother-to-child transmission (PMTCT) services have also improved: in 2013, HIV testing coverage for pregnant women rose to 49.7%, while of an estimated

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- 10. 2013 HIV sentinel surveillance (HSS). In: Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
  - 11. Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
  - 12. EPP Technical Working Group, Ministry of Health. *Preliminary results of the HIV Estimates and Projection in Viet Nam 2013*. 2013. In: Viet Nam
  - 13. Case reports as reported in: Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
  - 14. Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
  - 15. Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
  - 16. HIV sentinel surveillance with a behavioural component (HSS+) and Integrated Biological and Behavioural Surveys (IBBS). 2013. In: Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
  - 17. Viet Nam Administration of AIDS Control (VAAC). *Evaluation of the epidemiological impact of harm reduction programs on HIV in Vietnam*. 2011.
  - 18. HIV sentinel surveillance with a behavioural component (HSS+) and Integrated Biological and Behavioural Surveys (IBBS). 2013. In: Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.

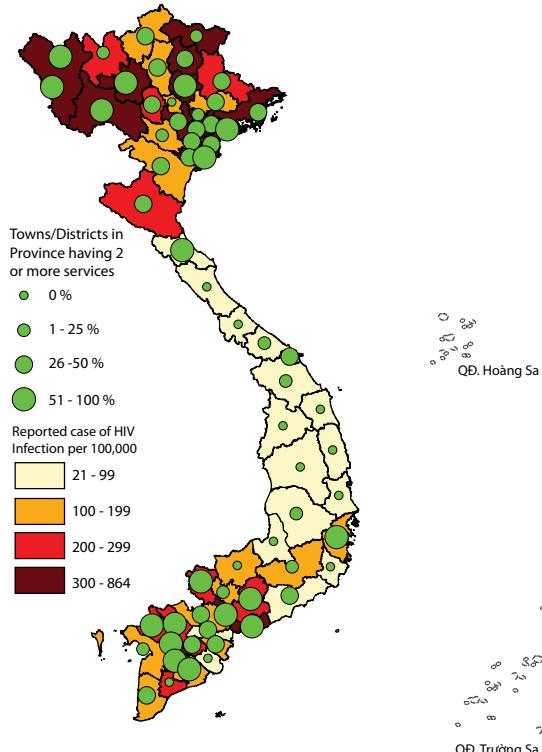
2,981 pregnant women diagnosed as HIV-positive during pregnancy, 1,648 mothers and 1,758 infants received ART for PMTCT. Early infant diagnosis coverage increased to 68%.<sup>19</sup> Finally, AIDS-related morbidity and mortality have been reduced through the scale-up of testing, treatment and care services for PLHIV, which brought antiretroviral treatment (ART) coverage to 68% of those eligible in 2013.<sup>20,21</sup>

AIDS-related morbidity and mortality have decreased thanks to the scale-up of testing, treatment and care of PLHIV. By end of 2013, the ART programme has reached 67.7% of all PLHIV eligible for treatment.

### **Challenges**

Despite these considerable achievements, HIV remains a formidable challenge for Viet Nam. HIV and AIDS constitute a major public health problem, ranking among the top contributors to the national burden of disease, and AIDS is still among the top causes of premature death. There are new and complex transmission dynamics which challenge the response. For example, HIV infections are increasing in remote and mountainous areas, where socio-economic development is not as advanced as in urban areas, people's understanding of HIV and AIDS is limited, transportation is difficult and there is a lack of access to HIV services.

**Figure 3: Number of reported HIV cases per 100,000 people reported and coverage of services**



Source: US Centers for Disease Control (CDC).  
Situation Analysis DRAFT. 2014

Harm-reduction intervention coverage for key populations is still far below the level required to contain the epidemic: according to 2013 HSS+ data, needle and syringe programme coverage is only 29%, while MMT service coverage is only 15% of the need. Similarly, the percentage of FSW who have received free condoms and know where they can be tested is 51%, and of MSM is only 42%.<sup>22</sup>

Investment in HIV prevention has not been sufficiently targeted. According to the most recent expenditure analysis, 19.8% of HIV prevention expenditure in 2011 and 2012 went to programmes targeting PWID, 10.5% of expenditure was targeted at FSW and 1.4% targeted MSM,<sup>23</sup> although these population groups accounted for an estimated 54% of new infections in 2013.<sup>24</sup>

Critically, 28% of new infections occur among a population that receives precious little attention: women who are in long-term sexual relationships with men who are living with HIV, particularly men who have injected drugs, but also men who have sex with men and/or are clients of sex workers.<sup>25</sup> Nearly three-quarters of new infections occur between PWID who share needles, and from PWID to their spouses or regular sexual partners through

- 19. VAAC D28 Routine report. In: Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
- 20. The current eligibility threshold for ART is CD4 <350/mm3.
- 21. VAAC D28 Routine report. In: Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
- 22. *HIV Sentinel Surveillance with behavioural component (HSS+)*. 2013.
- 23. Viet Nam Administration of AIDS Control (VAAC). *National AIDS Spending Assessment 2013*. 2013.
- 24. AIDS Epidemic Model. PWID: 46%, MSM: 6%, FSW: 2%
- 25. Joint United Nations Programme on HIV/AIDS (UNAIDS) and United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). *Measuring Intimate Partner Transmission of HIV in Viet Nam: A Data Triangulation Exercise*. 2012.

intimate partner transmission (IPT). Indeed, it has been estimated that nearly 54% of infections among all women can be solely attributed to the risk behaviour(s) of their male sexual partners.<sup>26</sup> There is evidence that inconsistent condom use among men who inject drugs could be driving IPT, and that where the woman does not know her male partner's serostatus, condom use is particularly inconsistent.<sup>27</sup> However, IPT has received limited attention and investment in prevention efforts to date.

Service coverage, HIV prevalence, new infections and the presence of key populations vary widely across the country. As Figure 3 shows, the coverage of services (ART at outpatient clinics, needle and syringe provision, condom provision and MMT) does not always match the distribution of reported HIV cases per 100,000 people. This means that people in some areas of high need are not being adequately served. The discrepancy between need and coverage is particularly acute in northern mountainous areas with large numbers of PWID, where lack of coverage is compounded by problems of access due to physical barriers and poverty.

Stigma and discrimination are also significant barriers to the uptake of HIV services across Viet Nam. Confidentiality concerns are particularly challenging. In a 2011 survey, nearly 30% of PLHIV said that their serostatus had been disclosed without their consent.<sup>28</sup>

### **Listening to affected people: Stigma and discrimination**

Stigma and discrimination are serious problems for PLHIV and people at higher risk of HIV: the majority of the 1,642 PLHIV surveyed for the 2011 Stigma Index study said that their right to live free of discrimination had been violated.<sup>29</sup>

PLHIV and key population leaders at consultation meetings for the Investment Case were also vocal about the challenges they face. Not only is being HIV-positive stigmatized, but so are risk behaviours. If people's HIV status or risk behaviours are known, they may not only be ostracized by their friends and families, but also denied educational and employment opportunities.<sup>30</sup>

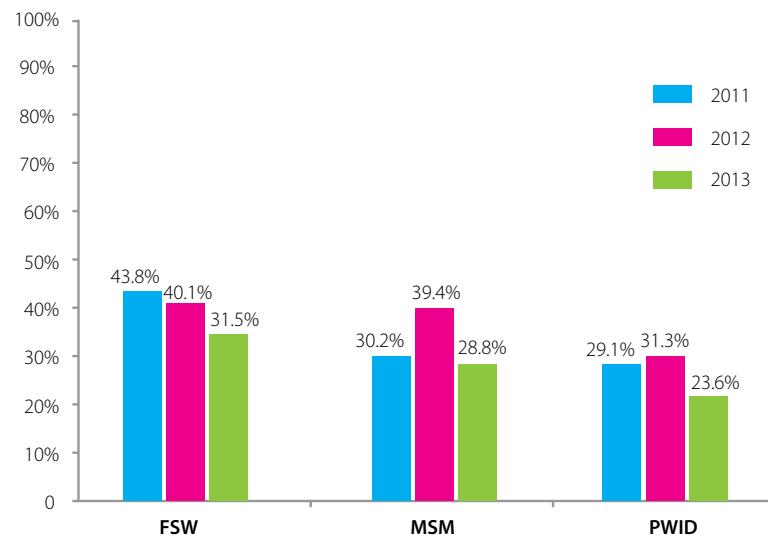
The understandable fear of disclosure and stigma and discrimination is a major barrier to accessing services, including harm-reduction services, but in particular regular testing and early initiation of treatment.

Perceptions about a general lack of confidentiality and fear of stigma and discrimination make many people at high risk of HIV infection very afraid to learn their HIV status. As a result the uptake of testing is still low (see Figure 4), and people being diagnosed are still starting treatment very late. Poor linkages among various HIV services aggravate this problem. As Figure 5 demonstrates, at each stage of the cascade of HIV diagnosis, care and treatment services, fewer and fewer people benefit from services.

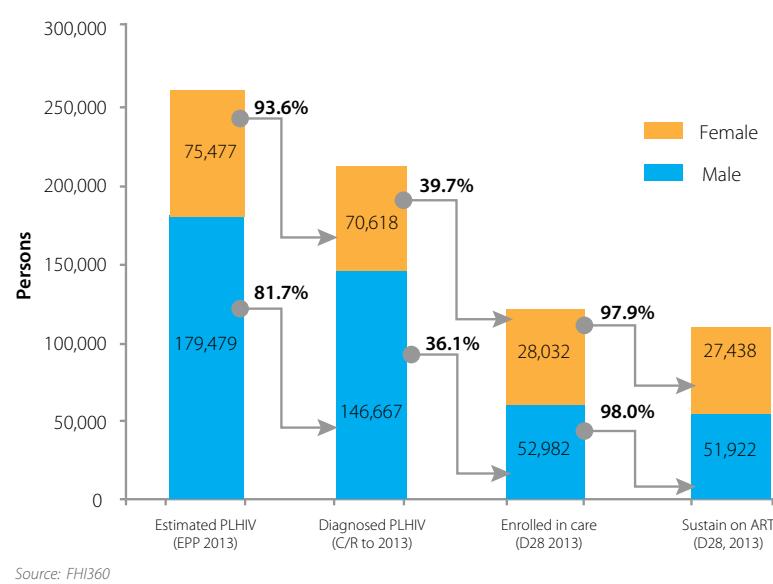
26. Joint United Nations Programme on HIV/AIDS (UNAIDS) and United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). *Measuring Intimate Partner Transmission of HIV in Viet Nam: A Data Triangulation Exercise*. 2012.
27. Joint United Nations Programme on HIV/AIDS (UNAIDS) and United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). *Measuring Intimate Partner Transmission of HIV in Viet Nam: A Data Triangulation Exercise*. 2012.
28. Viet Nam Network of People Living with HIV (VNP+). *Viet Nam Stigma Index*. 2012
29. Viet Nam Network of People Living with HIV (VNP+). *Viet Nam Stigma Index*. 2012
30. Viet Nam Network of People Living with HIV (VNP+). *Viet Nam Stigma Index*. 2012

This means that the preventive benefits of treatment are being lost. There is substantial global evidence that early initiation of ART not only keeps PLHIV healthier and more productive, but also lowers the amount of virus in their blood, reducing the risk of transmission.<sup>31 32</sup>

**Figure 4: Percentage of key populations who were tested for HIV within the past year and know the results**



**Figure 5: Cascade of HIV diagnosis, care and treatment services**



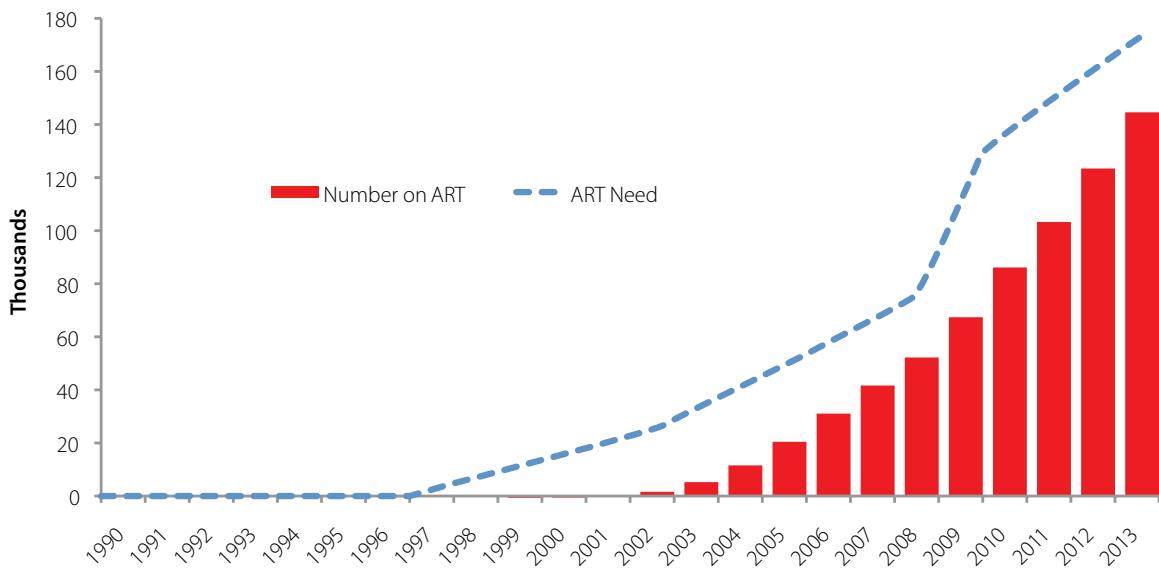
As more people become infected with HIV, efforts to expand access to treatment are struggling to keep pace. There is an increasing gap between ART need and ART coverage (see Figure 6), making the procurement of the necessary antiretroviral (ARV) drugs increasingly challenging, especially since the donors who have historically provided the majority of these commodities are expected to reduce or completely withdraw their support. Similarly, the continued implementation of MMT services will be affected by methadone procurement issues.

31. World Health Organization (WHO). *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: Recommendations for a public health approach*. 2013.

32. World Health Organization (WHO). *Antiretroviral treatment as prevention (TASP) of HIV and TB - Programmatic update*. 2012.

A major barrier to further progress in terms of both prevention and treatment is that HIV services are not well-integrated within the public health care system or coordinated with other services (such as tuberculosis diagnosis and treatment or maternal and child health services). This means that opportunities to reach more people with services and to make services sustainable are being lost, at least in part.

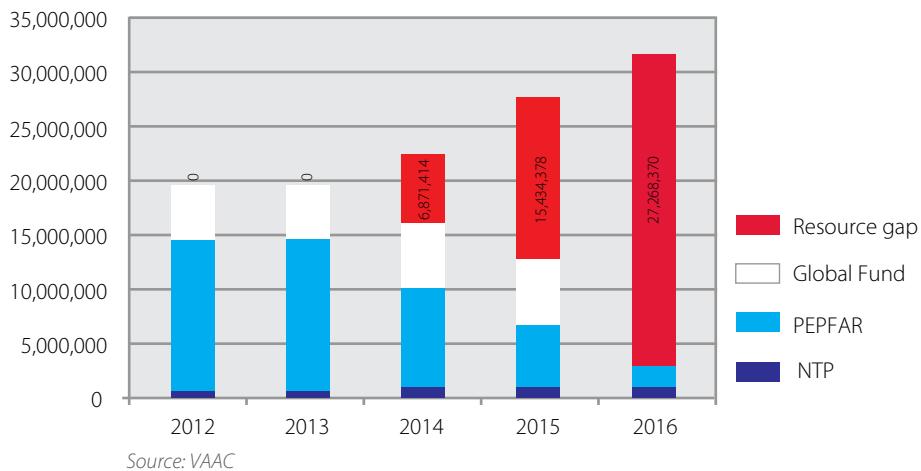
**Figure 6: Scale up of ART and increasing number of PLHIV in need**



Sources: VAAC ART programme data and analysis, 2014. Viet Nam AEM

Finally, and crucially, the challenge of rapidly declining donor contributions is in itself a major threat to Viet Nam's progress against HIV. The country currently relies on donors for approximately 75% of the funding spent on the HIV response. However, the global recession and Viet Nam's status as a middle-income country have meant that important donors such as the World Bank and the United Kingdom's Department for International Development (DFID) have recently ended their HIV programmes, and Viet Nam's biggest donors for the HIV response – the United States through the President's Emergency Programme for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, TB and Malaria (the Global Fund) – have indicated that Viet Nam will likely receive increasingly limited support in the coming years. This issue has been recognized by senior Government officials, and in 2013 a Project on Sustainable Financing for HIV/AIDS Prevention and Control Activities in 2013-2020 Period was endorsed by the Prime Minister of the Government. Among the project's objectives is to use domestic resources for 50% of total spending on HIV and AIDS prevention and control by 2015 and for 75% of total spending by 2020. Viet Nam has not been able to confirm the level of investment in HIV for the period 2016-2010. In addition, domestic funding for the National Targeted Programme for HIV was cut by the National Assembly. As a result, it is anticipated that there will be a dramatic widening of Viet Nam's resource gap from \$6.9 million in 2014 to \$27.3 million in 2016 (see Figure 7). This situation presents a major threat to the sustainability of current achievements, and to future progress in preventing new infections and providing treatment for PLHIV.

**Figure 7: HIV commitments and funding gap, 2012-2016**



At present, the majority of points of service for HIV are largely funded through donor projects, which cover service modalities to medicines, funds for operation and facilities, as well as a significant portion of the human resources costs. Therefore in the future, when HIV services are transitioned to domestic funding, there will be a shortage of both funding and trained staff because the majority of project staff are not part of the formal health human resources system. Furthermore, following the transition from donor to domestic funding, it is unlikely that the health care units in the public health system will be able to easily recruit more staff; at least for the near-future, they will only be able to use existing human resources to cover the additional HIV services. This shortage in trained staff on HIV after transition from donor to domestic funding is a particular worrying challenge.

## IV. Scenarios for the future of HIV in Viet Nam

The Technical Working Group of national and international experts used the AEM to develop a detailed picture of Viet Nam's epidemic and to examine the future impact of various scenarios of investment and scale up (see Annex 3 for the full details of this process). The Steering Committee selected the optimal scenario for Viet Nam's epidemic, and used the scenarios to make informed decisions on related policy and programme options.

### ***Generating scenarios for analysis***

Four of the total 23 scenarios generated in the AEM exercise modelled a "worst-case" situation showing what will happen if international donors leave too fast and the Government of Viet Nam does not invest additional resources for the HIV response.<sup>33</sup>

The remaining 19 of the 23 scenarios generated were grouped into three categories:

1. "Baseline" – this is the model of the current response projected forward. It was used to judge the impact of scaling up individual harm-reduction and treatment interventions.

33. Assumptions: 25.5% FSW receiving condoms and knowing where to get a test, 14.5% PWID served by NSP, 10% of PWID on MMT (assumption: other costs will be covered by PWID), 21% MSM receiving condoms and knowing where to get a test (assumption: a proportion of PWID, MSM and FSW will continue to buy commodities for themselves), and 60% of those eligible at CD4 350 receiving ART.

2. "Halfway to the National Targets" – this is a model of what will happen if the National Targets can only be met halfway (i.e. 50% from the baseline). It was used to gauge the effects of limited investment in the response.
3. "National Targets" – this is a model of the scale-up of interventions to fully achieve the targets within the "National Strategy on HIV/AIDS Prevention and Control to 2020 with a Vision to 2030". It was used to gauge the effects of greater investment in different combinations of interventions and estimate the resource needs for scale-up. The "National Targets" scenario includes bringing prevention interventions fully to scale.

### **Saving lives and increasing cost effectiveness**

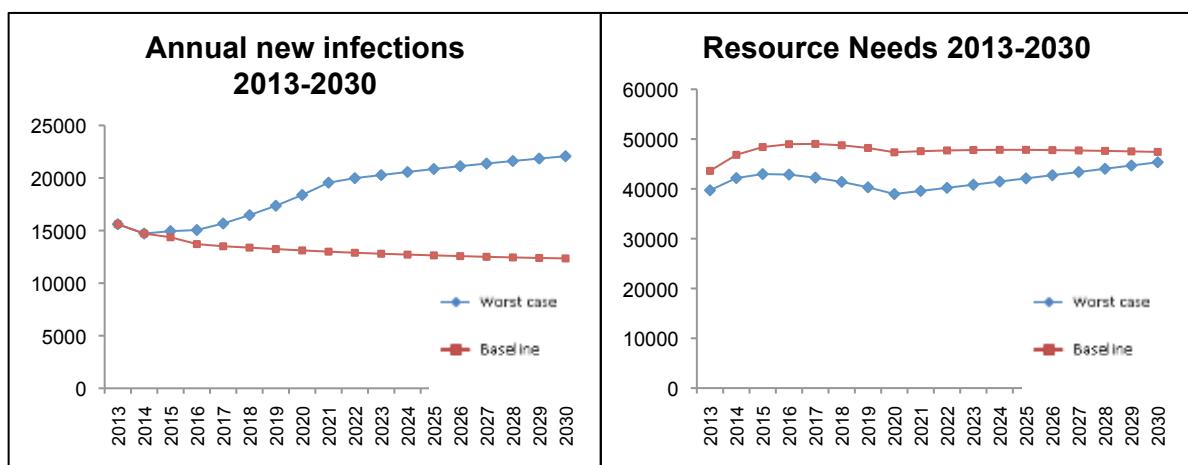
Averting new HIV infections and AIDS-related deaths are the key criteria for success in the response. The AEM analysis measured new infections and deaths averted to 2030 for each AEM scenario, as well as the level of investment required to achieve these gains.

The AEM was also used to calculate the economic benefits gained or lost under each scenario. This was measured in disability-adjusted life years (DALYs). A DALY is equal to one year of healthy (and productive) life. In economic terms, one DALY saved in Viet Nam translates to one year of earned per capita GDP – currently approximately US\$ 1,960 – and every HIV infection averted in Viet Nam saves an average of 27 DALYs, amounting to US\$ 52,920. The AEM therefore calculated the cost-effectiveness of each scenario by estimating how many DALYs (and thus how much economic productivity) are gained compared to the amount of money invested<sup>34</sup>. The analysis also took into account the World Health Organization (WHO) guidance that a very cost-effective HIV intervention invests less in saving one DALY than the equivalent of one year's per capita GDP.<sup>35</sup>

### **The worst-case scenario: failing to invest**

As outlined above, Viet Nam is facing a dramatic widening of its resource gap, as international donors are withdrawing and domestic funding has yet to increase. The worst-case scenario clearly shows that failing to invest in the response will lead to a rapid expansion of the epidemic, with annual new infections soaring to over 20,000 by 2030.

**Figure 8: Comparison of baseline and worst-case scenarios**



34. In this analysis, DALYs saved was calculated only based on the number of new infections averted by each scenarios. It did not take into consideration the deaths averted among those who had already been infected with HIV. A change to initiating ART at CD4 counts above 350 cells would also reduce mortality. For both these reasons, some of the DALY estimates are likely conservative.

35. According to the WHO, per capita spending on interventions that is less than GDP per capita is "very cost-effective"; where it is equivalent to 1-3 times GDP per capita it is "cost-effective"; and it is "not cost-effective" when it is greater than 3 times GDP per capita. See, for example, [http://www.who.int/choice/costs/CER\\_levels/en/](http://www.who.int/choice/costs/CER_levels/en/)

***Saving lives, saving DALYs, saving money: finding the right balance***

Based on the comparison criteria, the AEM analysis highlighted five scenarios that offer a good balance between saving lives, saving DALYs and optimizing investment. In ascending order of effectiveness, these are:

**Scenario 1:** Baseline + adding 80% coverage of immediate treatment (at CD4/1000) for key populations and treatment at CD4<350 for other PLHIV. Investment needed for this scenario is at an average of USD 61 million/year for the period of 2014-2030. This investment will reduce annual new HIV infections to 7,700 cases by 2020 and to 4,550 cases by 2030. **A total of 87,177 HIV infections will be averted during 2014-2030, saving 2,371,000 DALYs or USD 4,647,160,000 in economic terms.**

**Scenario 2:** Halfway to National Targets + 80% coverage of ART (at CD4/1000) for key, and treatment at CD4<350 for other PLHIV. Investment needed for this scenario is at an average of USD 72 million/year for the period 2014-2030. This investment will reduce new HIV infections to 5,550 cases by 2020 and to 2,450 cases by 2030. **A total of 118,299 HIV infections will be averted during 2014-2030, saving 3,218,000 DALYs or USD 6,307,280,000 in economic terms.**

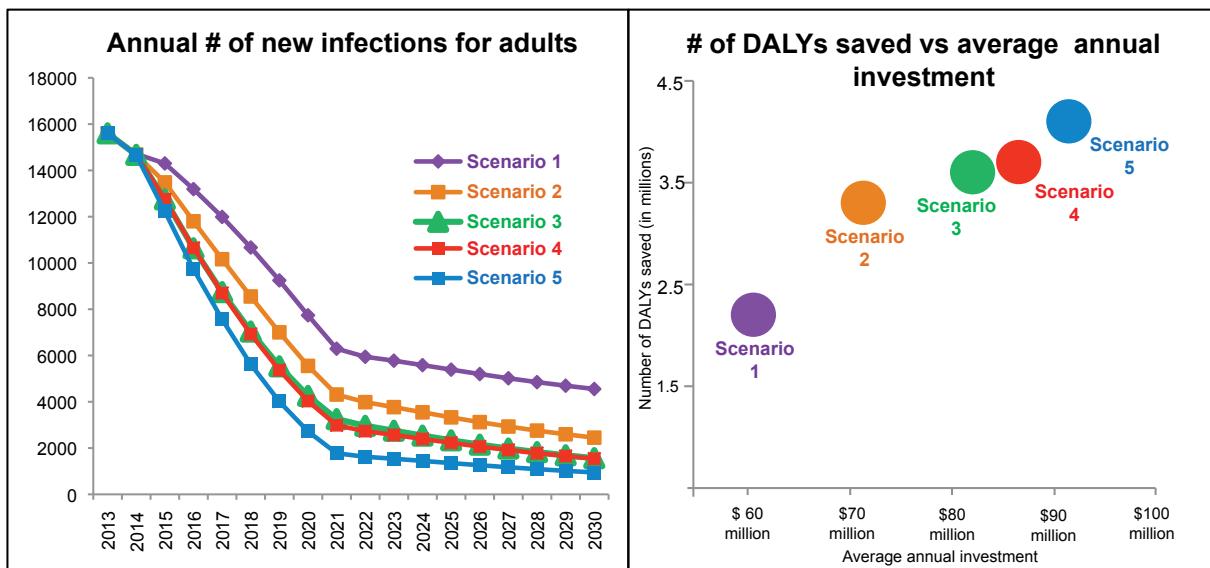
**Scenario 3:** National Targets + 80% coverage of ART (CD4/1000) for key populations. Investment needed for this scenario is at an average of USD 83 million for the period 2014-2030. This investment will reduce new HIV infections to 4,255 cases by 2020 and to 1,560 cases by 2030. **A total of 135,665 HIV infections will be averted during 2014-2030, saving 3,690,000 DALYs or USD 7,232,400,000 in economic terms.**

**Scenario 4:** National Targets + 80% coverage of ART (CD4/1000) for key populations and 80% of ART coverage at CD4/500 for other PLHIV. Investment needed for this scenario is at an average of USD 88 million/year for the period 2014-2030. This investment will reduce new HIV infections to 4,030 cases by 2020 and to 1,540 cases by 2030. **A total of 137,385 HIV infections will be averted during 2014-2030, saving 3,737,000 DALYs or USD 7,324,520,000 in economic terms.**

**Scenario 5:** "Ending AIDS": "National Targets" + 80% treatment coverage for all at CD4 1000, 65% NSP coverage, 35% MMT coverage, and positive prevention<sup>36</sup> for serodiscordant couples. Investment needed for this scenario is at an average of USD 92 million/year for the period 2014-2030. This investment will reduce new HIV infections to 2,720 cases by 2020 and to 950 cases by 2030 (less than 1,000 new infections/year is provisionally seen as the "end" of AIDS). **A total of 152,583 HIV infections will be averted during 2014-2030, saving 4,150,000 DALYs or USD 8,134,000,000 in economic terms.**

It is clear from this analysis that immediate ART for key populations is always effective in reducing new infections or in saving DALYs. It is equally clear that, all other interventions being equal, increasing coverage of harm-reduction interventions also increases effectiveness.

36. 80% coverage of long-term sexual partners of PLHIV

**Figure 9: Five scenarios – annual new infections, DALYs saved and average annual investment**

### Ending AIDS by 2030

Finally, the analysis showed that **the most effective approach** in terms of impact on the epidemic (both in terms of saving lives and in cost-effectiveness as judged by the number of DALYs saved) is scenario 5: "Ending AIDS". The elements of the "Ending AIDS" scenario are: achieving  $\geq 65\%$  NSP coverage,  $\geq 35\%$  MMT coverage,  $\geq 80\%$  coverage for all at CD4 1000 and positive prevention<sup>37</sup> for sero-discordant couples. This approach shows that if Viet Nam invests an average of USD 92 million a year, new HIV infections could be reduced to under 1,000 per year by 2030 and HIV will no longer be a major public health threat.

37. 80% coverage of long-term sexual partners of PLHIV

## V. Optimizing Viet Nam's HIV response to achieve national targets and goals

Taking Viet Nam's many significant challenges into account, it is clear that targeted interventions, which are selected according to evidence of impact and global best practice, are required if Viet Nam is to get on track toward "Ending AIDS by 2030".

"Ending AIDS" is a vision which can be achieved by an extremely effective response. Based upon this vision, the Steering Committee has agreed upon a set of realistic priorities that can address the key questions of where to invest, for whom to invest, and how to invest to have the greatest impact on Viet Nam's HIV response. These priorities are based on a wealth of national and international evidence, combined with the results of the AEM exercise – which clearly established the benefits of a primary focus upon and scaling up of both harm reduction and ART in reducing new infections and deaths in Viet Nam.

The first two of the six priorities adopted by the Steering Committee are programmatic, and aim to increase the effectiveness of the response for PLHIV and key populations. The third, fifth and sixth priorities aim to make the HIV response more efficient, and the fourth priority calls for much greater domestic investment to ensure the sustainability of the response. Together, implementation of these six priorities will maximize the results achieved from national and international investment in Viet Nam's HIV response, and support the achievement of the country's overall aim of "Ending AIDS by 2030".

### **Priority 1: Bring to scale evidence-based and comprehensive harm reduction for key populations**

#### **Needle and syringe programme**

Ensuring the consistent use of sterile needles and syringes is the single most important way to prevent HIV among PWID. The WHO states that the evidence in support of needle and syringe programmes (NSPs) for HIV prevention is overwhelming; that there is no persuasive evidence that NSPs increase injecting drug use at either the individual or societal level; and that NSPs can increase recruitment into drug dependence treatment and primary health care.<sup>38</sup> The WHO and other technical agencies stress that evidence from both developed and transitional countries clearly shows that NSPs are also relatively inexpensive and cost effective when they are well-designed and implemented.<sup>39 40</sup>

Viet Nam's experience is consistent with this international evidence. Significant decreases in HIV prevalence among PWID in recent years are attributable in large part to the steady increase in needle and syringe distribution from 2000 to 2012. A recent evaluation estimated that Viet Nam's needle and syringe programme averted nearly 31,000 HIV infections and saved more than 16,000 life years.<sup>41</sup> However, there has been inconsistency in the results achieved by needle and syringe distribution efforts. In some provinces, despite the availability of free needles and syringes, high HIV

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38. World Health Organization (WHO). *Effectiveness of sterile needle and syringe programming in reducing HIV/AIDS among injecting drug users*. 2004.
  39. World Health Organization (WHO). *Effectiveness of sterile needle and syringe programming in reducing HIV/AIDS among injecting drug users*. 2004.
  40. Nguyen, Trang Quynh et al. *Syringe Exchange in the United States: A National Level Economic Evaluation of Hypothetical Increases in Investment*. 2014.
  41. An evaluation of one of Viet Nam's largest HIV-prevention projects estimated that needle and syringe distribution averted 30,957 HIV infections and 872 HIV-related deaths. The societal impact of this needle and syringe programme – which operated in 21 of the highest-HIV-burden provinces before closing at the end of 2013 – has been estimated at 16,395 DALYs saved, which would have been lost through ill-health, disability or early death if the drug users had not received the needles and syringes provided by the project.

prevalence persists among PWID. Interviews with drug users reveal that many continue to purchase the majority of their needles from pharmacies and other outlets.<sup>42</sup> Former and current drug users reported that PWIDs in different regions have different preferences for needles and syringes and the NSP should understand better the need of PWIDs.

### **Listening to affected people:**

#### **We need the right tools at the right time to protect ourselves from HIV**

Drug users at the Investment Case consultations explained that most of the needles and syringes distributed for free are good quality, but some are a type that waste a lot of heroin, which make them much less desirable than "red cap" low-dead-space needles available in some pharmacies. These comments were consistent with the findings of the World Bank/DFID project evaluation, which also noted that low-dead-space needles reduce the amount of blood that is drawn back into the syringe before injection, and are thus less likely to lead to HIV transmission if needles are shared.<sup>43</sup>

These insights shed light on the different findings in behavioural surveys and programme data. For example, drug users participating in focus-group discussions for the evaluation of the World Bank/DFID project reported that, despite the availability of free needles, they bought more than half of their injecting equipment from pharmacies.<sup>44</sup>



Drug users at the Investment Case consultation also pointed out that pharmacies close at 9pm. If they inject later that night or early in the morning, they are more likely to share needles. Peer outreach workers provide free needles after hours, but according to provincial programme managers, the free distribution of

needles and syringes through peer outreach workers is too expensive to be maintained if there is no donor money.

Civil society participants at the Investment Case consultation proposed a solution to this challenge: they are willing to serve as needle and syringe distributors to their drug-using peers. If these needles are provided through a social marketing model, the small profits they make from the sale of the needles will serve as payment. These social marketing models have been successful in reducing needle sharing in Hanoi, Ho Chi Minh City and Thai Nguyen, and a recent pilot conducted in Viet Nam also suggests that such an approach should be applied more broadly.<sup>45</sup>

Moving forward, it will be important to consider the views of drug users and harm reduction service providers, as well as global programming guidance,

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42. Zhang, Lei et al. *Evaluation of a decade of DFID and World Bank supported HIV and AIDS programmes in Vietnam from 2003 to 2012*. 2013.
  43. See also: *All You Wanted to Know About Needles But Were Afraid To Ask* at <http://harmdeduction.wordpress.com/2010/08/09/all-you-wanted-to-know-about-needles-but-were-afraid-to-ask/> (2010) accessed 11 July 2014.
  44. Zhang, Lei et al. *Evaluation of a decade of DFID and World Bank supported HIV and AIDS programmes in Vietnam from 2003 to 2012*. 2013.
  45. PSI/Vietnam Research & Metrics. *2013 Behavioral survey among male injecting drug users from three provinces in Vietnam*. Summary Report. 2014.

as NSP efforts in Viet Nam are refined for optimal effectiveness. For example, one of the innovations successfully trialled in Viet Nam is the maximization of access and availability of needles and syringes through a range of distribution methods, including: peer educators; fixed boxes and other “secret” sites for needle exchange; tea stalls; a pharmacy voucher system; health care service distribution (VCT clinics, STI clinics, OPC clinics and primary health care centres); and entertainment services.<sup>46 47</sup> A recent pilot of the sale of subsidized needles and syringes through pharmacies has also shown promising results.<sup>48</sup> Scaling up such innovations can help to ensure sustainable and full coverage of these essential and affordable commodities.

#### Follow-up actions

- Allocate resources for the scale up of needle and syringe distribution to reach at least 65% of PWID, particularly in provinces with large populations of PWID
- Explore distribution modalities, including:
  - ◊ Diversify the free distribution of needles and syringes especially for mountainous areas, gradually scale up of social marketing of needles and syringes in urban areas, ensuring that socially marketed needles and syringes meet the demands of PWID in terms of quality and price
  - ◊ Engaging civil society organizations in the distribution of needles and syringes to PWID at the right places and the right time

#### **Methadone maintenance therapy (MMT)**

MMT and other opioid substitution therapy (OST) reduces injecting drug use and needle sharing, and hence exposure to HIV infection: globally, OST has been associated with a 54% reduction in the risk of HIV infection among PWID.<sup>49</sup> MMT has also been associated with reductions in the proportion of PWID who report multiple sex partners or exchanges of sex for drugs or money – which also reduces exposure to HIV – and there is evidence that it enhances adherence to ART and at the same time significantly contribute to social security and socio-economic development.

In Viet Nam the experience has been similar. A cohort study of methadone patients in Hai Phong and Ho Chi Minh City saw a reduction in illegal drug use from 100% at enrolment to 19-26% after six months. As well as reducing heroin use, the MMT programme in Viet Nam appears to be achieving significant harm-reduction benefits. Among the patients who still injected drugs, none reported sharing needles and syringes. Condom use among MMT patients with regular partners and with sex workers increased, particularly with sex workers.<sup>50</sup> A WHO study in two provinces showed that male PWID receiving MMT are more likely to be enrolled in care and to have initiated ART, and have a higher retention rate than those not receiving MMT.<sup>51</sup>

The benefits of the MMT programme will need to be protected, and access increased for both men and women who inject drugs. Legislation already exists to simplify enrolment in the programme (under Decree 96/2012/NĐ-CP), but further implementation is needed.

46. Zhang, Lei et al. *Evaluation of a decade of DFID and World Bank supported HIV and AIDS programmes in Vietnam from 2003 to 2012*. 2013.
47. Nguyen, Thi Minh Tam (VAAC). *Viet Nam Experience in Scaling Up Access to Harm Reduction Services*. Presentation to ICAAP. 2013.
48. Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.
49. Macarthur, Georgina J. et al. Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis. 2012.
50. FHI360. *Effectiveness evaluation of the pilot program from treatment of opioid dependence with methadone in Hai Phong and Ho Chi Minh cities, Vietnam*. 2014.
51. Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.

In order to maintain the programme following the withdrawal of international funds, a co-pay system for MMT has been piloted in two provinces, with patients contributing to treatment costs. This system, alongside a scale-up of national methadone production (see below), will help to increase coverage in line with the national target of 80,000 PWID on MMT by 2015 and to make the programme sustainable.

### **Follow-up actions**

- Provinces to develop plans and allocate resources for the scale up of MMT services to meet the national target, including:
  - ◊ introducing MMT services in high-need districts/provinces where they are currently unavailable
  - ◊ introducing MMT services to facilities under the management of the Ministry of Public Security and Ministry of Labour, Invalids and Social Affairs
- Provide training for relevant staff to increase implementation of Decree 96/2012/NĐ-CP
- Scale up MMT co-pay modality in all provinces with MMT service
- Put in place mechanisms for the involvement of private health providers in MMT provision

### **Condom programmes**

Condoms are a proven tool to prevent the sexual transmission of HIV, when used consistently and correctly.<sup>52</sup> Under the World Bank/DFID project in Viet Nam, for example, the distribution of free condoms to FSW averted an estimated 1,585 infections and 42 HIV-related deaths.<sup>53</sup> National data indicate that 92% of FSW reported the use of a condom with their most recent client.<sup>54</sup>

However, condom use among MSM and PWID remains relatively low, with only 66.4% of MSM surveyed reporting the use of a condom the last time they had anal sex with a male partner,<sup>55</sup> and 41.2% of PWID reporting the use of a condom at last sexual intercourse. It is therefore important to maintain access to condoms for FSW, and increase access for MSM and PWID – and the sexual partners of men living with HIV and men with high-risk behaviours, particularly PWID. In addition, street-based FSW face additional barriers to condom use, as they are particularly poor and rely on the provision of free condoms. According to some evidence, up to 40% of street-based FSW in some locations in Viet Nam also inject drugs, making them less likely to seek out condoms and much more vulnerable to HIV.<sup>56 57</sup>

The total market approach provides a sustainable method of ensuring condom coverage, and has already been piloted in Viet Nam. This approach is a system for delivering products – in this case, condoms and lubricant – through all market sectors: public provision; social marketing; and businesses. The goal is to ensure that everybody in need is reached – the poorest receive free condoms, the less poor can access subsidized condoms and those who can pay, do.<sup>58</sup> This increases efficiency, as public funds for free/subsidized condoms are spent where they are most needed, and funds raised from social marketing can be reinvested in the project. Meanwhile, the commercial sector is not “crowded out” of condom provision, can provide a greater choice of condoms and lubricant for those who can afford it, and can more easily respond to increases in demand.<sup>59</sup>

52. Joint United Nations Programme on HIV/AIDS (UNAIDS), United Nations Population Fund (UNFPA) and World Health Organization (WHO). *Condoms and HIV prevention: Position Statement*. 2009.

53. Zhang, Lei et al. *Evaluation of a decade of DFID and World Bank supported HIV and AIDS programmes in Vietnam from 2003 to 2012*. 2013.

54. HIV sentinel surveillance with a behavioural component (HSS+) and Integrated Biological and Behavioural Surveys (IBBS), 2013. In: Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.

55. Please note that data on MSM in Viet Nam remain sparse, despite recent small-scale studies.

56. Zhang, Lei et al. *Evaluation of a decade of DFID and World Bank supported HIV and AIDS programmes in Vietnam from 2003 to 2012*. 2013.

57. PSI/Vietnam Research & Metrics. *Vietnam (2011). Behavioral survey among female sex workers and female sex workers who inject drugs. Round 2. Summary Report*. 2012.

58. PSI. *What is the Total Market Approach?* <http://www.psi.org/total-market-approach> accessed 18 July 2014.

59. Pollard, Richard. *Total Market Approach: Condom Programming in Vietnam*. Presentation. 2011.

The social marketing of condoms in Viet Nam has already had some success through the National Comprehensive Condom Programme and the World Bank/DFID project. In addition, FSW and MSM at the Investment Case civil society consultations indicated that socially marketed and even non-subsidized condoms and lubricant are acceptable to them, provided they are of good quality and available when they are needed. The total market approach helps to increase access, as condoms and lubricant are made readily available through pharmacies and other retail outlets.

#### Follow-up actions

- Develop plan and allocate resources to further expand coverage of the condom program
- Put in place and implement a “total market approach” to condom provision
  - ◊ Provide free quality condoms to street-based sex workers only
  - ◊ Ensure availability of socially marketed quality condoms and lubricant to other SW, PWID and MSM and the sexual partners of men living with HIV and men with high-risk behaviours, particularly PWID, through appropriate retail outlets
- Maintain outreach and behaviour change communication for FSW, PWID and MSM (and the sexual partners of men living with HIV and men with high-risk behaviours, particularly PWID) on condoms and HIV prevention
- Introduce a quality assurance mechanism for male condoms, including attention to the condom procurement system

#### **Priority 2: Scale up HIV testing and treatment, including immediate treatment for key populations**

There is substantial evidence that increasing coverage of antiretroviral treatment not only keeps PLHIV healthier and more productive, but that it is also an important tool for HIV prevention. Global evidence suggests that each dollar invested in HIV treatment generates economic returns of up to three dollars by increasing productivity, preventing children from becoming orphaned and deferring the health care costs associated with advanced HIV-related illnesses, and that expanding ART eligibility is cost effective in the long term.<sup>60 61</sup> Increased HIV testing and linkages to care for key populations have also been shown to be very cost-effective in concentrated epidemic contexts.<sup>62</sup> The AEM scenario comparison demonstrated that immediate ART for key populations was always cost-effective.

Increased coverage of ART has been associated across the world with significant declines in the rate of new infections.<sup>63</sup> Maximizing the preventive benefits of ART requires early initiation, and early initiation depends on early diagnosis: the sooner a person living with HIV knows his or her status, the sooner s/he can begin treatment.<sup>64 65</sup> The AEM exercise showed that 152,583 new infections – and 103,996 deaths – could be averted by 2030 if the response is scaled up in line with the “Ending AIDS” scenario.<sup>66</sup>

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60. Resch, S. et al. *Economic returns to investment in AIDS treatment in low and middle income countries*. 2011
  61. Eaton, Jeffrey W. et al. *Health benefits, costs, and cost-effectiveness of earlier eligibility for adult antiretroviral therapy and expanded treatment coverage: a combined analysis of 12 mathematical models*. Lancet Global Health 2014; 2: e23–34. 2013
  62. Eaton, Jeffrey W. et al. *Health benefits, costs, and cost-effectiveness of earlier eligibility for adult antiretroviral therapy and expanded treatment coverage: a combined analysis of 12 mathematical models*. Lancet Global Health 2014; 2: e23–34. 2013
  63. Joint United Nations Programme on HIV/AIDS (UNAIDS). *Strategic use of antiretroviral medicines for treatment and prevention of HIV*. UNAIDS/PCB (33)/13.18, 21 November 2013, pg 9.
  64. World Health Organization (WHO). *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: Recommendations for a public health approach*. 2013.
  65. World Health Organization (WHO). *Antiretroviral treatment as prevention (TASP) of HIV and TB - Programmatic update*, 2012.
  66. Compared to the baseline (current coverage of treatment and prevention, projected to 2030)

The AEM analysis and the “Ending AIDS” scenario are consistent with the new “90-90-90” treatment target, initiated by UNAIDS and due by 2020:

- 90% of all people living with HIV will know their HIV status.
- 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy.
- 90% of all people receiving antiretroviral therapy will have durable viral suppression.

Viet Nam currently has both low levels of HIV testing among key populations (see Figure 4 on page 9) and late initiation of ART. Increased treatment coverage and early initiation will require increased testing coverage for key populations, improved referral for timely enrolment in treatment, and increased adherence to maximise health benefits and ensure viral loads are reduced to levels where transmission is unlikely. Routine viral load monitoring needs to be scaled-up to improve diagnosis treatment failure.

An innovative “test-and-treat” programme for key populations will help to increase testing and early initiation. This means ensuring that key populations take regular HIV tests twice a year, that all those diagnosed HIV-positive are treated immediately (regardless of their CD4 count) and that PLHIV adhere to treatment. HIV testing services will need to be confidential, given concerns over status disclosure and stigma and discrimination from health staff.<sup>67</sup> Increased use of rapid test kits in community settings will improve the return of results.

The programme will be part of broader efforts to improve the management of diagnosis and treatment by improving service linkages across the “reach, test, treat and retain” cascade. This will require close collaboration between testing and treatment providers and members of key populations and PLHIV communities, since many of those in need are hard to reach due to the stigma attached to their risk behaviours. Establishing peer-support mechanisms for ART patients will help to ensure follow-up and adherence. Key elements of testing and treatment interventions will include:

- A review of existing peer outreach programmes (including training and incentives);
- Giving key population and PLHIV civil society organizations greater responsibility to reach their peers;
- Increased use of mobile HIV counselling and testing modality for areas with a large number of key populations and difficult transportation, and work with community-based organizations and self-help groups for improvement of HIV counselling and referral to HIV testing at health clinics;
- Establish a policy for more frequent viral load testing.

Finally, given the increase in IPT of HIV (between men living with HIV – particularly those who inject drugs – and their wives/long-term sexual partners), it is vital to initiate specific “positive prevention” interventions that can systematically prevent IPT.<sup>68</sup> As many PWID (and other PLHIV) are unaware of their status, increasing the coverage of HIV testing and counselling services as outlined above will not only serve to ensure these PLHIV can access care and treatment services for their own sake, but will also help to protect their sexual partners. Peer outreach activities aimed at men who inject drugs will be expanded to include outreach to their wives/sexual partners to ensure they are aware of the risks of HIV transmission, the need to test regularly for HIV, and the benefits of harm reduction and ART, and to enable them to access the required services.

67. International HIV/AIDS Alliance. *Positive Prevention: Prevention Strategies for People with HIV/AIDS*. 2003. This document draws attention to the need to undertake these interventions with respect for the rights of PLHIV and their partners, including the right to privacy, confidentiality, informed consent; mindfully of the duty to do no harm; and in a way that does not expose them to increased stigma and discrimination.

68. International HIV/AIDS Alliance. *Positive Prevention: Prevention Strategies for People with HIV/AIDS*. 2003. This document draws attention to the need to undertake these interventions with respect for the rights of PLHIV and their partners, including the right to privacy, confidentiality, informed consent; mindfully of the duty to do no harm; and in a way that does not expose them to increased stigma and discrimination.

### Follow-up actions

- Scale up ART to cover 80% of all PLHIV by 2020<sup>69</sup>
- Improve on early treatment initiation and treatment quality, reducing loss in follow-up
- Establish “test and treat” for key populations by:
  - ◊ Providing revised guidelines for peer educators and civil society organizations on the “reach, test, treat and retain” cascade
  - ◊ Training community health staff to ensure confidentiality
  - ◊ Ensuring the implementation of sanctions for breaches of the right to confidentiality and under Decree No. 176/2013/NĐ-CP
- Revise national treatment guidelines to increase the frequency of viral load testing for PLHIV
- Providing guidelines and funding for targeted interventions that include the sexual partners of men who inject drugs and other male PLHIV as a key population in:
  - ◊ testing outreach and services
  - ◊ condom, needle and syringe outreach, provision and social marketing

### **Priority 3: Focus on key populations in high-burden areas**

Analysis of Viet Nam’s epidemic shows that PWID and their sexual partners are the most important populations to reach, followed by FSW and MSM. However, spending assessments show that a large proportion of funding is still going to general population information campaigns that international evidence shows have limited impact in concentrated epidemic settings. Additional focus on key populations is required within the high-impact interventions.

Efforts to reach key populations will be focused where there is a high prevalence of risk behaviours (injecting drug use, sex work and male-to-male sex), and where disease burden is highest. Geographic prioritization uses epidemiological and programme data to classify geographical areas of a country according to the severity of the HIV epidemic in those areas, and thus enable the prioritization of interventions. Geographic prioritization is key to the Investment Approach, as it focuses resources where they will be most effective.<sup>70 71 72</sup>

In Viet Nam, the HIV response is already being decentralized to the provincial level so that services can be adapted to local sub-epidemics and other localized challenges. In addition, a resource allocation tool has been developed that provides a variety of need-based resource allocation scenarios according to province.<sup>73</sup> A provincial unit cost analysis has also showed that economies of scale can be achieved by focusing on high-burden provinces. For full geographic prioritization, these existing initiatives must be supported by the generation of more accurate, timely and comprehensive strategic information. As well as more accurate data collection and reporting from site level, additional, systematic, rigorous epidemiological analysis and the development of nationally appropriate classification criteria (such as population size, prevalence, risk behaviour,

69. Currently at CD4<350 and in the future at CD4<500 and CD4<1000 as resources become increasingly available

70. Schwartländer, Bernhard et al. *Towards an improved investment approach for an effective response to HIV/AIDS*. The Lancet, Volume 377, Issue 9782. 2011.

71. Joint United Nations Programme on HIV/AIDS (UNAIDS). *Concept Note on Geographic Prioritization*. DRAFT. 2011.

72. Joint United Nations Programme on HIV/AIDS (UNAIDS). *Smart Investments*. 2013.

73. Joint United Nations Programme on HIV/AIDS (UNAIDS) et al. *Developing Rational Resource Allocation for HIV/AIDS programming at Provincial Level – Vietnam National Strategy for HIV/AIDS*. DRAFT. 2012.

programme coverage and access to services) is needed. Given the known high burden of HIV in certain places such as rural and mountainous communities and/or areas with large ethnic minority populations, analysis will be undertaken at the commune level as well as the provincial and district levels. Finally, the classification criteria will be flexible to enable adjustments where they become necessary.

Geographic prioritization analyses will also be more consistently followed up with the adjustment of financial resource allocations. Economically successful provinces may be better able to provide funds for prioritized interventions from their own budgets. Other, poorer provinces will require increased allocations from the central budget. Allocation of HIV investment must focus on prioritized areas, including provinces, districts, communes, and living quarters with high epidemic burden.

#### **Follow-up actions**

- Allocate appropriate resources to assure the improvement of data quality in order to assure the accuracy, timeliness and comprehensiveness of data
- Develop flexible classification criteria
- Undertake epidemiological analysis and identify gaps
- Undertake additional data collection where necessary
- Match the identified priority areas with appropriate programmatic interventions and where necessary additional budget allocations

### ***Priority 4: Sustainable financing, including increasing the domestic budget and the role of health insurance***

#### ***Increasing domestic investment***

Given the serious and growing funding gap for Viet Nam's HIV response, there is an urgent need to move from the current donor-led (and –funded), project-based approach to an integrated and decentralized response that is financed with domestic resources. Funds must be available to ensure that there is no interruption of HIV services as donors withdraw.

One condition for continued donor support is the fund-receiving country must increase domestic funding for HIV. If this does not happen, existing donor support maybe more rapidly phase out than planned. Increasing domestic investment for HIV will therefore play an important role in the mobilization of international financial support for Viet Nam.

This will involve acting on the commitments made in the 2013 Project on Sustainable Financing for HIV/AIDS Prevention and Control Activities in 2013-2020 Period to increase the use of domestic resources for HIV and AIDS to 50% of total spending by 2015 and 75% of total spending by 2020. The Project on Sustainable Financing includes a number of suggested approaches to increasing domestic resources. These include increasing central state budget investment; mobilizing provincial investment and management of resources; integrating HIV activities into existing health mechanisms, such as health insurance; integrating HIV activities into broader socio-economic development activities, particularly at the provincial level; and mobilizing additional sources of revenue, such as from the private sector.

In addition, although international donors are preparing to withdraw from the HIV response in Viet Nam, and many have already reduced funding, some are still present and actively contributing to the response. It is vital that these donors ensure a predictable and responsible transition to domestic funding through a gradual transition period and support for the strengthening of key services and systems in order to assist Viet Nam in managing the response effectively and efficiently following their departure. Donor support will also be crucial with regard to managing the handover to national authorities of systems that have hitherto been managed by donors themselves (including supply chain management, particularly for the procurement of ARV drugs and methadone and other commodities).

#### **Follow-up actions**

- Develop advocacy plan for leaders, civil society and related government sectors at national and sub-national levels for continuing financing, political and implementation support to a more sustainable optimized HIV response
- The National Assembly and the Government take resourcing decisions in line with the commitments of the Project on Sustainable Financing for HIV/AIDS Prevention and Control Activities in 2013-2020 Period
- Act on the various approaches to increasing domestic resources suggested under the Project on Sustainable Financing, including the state budget allocation, the regular provincial allocations for HIV, the social health insurance fund, greater engagement of private sector and effective use of resources for the response to HIV
- Call on international donors to slow down their withdrawal of funds and further support the transition to domestic funding and ownership

#### **Health insurance**

Financing efficiencies will be created by providing ART free of cost under national health insurance. Evidence from other middle-income countries has shown that social health insurance can play a major role in financing HIV and AIDS services<sup>74</sup>, especially in countries where insurance already covers a significant proportion of the population as in Viet Nam<sup>75</sup>. Again, using health insurance will take advantage of the benefits of the current system and provide cost savings by avoiding parallel spending. It may also help to increase (early) uptake of ART.

Some measures have already been introduced: first-line ART, many drugs for treating opportunistic infections, and HIV testing are already included in the items payable under health insurance. Surveys have also been conducted on the current coverage of PLHIV by health insurance, with a low estimate of 30%. The main reason is ART is provided for free (mainly by donors) so not many PLHIV seeing the need to have health insurance. The current aim is to achieve the same level of coverage for PLHIV as for the general population (80% by 2020). However, a better understanding of coverage, as well as the ability and willingness of PLHIV to make co-payments, is required, as the amended Health Insurance Law will cover 100% of the costs for poor people and 95% of the costs for the near-poor (among other populations). In addition, a standard

74. Oxford Policy Management. *Expanding Long Term Financing Options for HIV in Viet Nam*. 2012.

75. Bitran, Ricardo et al. *The role of health insurance in the fiscal and financial sustainability of HIV/AIDS programs in low and middle-income countries*. <http://www.heard.org.za/downloads/erg-meeting-7-bitran.pdf>. 2010. accessed 31 July 2014.

package of services will be established, further analysis of the costs undertaken, and legal and administrative changes implemented.

Participants at the Investment Case civil society consultations stressed that the delivery of HIV treatment through health insurance will only be successful if ART remains free of charge and it can be delivered in a manner that is both confidential and respectful. It will be important to ensure that those PLHIV not covered by health insurance nevertheless have access to ART and OI treatment.

### **Listening to affected people:**

#### **Funding ART through national health insurance**

The civil society consultations made it clear: people living with HIV have several concerns about the delivery of ART through national health insurance that will need to be addressed in order to reach more people with treatment.

The first concern is confidentiality regarding HIV status. As we have already seen, the fear of stigma and discrimination following the revelation of HIV status can prevent PLHIV from accessing HIV services. Participants expressed a particular worry that decentralizing ART from district outpatient clinics to communes under health insurance will increase disclosure of HIV status by commune health workers, and worsen stigma and discrimination. However, pilots of ART decentralization to communal level conducted in Can Tho and Dien Bien provinces showed positive results.

Next, it is vital for PLHIV that ART remain free of charge: it has been shown that user fees for ART reduce uptake and adherence and do not lead to significant cost recovery.<sup>76</sup> It is also very important that the treatment of opportunistic infections (OI) is covered for free. Hepatitis B and C co-infection is reportedly very common among PLHIV in Viet Nam, particularly among those PLHIV who inject drugs, and treatment costs for these diseases and other OI are very high. It seems that many PLHIV cannot pay for TB testing or for the deposit for in-patient hospital TB treatment, nor can they afford the medicines required to treat OI.

Third, both PLHIV and members of key populations are worried that they will have problems in acquiring insurance cards. The new Health Insurance Law requires that most people buy insurance through their households or workplace, so many who do not have temporary or permanent residence registration will have difficulty in accessing health insurance.

Finally, there are rumours that the number and quality of ART regimens will decrease under health insurance. PLHIV at the consultations said that ART should be provided through fixed-dose combination regimens (as recommended by the WHO).<sup>77</sup>

76. World Health Organization (WHO). The practice of charging user fees at the point of service delivery for HIV/AIDS treatment and care. 2005.

77. World Health Organization (WHO). *Summary of new recommendations: Consolidated ARV guidelines*. 2013

#### Follow-up actions

- Undertake a comprehensive survey on health insurance coverage among PLHIV and their ability to pay in order to identify and address gaps in coverage
- Develop and/or complete necessary legal framework and guidance for the use of health insurance fund to cover HIV services
- Consolidate the organization and mandates of HIV out-patient clinics to meet the criteria for providing services covered by health insurance as regulated

#### ***Priority 5: Integration and decentralization of HIV service delivery systems, including health systems strengthening***

Refining high-impact interventions to make them as effective as possible, and increasing domestic investment will put Viet Nam on the road to a sustainable HIV response. But it will not be enough. Viet Nam's health sector must also take steps to reduce the costs of HIV interventions. The key will be to more deeply integrate HIV services within the existing healthcare system.

Viet Nam is already moving to decentralize HIV services. The Treatment 2.0 pilots in Dien Bien and Can Tho provinces have shown that the decentralization of HIV testing, antiretroviral treatment and PMTCT to commune level is not only feasible, it also improves health outcomes and reduces travel costs for patients. In Dien Bien, PLHIV diagnosed at commune level initiated treatment more quickly and at higher CD4 counts<sup>78</sup>. When scaled up, initiatives such as these will save money and contribute to the sustainability of services by: avoiding duplicated/parallel spending on infrastructure, human resources and commodities; taking advantage of the health system's existing cost efficiencies; increasing system efficiency by creating links between related services; and facilitating referrals. They may also provide opportunities to access larger groups of people.<sup>79</sup>

HIV outpatient clinics can be integrated into the healthcare system. In addition, making sure that a range of HIV services – from prevention (including MMT) to testing to treatment – are available in a single location to help save costs and increase coverage.

In addition, increasing coordination between HIV services and related services such as those dealing with tuberculosis (TB) and maternal and child health services (PMTCT) will also provide specific efficiencies and improve effectiveness. Collaboration between the national HIV and TB programmes has already been enhanced in recent years. In 2013, the National TB Prevention Project expanded provider-initiated HIV testing for TB patients, increasing by 14% the number of people co-infected with HIV and TB who received treatment. However, TB treatment coverage among PLHIV infected with TB remains low. Family-based approaches that integrate both adult and paediatric HIV and TB services into the same location can increase coverage and provide further efficiencies.

78. VAAC, HSPH, UNAIDS, WHO. Evaluation Report, Treatment 2.0 Pilot Dien Bien & Can Tho Provinces Viet Nam, 2013.

79. Joint United Nations Programme on HIV/AIDS (UNAIDS). *Smart Investments*. 2013. Experience indicates that integrated HIV counselling and testing services are less expensive than standalone HIV counselling and testing services, and that community-level service provision in particular can provide benefits in terms of cost savings. For example, in India, Kenya and Uganda integrated HIV counselling and testing services were less expensive by 31% to 79%.

The Ministry of Health plans to fully integrate PMTCT into maternal and child health service provision, PMTCT services have also already begun to be integrated into the reproductive health system. HIV counselling and testing for pregnant women has been decentralized to commune health stations and the system for referring pregnant women who receive a positive test to HIV care and treatment services has been partially strengthened. A pilot to link HIV and sexual and reproductive health services focussing on local needs has been undertaken in four provinces, while another aiming to prevent mother-to-child transmission of HIV, Hepatitis B and syphilis as part of routine antenatal care has had considerable success (98.6% coverage of testing).<sup>80</sup> These initiatives will be scaled up to take full advantage of their efficiencies – both programmatic and financial.

During this transition period, the importance of HIV-related health systems strengthening has never been greater. New technical guidelines, regulations and policies must be put in place to ensure this more-integrated system functions smoothly. Ensuring sufficient human resources who are trained on HIV and AIDS will be a particular challenge. Viet Nam is already facing a severe shortage of qualified health staff working at grassroots level in the area of preventive medicine, particularly in remote and mountainous areas where the HIV epidemic has expanded in recent years. If the transition from donor projects to national health programmes is not handled smoothly, HIV-related human resources may be lost and service delivery could be dangerously disrupted. Capacity building is required for health workers taking over HIV services and the national health system must explore ways to sustainably improve working conditions, health worker remuneration, medical equipment and procurement/supply chain systems. Increasing the role of civil society organizations in service delivery will be an important strategy to reduce costs and improve sustainability. But support will be needed to strengthen community-based organizations so that they are able to effectively work with commune and district-level healthcare providers in the provision of a continuum of HIV services. Technical assistance and financial support of the international community, especially in the sharing of international good practices, are key to the achievement of this priority.

#### **Follow-up actions**

- Integrate outpatient clinics into the existing health system
- Provide HIV services, including HIV counselling and testing, MMT and ARV treatment in one location
- Decentralize HIV testing and ART to the primary health care level
- Develop capacity strengthening plan for health workers and CBOs participating in the provision of HIV services, including attention to decentralized levels

80. Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.

### **Priority 6: Sufficient supply of ARV drugs, methadone, reagents and other commodities for the HIV response**

Currently only 5% of ARVs are purchased using domestic resources and procurement processes; the other 95% are procured by donors using international procurement mechanisms.<sup>81</sup> Donors also import the majority of the methadone used for the MMT programme. To ensure increased coverage of ART and MMT as donors withdraw, Viet Nam will need to scale-up the efficient procurement of ARVs, methadone, reagents and other commodities using domestic funds and study the possibility of domestic production.

Viet Nam has already begun to address the issue of methadone availability. Local production of methadone is expected to be considerably cheaper than importing methadone. Increasing domestic production will help to meet the growing needs of the MMT programme. In 2013 the Ministry of Health granted permission to five domestic companies that meet requirements to produce methadone; one company is already producing methadone for domestic consumption.

Analyses of ARV procurement data in Viet Nam suggest that the unit costs for domestically procured ARV drugs are much greater than the unit costs of the same medicines procured through international donor programmes mainly due to the domestic procurement of small quantities. International experience also suggests that the careful review and revision of national procurement arrangements (centralized procurement) can lead to immediate and dramatic savings.<sup>82</sup>

In the short term, as donor support declines and more and more ARV drugs are procured with domestic resources, Viet Nam will need to put in place measures to ensure that it can purchase a range of quality ARV drugs (first line, second line and paediatric formulas) at international benchmark prices. Negotiating lower prices, while at the same time minimizing stock outs and the expiration of medicines, can best be achieved by a centralized procurement mechanism. Government support and cooperation among relevant Government ministries are critical to overcome barriers for international procurement of ARVs.

In the longer term, Viet Nam will need to explore building local capacity to ensure the sustainable supply of affordable ARV drugs.

#### **Follow-up actions**

- Establish a national plan for sustainable ARV supply including ARV drug procurement and production, including guiding legislation and guidance for local manufacturers
- Continue the process on manufacturing, management and using of methadone in Viet Nam
- Ensure sustainability, quality control, and affordability of MMT, ARVs, reagents and other related commodities through a centralised procurement mechanism

81. Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.

82. Joint United Nations Programme on HIV/AIDS (UNAIDS). Smart Investments. 2013. For example, South Africa's new tender process for ARV drug purchases resulted in a 53% decrease in overall ARV drug costs, generating estimated savings of about US\$ 685 million over two years. Swaziland and Jamaica have also reduced the costs of ART provision through revised procurement procedures and better forecasting.

## VI. Ending AIDS in Viet Nam

The evidence is overwhelming: it will be impossible to end AIDS in the absence of further investment. If we fail to invest in the HIV response in Viet Nam, there will be a resurgence of the HIV epidemic, resulting in the illness and death of large numbers of people and rapidly increasing costs for the public health care system. Viet Nam cannot afford to do nothing. Indeed, more money will have to be spent, whether it is now or later. Investing wisely now will have major positive impacts upon Viet Nam's response to HIV.

The priorities elaborated here provide a realistic and targeted strategy to increase the pace of scale up and the effectiveness of high-impact interventions. Together with the suggested targets under the Ending AIDS scenario, they constitute an Investment Case for Viet Nam's HIV response that will serve to protect those most at risk, to test and treat those living with HIV, and to do this in a sustainable way that is firmly grounded in both best practice and human rights.

Viet Nam faces a severe funding gap as donors withdraw; one which will only increase over time if wise investments are not made now, and if effectiveness and efficiency gains are not achieved. Unless these changes are made, the epidemic will stabilize at a level that Viet Nam cannot afford or, worse, will expand to crisis proportions. The real cost, though, is not about money. It is the potential tragedy of increasing numbers of Vietnamese people getting sick and ultimately dying of AIDS.

There are hard choices to be made. Viet Nam stands ready to make those choices, and is poised to embark on the path toward "Ending AIDS by 2030".

## **ANNEX I: Investment Case Steering Committee, Technical Working Group and Civil Society Consultation Participants**

### **Steering Committee**

	Name	Title and organization
1	Dr. Nguyen Hoang Long	Director General of Viet Nam Administration for HIV/AIDS Control (VAAC)
2	Prof. Bui Duc Duong	Deputy Director of Viet Nam Administration for HIV/AIDS Control
3	Dr. Phan Thu Huong	Deputy Director of Viet Nam Administration for HIV/AIDS Control
4	Dr. Kristan Schoultz	UNAIDS Viet Nam Country Director
5	Dr. Masaya Kato	WHO HIV Team Leader
6	Dr. Michelle McConnell	US Centre for Disease Control (CDC) Country Director
7	Laurel Fain	USAID Office of Health Director
8	Chris Detwiler	PEPFAR Coordinator
9	Dang Ngo	Country Representative, Clinton Health Access Initiative (CHAI)

### **Technical Working Group**

	Name	Title and organization
1	Dr. Vo Hai Son	Head of Department of Surveillance, Monitoring and Evaluation, VAAC
2	Dr. Duong Thuy Anh	Head of Financing and Accounting Department, VAAC
3	Dr. Do Thi Nhan	Head of Care and Treatment Department, VAAC
4	Dr. Nguyen Thi Minh Tam	Head of Harm Reduction Department, VAAC
5	Mr. Do Huu Thuy	Head of Communications and Community Mobilization Department, VAAC
6	Mr. Le Anh Tuan	Head of General Planning Department, VAAC
7	Mr. Nguyen Khac Hai	Department of Surveillance, Monitoring and Evaluation, VAAC
8	Mr. Nguyen Van Luong	Department of Surveillance, Monitoring and Evaluation, VAAC
9	Ms. Le Hong Thuy	Financing and Accounting Department, VAAC
10	Dr. Nguyen Thi Ha	National Institute of Hygiene and Epidemiology
11	Dr. Duong Cong Thanh	National Institute of Hygiene and Epidemiology
12	Patrick J. Nadol	CDC
13	Duong Thi Hao	CDC
14	Nguyen Thi Minh Thu	CHAI
15	Michael Cassel,	USAID
16	Nguyen Thi Cam Anh	USAID
17	Nguyen Duc Duong	USAID
18	Nguyễn Thu Van	FHI360
19	Nguyen Thanh Huyen	FHI360
20	Nguyen Thi Van	WHO
21	Tran Vu Hoang	WHO consultant
22	Chris Fontaine	UNAIDS
23	Nguyen Thu Anh	UNAIDS consultant
24	Kieu Huu Hanh	UNAIDS consultant
25	Nguyen Thi Phuong Mai	UNAIDS
26	Nguyen Thi Bich Hue	UNAIDS

**Civil Society Consultation Meeting in Ha Noi**

	Name	Title and organization
<b>Non-governmental organizations</b>		
1	Do Thi Van	Viet Nam Union of Science and Technology Organizations (VUSTA)
2	Pham Nguyen Ha	Viet Nam Union of Science and Technology Organizations (VUSTA)
3	Trinh Le Tram	Centre for Consulting on Laws and Policy in HIV
4	Dang Thuy Huong	Institute for Social Development Studies (ISDS)
5	Nguyen Thi Kim Dung	Supporting Community Development Initiatives (SCDI)
6	Dinh Thi Yen	Centre for Community Health Research and Development (CCRD)
7	Tran Kim Hue	Centre for Community Health Research and Development (CCRD)
8	Tran Minh Gioi	Community Health Promotion (CHP)
9	Vu Phuong Thao	Institute for Studies of Society, Economics and Environment (iSEE)
10	Pham Khanh Binh	Institute for Studies of Society, Economics and Environment (iSEE)
11	Pham Quynh Phuong	Institute for Studies of Society, Economics and Environment (iSEE)
12	Luong Thi Tinh	Centre for Community Health and Development (COHED)
13	Dang Van Khoat	Viet Nam Community Mobilization Centre for HIV/AIDS Control (VI-COMC)
14	Do Thi Thanh Nhan	CREA
<b>Networks and CBOs in Ha Noi</b>		
15	Vu Bao Huy	Chairperson, MSM/TG network, KAP CCM member
16	Tung Vu	Youth Dream group
17	Vu Thang	Closest
18	Pham Thi Minh	Chairperson, Network of People who use Drugs, KAP CCM member
19	Nguyen Van Thinh	White sand group
20	Nguyen Thanh Thuy	Peaceful Place group
21	Lai Minh Hong	Little Sun group
22	Dong Duc Thanh	Little Sun group
23	Trinh Thuy Ngan	Ha Noi
24	Trinh Thi Hoa	Peaceful Place Group
<b>Networks and CBOs in other provinces</b>		
25	Le Thanh Tung (Gia Minh)	Nghe An
26	Tran Thanh Thang	Đien Bien
27	Nguyen Van Cuong	Hai Duong
28	Nguyen Xuan Cuong	Thai Nguyen
29	Nguyen Thi Hang	Thai Nguyen
30	Nguyen Hai Yen	Thai Nguyen
31	Cao Hong Tu	Quang Ninh
32	Hoang Viet Hung	Bac Can
33	Quach Thi Mai	Hai Phong
34	Hoang Thi Huong	Hai Phong
35	Nguyen Van Đinh	Hai Phong
36	Pham Thi Hue	Hai Phong
37	Đinh Thi Huyen	Hai Phong
38	Thanh Hoang	Hai Phong

October, 2014

### Civil Society Consultation Meeting in Ho Chi Minh City

	Name	Organization
<b>CSO CCM members</b>		
1	Do Thuy An My	CSO CCM members
2	Le Minh Thanh	CSO CCM members
3	Le Son	CSO CCM members
<b>Networks and CBOs in the South</b>		
4	Vu Ngoc Thuy Phuong	HCMC
5	Nguyen Thanh Tuan	HCMC
6	Ngo Mong Linh	HCMC
7	Lam Thanh Vinh (Lo Lo)	HCMC
8	Đang Hong Nhungh	Nha Trang
9	Huynh Nhu Thanh Huyen	HCMC
10	Nguyen Anh Phong	HCMC
11	Tran Thi Thanh Van	An Giang
12	Tran Phuoc Toan	Da Nang
13	Nguyen Thi Duyen	Dak lac
14	Huynh Chi Dung	Ben Tre
15	Nguyen Thai Hung	Can Tho
16	Thuy	Can Tho
17	Thom	Can Tho
18	Tat Buu	HCMC
19	Phan Thanh Nhan	HCMC
20	Nguyen Van Thien	Kien Giang
21	Lam Ngoc Thuy	HCMC
22	Lam Thanh Tuan	HCMC
23	Luan	HCMC
<b>Local NGOs</b>		
24	Hang Thi Xuan Lan	LIFE center
25	Dinh Duc Thien	Center for Applied Research on Men and Community Health (CAR-MAH)
26	Nguyen Xuan Hai	HCMC AIDS Association

## ANNEX 2: Investment Case sources of data and information

Abt Associates. *Evaluation of the Impact of HIV Prevention Programming among IDUs in Northwestern Vietnam*. Preliminary Results. Presentation. 2012.

All You Wanted to Know About Needles But Were Afraid To Ask at <http://harmdeduction.wordpress.com/2010/08/09/all-you-wanted-to-know-about-needles-but-were-afraid-to-ask/> (2010) accessed 11 July 2014.

Analysis and Advocacy (A2) Project. *The HIV epidemic in Ho Chi Minh City: Input Parameters for Baseline scenario*. 2006.

Attiaa, Suzanna et al. *Sexual transmission of HIV according to viral load and antiretroviral therapy: systematic review and meta-analysis*. 2009.

AVERT (AVERTing HIV and AIDS). *HIV transmission and antiretroviral therapy Briefing Sheet*. 2008.

Bitran, Ricardo et al. *The role of health insurance in the fiscal and financial sustainability of HIV/AIDS programs in low and middle-income countries*. <http://www.heard.org.za/downloads/erg-meeting-7-bitran.pdf>. 2010. accessed 31 July 2014.

Brown, Tim and Peerapatanapokin, Wiwat. *The Asian Epidemic Model: a process model for exploring HIV policy and programme alternatives in Asia*. 2004.

Castilla, Jesus et al. *Effectiveness of Highly Active Antiretroviral Therapy in Reducing Heterosexual Transmission of HIV*. 2005.

Centers for Disease Control and Prevention (CDC). *Screening Tests To Detect Chlamydia trachomatis and Neisseria gonorrhoeae Infections*. Morbidity and Mortality Weekly Report. 2002.

Eaton, Jeffrey W. et al. *Health benefits, costs, and cost-effectiveness of earlier eligibility for adult antiretroviral therapy and expanded treatment coverage: a combined analysis of 12 mathematical models*. Lancet Global Health 2014; 2: e23–34. 2013

EPP Technical Working Group, Ministry of Health. *Preliminary results of HIV estimations and projections in Viet Nam 2013*. 2013.

Global Fund FSW questionnaire, 2012

Global Fund IDU questionnaire, 2012

Gowing, L. et al. *Oral substitution treatment of injecting opioid users for prevention of HIV infection (Review)*. 2011.

Health Policy Advisory Committee on Technology Australia and New Zealand. *Technology Brief Update: Rapid tests for Chlamydia trachomatis*. 2011.

He, Na et al. *Antiretroviral Therapy Reduces HIV Transmission in Discordant Couples in Rural Yunnan, China*. 2013.

HIV/AIDS Asia Regional Programme IDU questionnaire, 2014

HIV Sentinel Surveillance (HSS), 2011

HIV Sentinel Surveillance with a behavioural component (HSS+), 2011, 2012 and 2013

Hosseiniipour, Mina et al. *Can Antiretroviral Therapy Be Used to Prevent Sexual Transmission of Human Immunodeficiency Virus Type 1?* 2002.

Integrated Biological and Behavioural Surveillance (IBBS), 2005

Integrated Biological and Behavioural Surveillance (IBBS), 2013

International HIV/AIDS Alliance. *Positive Prevention: Prevention Strategies for People with HIV/AIDS*. 2003.

Joint United Nations Programme on HIV/AIDS. *Ambitious treatment targets: Writing the final chapter of the AIDS epidemic*. 2014.

Joint United Nations Programme on HIV/AIDS (UNAIDS). *Concept Note on Geographic Prioritization*. DRAFT. 2011.

- Joint United Nations Programme on HIV/AIDS (UNAIDS) et al. *Developing Rational Resource Allocation for HIV/AIDS programming at Provincial Level – Vietnam National Strategy for HIV/AIDS*. DRAFT. 2012.
- Joint United Nations Programme on HIV/AIDS (UNAIDS). *Investing for results. Results for people. A people-centred investment tool towards ending AIDS*. 2012.
- Joint United Nations Programme on HIV/AIDS (UNAIDS). *Smart Investments*. 2013.
- Joint United Nations Programme on HIV/AIDS (UNAIDS). *Strategic use of antiretroviral medicines for treatment and prevention of HIV*. UNAIDS/PCB (33)/13.18, 21 November 2013.
- Joint United Nations Programme on HIV/AIDS (UNAIDS) and United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). *Measuring Intimate Partner Transmission of HIV in Viet Nam: A Data Triangulation Exercise*. 2012.
- Joint United Nations Programme on HIV/AIDS (UNAIDS), United Nations Population Fund (UNFPA) and World Health Organization (WHO). *Condoms and HIV prevention: Position Statement*. 2009.
- Kato, Masaya et al. *The Potential Impact of Expanding Antiretroviral Therapy and Combination Prevention in Vietnam: Towards Elimination of HIV Transmission*. 2013.
- Katz, Ingrid T. et al. *Impact of HIV-related stigma on treatment adherence: systematic review and meta-synthesis*. 2013.
- Macarthur, Georgina J. et al. *Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis*. 2012.
- Ministry of Health. *Results from the HIV/STI Integrated Biological and Behavioural Surveillance (IBBS) in Viet Nam – Round II 2009*. 2011.
- Nguyen, Duy Tung et al. *HIV/AIDS Behavioural Surveillance Survey*. 2000.
- Nguyen, Thi Minh Tam (VAAC). *Viet Nam Experience in Scaling Up Access to Harm Reduction Services*. Presentation to ICAAP. 2013.
- Nguyen, Trang Quynh et al. *Syringe Exchange in the United States: A National Level Economic Evaluation of Hypothetical Increases in Investment*. 2014.
- Oxford Policy Management. *Expanding Long Term Financing Options for HIV in Viet Nam*. 2012.
- Partners in Health Research. *Male Client Survey: Cross- sectional survey to detect HIV prevalence and associated risk factors among male clients of sex workers in Hanoi and Ho Chi Minh Cities*. 2014.
- Pollard, Richard. *Total Market Approach: Condom Programming in Vietnam*. Presentation. 2011.
- PSI. *What is the Total Market Approach?* <http://www.psi.org/total-market-approach> accessed 18 July 2014.
- PSI/Vietnam Research & Metrics. Vietnam (2011). *Behavioral survey among female sex workers and female sex workers who inject drugs. Round 2. Summary Report*. 2012.
- PSI/Vietnam Research & Metrics. 2013 *Behavioral survey among male injecting drug users from three provinces in Vietnam*. Summary Report. 2014.
- PSI/Vietnam. *Behavioral Survey Among Men Who Have Sex With Men in 4 provinces*. Summary Report. 2013.
- PSI/Vietnam. *Behavioral survey of injecting drug users in Vietnam*. 2010.
- PSI/Vietnam. *Male clients of female sex workers: key findings from behavioral surveys conducted in 2009 & 2011*. 2012.
- Resch, S. et al. *Economic returns to investment in AIDS treatment in low and middle income countries*. 2011
- Schwartländer, Bernhard et al. *Towards an improved investment approach for an effective response to HIV/AIDS*. The Lancet, Volume 377, Issue 9782. 2011.
- Survey Assessment of Vietnamese Youth (SAVY) (2) questionnaire, 2009
- United Nations Development Programme (UNDP) and Joint United Nations Programme on HIV/AIDS (UNAIDS). *Understanding and acting on critical enablers and development synergies for strategic investments*. 2012.

USAID. Kết quả điều tra ban đầu trong nhóm bạn tình của người NCMT. Tại Điện Biên. [PWID peer educators. Preliminary Investigation Results.] Presentation. 2012.

United States Centers for Disease Control (CDC). *Situation Analysis*. DRAFT. 2014.

Vermund, Sten H. *Treatment as prevention for HIV in China*. 2013.

Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Epidemic Model*. 2014.

Viet Nam Administration of AIDS Control (VAAC). *Viet Nam AIDS Response Progress Report*. 2014.

Viet Nam Administration of AIDS Control (VAAC). *2013 HIV sentinel surveillance (HSS), HIV sentinel surveillance with a behavioural component (HSS+), and Integrated Biological and Behavioural Surveys (IBBS)*, 2013

Viet Nam Administration of AIDS Control (VAAC). VAAC D28 Routine report.

Viet Nam Administration of AIDS Control (VAAC). *National AIDS Spending Assessment 2013*. 2013.

Viet Nam General Statistics Office. *Viet Nam Multiple Indicator Cluster Survey*. 2011.

Viet Nam General Statistics Office. *Population Projections for Viet Nam 2009-2049*. 2011.

Viet Nam Network of People Living with HIV (VNP+). *Viet Nam Stigma Index*. 2012.

Wilson, David P. *HIV Treatment as Prevention: Natural Experiments Highlight Limits of Antiretroviral Treatment as HIV Prevention*. 2012.

World Bank Survey. 2008.

World Health Organization (WHO). *Antiretroviral treatment as prevention (TASP) of HIV and TB - Programmatic update*. 2012.

World Health Organization (WHO). *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: Recommendations for a public health approach*. 2013.

World Health Organization (WHO). *Effectiveness of sterile needle and syringe programming in reducing HIV/AIDS among injecting drug users*. 2004.

World Health Organization (WHO). *The practice of charging user fees at the point of service delivery for HIV/AIDS treatment and care*. 2005.

World Health Organization (WHO). *Summary of new recommendations: Consolidated ARV guidelines*. 2013.

Zhang, Lei et al. *Evaluation of a decade of DFID and World Bank supported HIV and AIDS programmes in Vietnam from 2003 to 2012*. 2013.

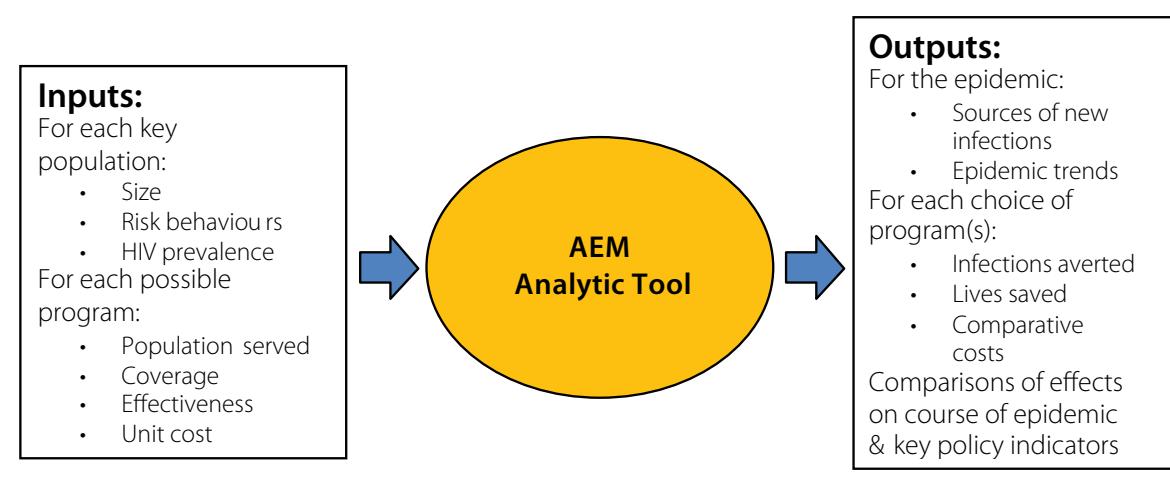
## ANNEX 3: AIDS epidemic modelling exercise

### The AIDS Epidemic Model (AEM)

The AEM analyses existing data to provide a picture of an epidemic and enable policymakers to estimate the future impact of proposed policies and programme coverage levels, as well as the size of investment required. The AEM is a process model: it models the epidemic, interventions and cost effectiveness. It links behaviour to modelling of the epidemic – for example, it calculates new infections based on modelled behaviour of key populations. It can also model changes in epidemics based on behaviour change. Finally, it links a cost component to interventions (intervention coverage multiplied by unit costs) to model total resource needs.

Two subgroups of the Investment Case Technical Working Group were responsible for collecting and inputting existing epidemiological, behavioural and programme data and the estimated unit costs of existing interventions.

### The AEM process



Three workshops were held by the Working Group to develop, validate and analyse a baseline model and a set of scenarios for the response. The first workshop (May 2014) worked towards the development of a baseline model (including unit costs); the second (June 2014) validated and refined the baseline model (including unit costs) and began work on scenarios for Viet Nam's epidemic; and a final review of the scenarios and unit costs was conducted at the third workshop (July 2014).

The Working Group first identified the sub-populations to be modeled in the AEM, including people who inject drugs (PWID), female sex workers (FSW) and men who have sex with men (MSM), both "reachable" and "unreachable". During the process, a further group was added: the long-term sexual partners of HIV-positive PWID and other men living with HIV (MLHIV).

### Definitions and assumptions

- o PWID: men aged 18 years or older who reported injecting drugs.
- o FSW: women aged 18 years or older who reported exchanging sex for money.
- o MSM (reachable and unreachable): men aged 15 years or older who engaged in sex with men at least once in the previous 12 months. Reachable MSM are those who can be reached by HIV interventions.

- o Female intimate partners of men living with HIV, who are primarily spouses or regular sexual partners of HIV-positive men who inject drugs, men who are clients of sex workers, and MSM.

Data needs and sources of available data were also identified (including on unit costs, see below), and the data collected, reviewed and selected to serve as input data for the AEM. This included data on key population sizes (PWID, FSW and MSM) from the 2013 Estimations and Projections (EPP) and the general population from the General Statistics Office of Viet Nam. Data on HIV prevalence came from HIV Sentinel Surveillance (HSS) for the years 1994-2004 and from the EPP for the years 2005-2013. Behavioural data was sourced from the HSS with behavioural component (HSS+), Integrated Biological and Behavioural Surveys (IBBS) and surveys conducted as part of World Bank, Global Fund to Fight AIDS, Tuberculosis and Malaria and the Australian Government's HIV/AIDS Asia Regional Programme (HAARP). For ART, data was sourced from Viet Nam Administration of AIDS Control (VAAC) ART programme reports.

### **Definitions and assumptions**

- o Population size for PWID, FSW and MSM: using medium estimates from the EPP process.

Given the uncertainties around the estimates of population size of high risk groups in Viet Nam, three levels of estimates - low, medium and high - were generated. The key assumptions for population size estimates used in the 2013 EPP round are summarized in Table 1 below.

***For low estimates, the following assumptions were made about the size of each key population:***

- **PWID:** The official numbers of PWID reported by the Ministry of Public Security (MPS) were used as the low estimate. This data was then reviewed and triangulated with data from D28 reports. As estimated by the MPS, 85% of drug users practice injecting drug use. Female PWID are thought to account for 5% of the total PWID population.
- **FSW:** The official numbers of FSW reported by the Ministry of Labor, Invalids and Social Affairs (MOLISA) were used as the low estimate. This data was then reviewed and triangulated with data from D28 reports.
- **Clients of FSW:** There are no studies with reliable data on the population size of male clients in Viet Nam. As in the 2007 estimates and projections round, 5% of adult males aged 15 - 49 years were assumed to be current clients of FSW for the low estimate.
- **MSM:** There is no direct estimate of the size of the MSM population in Viet Nam. Studies in Asia suggest that 1% to 3% of males aged 15 years and older have practiced same-sex behavior in the last year. Because Ha Noi and HCMC are the principal economic, social, and cultural centers of Viet Nam, the population size of MSM in these provinces is thought to be much higher than in other provinces. Thus, for the low estimate, it was assumed that 1% of males aged 15 years and above in Ha Noi and HCMC are MSM. In other provinces, this figure was estimated to be 0.5%.
- **General female population:** The size of the general female population was calculated by subtracting the low estimate for the number of current FSW from the total number of women aged 15 years and older.
- **General male population (including former PWID and clients of FSW):** The size of the general male population was calculated by subtracting the low estimate for the number of current male PWID, the number of male clients of FSW and the number of MSM (both high-risk and low-risk) from the total number of men aged 15 years and older.

***For high estimates, the following assumptions were made about the size of each key population:***

- **PWID:** The high estimate was obtained by applying a multiplier to MPS numbers for each province. The multiplier was determined by examining data from mapping exercises of PWID conducted as part of routine Provincial AIDS Centre (PAC) work (reported in the D28 reporting form) and from projects supported by the World Bank and DFID. The estimated numbers of PWID obtained from these activities were compared with those provided by MPS to define the value of the multiplier. This value was carefully reviewed and agreed upon by the TWG as well as key stakeholders from PACs.
- **FSW:** MOLISA estimates were tripled to obtain high estimates for the population size of FSW, acknowledging the fact that the number of FSW actually managed by MOLISA is often a few times lower than the actual number.
- **Clients of FSW:** The high estimate was set at 10% of males aged 15 - 49 years.
- **MSM:** The high estimate for population size was established at 3% of adult males aged 15 years and above in Ha Noi and HCMC and 1.5% in other provinces.
- **General female population:** As with the low estimate, the size of the general female population was calculated by subtracting the high estimate for the number of current FSW from the total number of women aged 15 years and older.
- **General male population (including former PWID and clients of FSW):** As with the low estimate, the general male population size was calculated by subtracting the high estimate for the number of current male clients of FSW, the number of current male PWID and the number of MSM from the total number of men aged 15 years or older.

***Medium estimates were calculated by averaging the low and high estimates.***

**Table 1: Key assumptions made for population size estimations<sup>1</sup>**

Population	Low estimate	High estimate
PWID	Ministry of Public Security (MPS) data * 0.85 <sup>2</sup>	(MPS data * 0.852) * a multiplier
FSW	Ministry of Labor, Invalids and Social Affairs (MOLISA) data	MOLISA data * 3, or World Bank estimate (if the latter is higher)
Clients of FSW	5% of males aged 15 – 49 years	10% of males aged 15 – 49 years
MSM	Ha Noi and HCMC: 1% of males aged 15 years and older	Ha Noi and HCMC: 3% of males aged 15 years and older
General male	Other provinces: 0.5% of males aged 15 years and older	Other provinces: 1.5% of males aged 15 years and older
General female	Number of males aged 15 years and older – 95% PWID <sup>3</sup> (low est.) – MSM (low est.) – Male client (low est.)	Males aged 15 years and older – 95% PWID <sup>3</sup> (high est.) – MSM (high est.) – Male client (high est.)
General male	Females aged 15 years and older – 5% PWID <sup>3</sup> (low est.) – FSW (low est.)	Females aged 15 years and older – 5% PWID <sup>3</sup> (high est.) – FSW (high est.)
General female	Females aged 15 years and older – 5% PWID <sup>3</sup> (low est.) – FSW (low est.)	Females aged 15 years and older – 5% PWID <sup>3</sup> (high est.) – FSW (high est.)

1 These assumptions were made by the EPP Technical Working Group after careful review and triangulation of all existing data sources available on size estimates of different populations as well as through consultations with provincial PACs. Please see: EPP Technical Working Group, Ministry of Health. Preliminary results of HIV estimations and projections in Viet Nam 2013. 2013.

2 As estimated by the MPS, 85% of drug users practice injecting drug use.

3 Assuming that female PWID account for 5% of total PWID population.

- o General population size: using data from Spectrum v 5.3 (already cross-checked with General Statistics Office Report.(GSO, 2011. Population Projections for Vietnam 2009 – 2049)
  - o HIV prevalence
    - PWID:
    - + 1994 – 2004: HSS
    - + 2005 – 2013: EPP 2013 output
  - FSW:
    - + 1994 – 2004: HSS
    - + 2005 – 2006: EPP 2013 output
    - + 2007 – 2013:
 

EPP 2013 output showed an increasing trend of HIV prevalence among FSW. However, the trend among male clients showed a decline (EPP 2013). We calculated the reduction in HIV prevalence among male clients:

$$\begin{aligned} &= [\text{HIV prevalence 2006 among male clients (EPP 2013)} - \text{HIV prevalence 2013 among male clients (EPP 2013)}] / \text{HIV prevalence 2006 among male clients (EPP 2013)} \\ &= (1.22\% - 1.09\%) / 1.22\% = 10\% \end{aligned}$$

We used this reduction rate (10%) and applied to adjust for HIV prevalence among FSW (EPP 2013)
- 

A	B	C	D	E	F	G	H	I	J
2	Year	2006	2007	2008	2009	2010	2011	2012	2013
3	HIV prevalence among FSW (EPP, 2013)	4.92%	4.97%	5.02%	5.08%	5.17%	5.20%	5.25%	5.34%
4	Adjusted for 10% reduction	4.92%	4.85%	4.78%	4.71%	4.64%	4.57%	4.50%	4.43%
5	Formula for adjustment	=C4							= C4*0.9

---

- MSM: EPP 2013 output for “reachable MSM” group only.  
We used the EPP file, excluded all the calibration factors to adjust for non-reachable MSM, and took output as a result on estimated HIV prevalence among reachable MSM.
- General population females: EPP 2013 output  
We used the 5 last data points only to include in the model.
- o Behavioural data

Method:

- Reviewed data from different sources according to data mapping table
- Prepared table with indicator values by provinces and years
- Excluded outliers (small denominators, out of range when reviewing trend)
- Calculated mean, median and mid-point of the mean and median
- Calculated weighted average for population size
- Reviewed the mean, median, mid-point and weighted average. The TWG decided which value to include in the AEM baseline workbook.

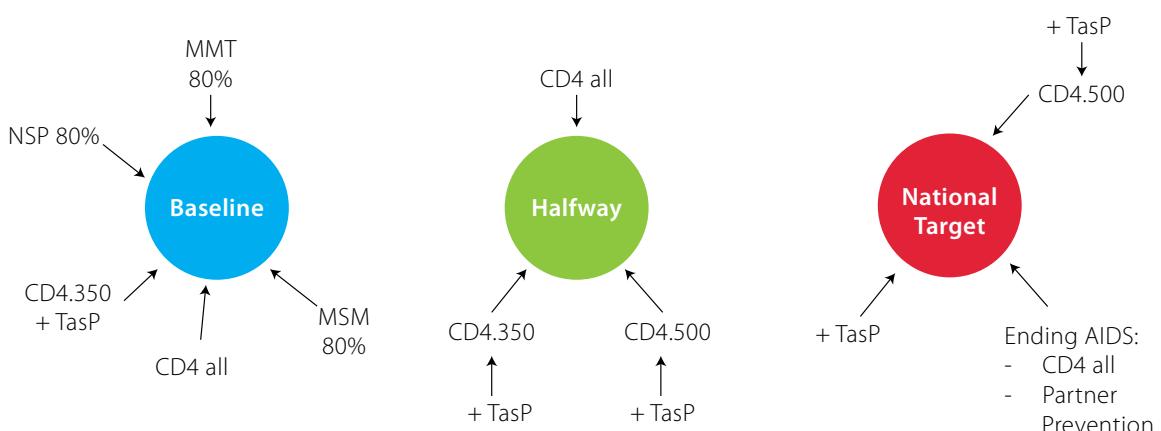
- o ART: Programme data from the VAAC Care and Treatment Department was used to obtain the total number of people receiving ARV treatment from 2002 to 2012.

Following the input of the data, the AEM was run and fit. The Working Group validated the model outputs (see below) against case report figures. This enabled the adjustment and refinement of the AEM baseline

#### **Definitions and assumptions of model outputs**

- o The epidemic model generated from behavioural data and HIV prevalence data
- o The number of current infections, new infections, the male/female ratio, and the percentage of PLHIV who are also PWID (among current and new infections)

Once the baseline data had been validated, the Working Group developed intervention baseline (current programme coverage) models. Following a review of meeting notes with VAAC leaders, 3 sets of intervention models based on specific policy scenarios to be modelled were discussed and agreed upon. Finally, the intervention workbooks ("scenarios") were analysed using the AEM impact analysis tool, which enables the comparison of scenarios in terms of resource needs and effect on new infections and deaths averted and DALYs saved.<sup>1</sup>



#### **Scenario set 1**

1. Baseline
2. Halfway
3. National target CD4 350
4. National target CD4 350 + immediate ART for key populations
5. National target CD4 500
6. National target CD4 500 + immediate ART for key populations
7. Ending AIDS by 2030 (National target + CD4 all + partner prevention)
8. Worst case

<sup>1</sup> DALY: disability-adjusted life year

### **Scenario set 2 - Strategic use of ART**

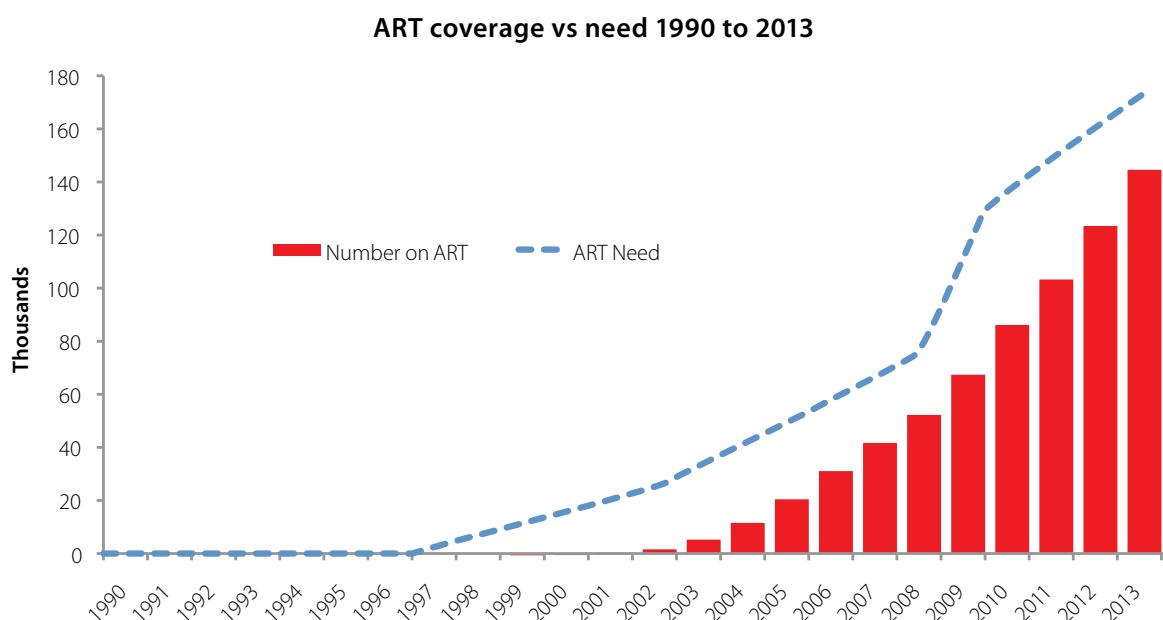
9. Baseline
10. Halfway prevention + CD4 350, coverage 80% (national target in set 1)
11. Halfway prevention + CD4 350/gene pop + immediate ART for key populations, coverage 80%
12. Halfway prevention + CD4 500, coverage 80%
13. Halfway prevention + CD4 500/gene pop + immediate ART for key populations, coverage 80%
14. Halfway prevention + CD4 all, coverage 80%

### **Scenario set 3 - Cost effectiveness prioritization**

16. NSP only: 60 and 80%
17. MMT only: 35 and 80% (NSP 20%)
18. MSM only: 70 and 80
19. FSW only: 80
20. Discordant couples only (couple counseling and testing: 2020 = 80%)
21. Treatment all 80% only
22. CD4 350 + immediate ART for key populations
23. CD4 500 + immediate ART for key populations

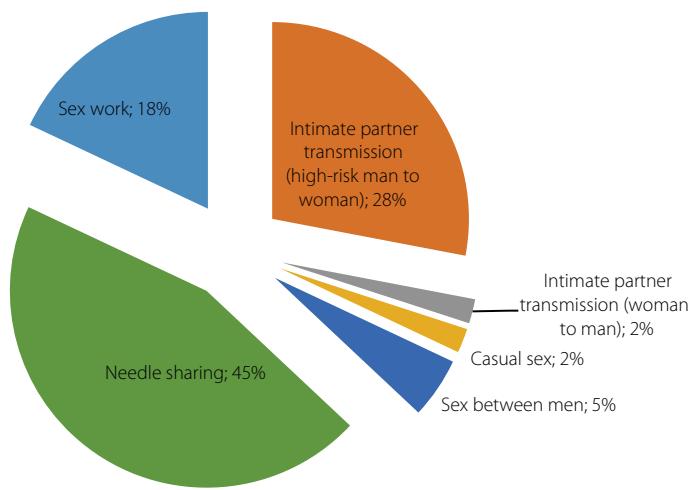
#### ***Baseline***

The AEM baseline model was used for the modes-of-transmission analysis and ART needs estimates of the Investment Case. Below are the key graphics generated. The full set of output values are available in the AEM workbook.

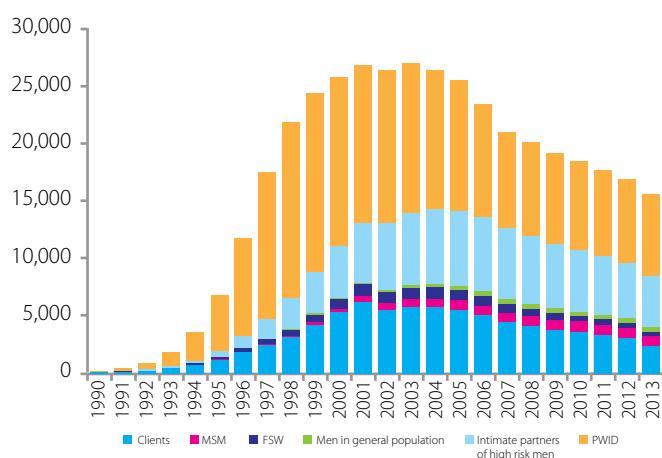


Sources: VAAC ART programme data and analysis, 2014. Viet Nam AEM

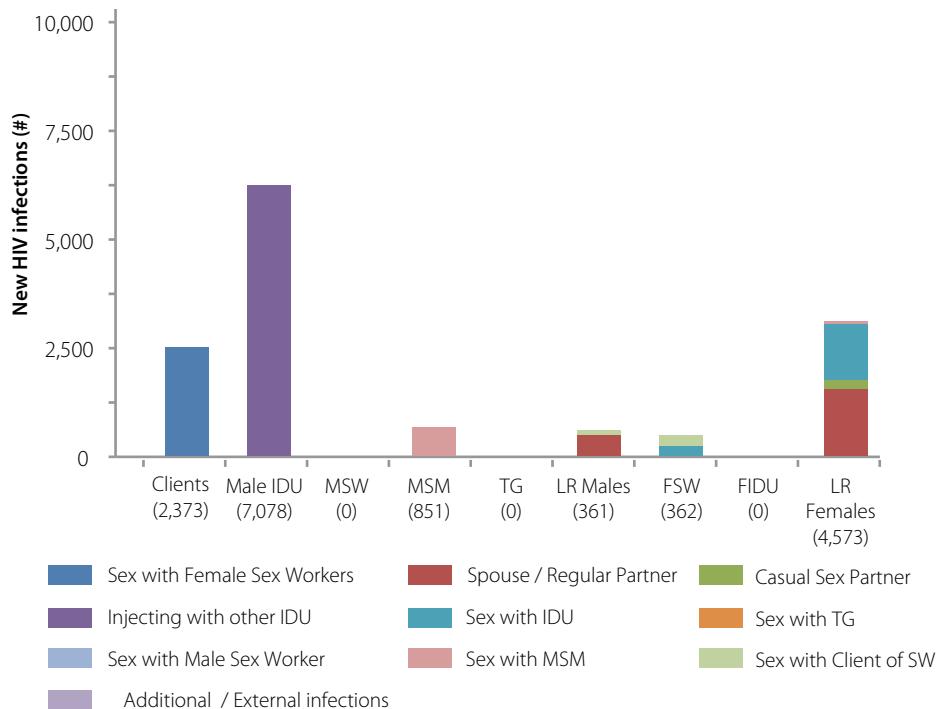
**Figure 2: New HIV infections in 2013 by mode of transmission**



**Figure 1: Annual New HIV Infections: by Risk Population, 1990-2020**



### Distribution of source of new infections by sub-population 2013



### Unit costs

The AEM depends on the establishment of unit costs for interventions for the modelling of cost effectiveness. These calculations were based on inputs from the Vietnamese Government (national unit costs) and international donors, including PEPFAR and the Global Fund to Fight AIDS, Tuberculosis and Malaria. Calculations were undertaken for the following commodities:

- Condoms
- Lubricants
- Needles and syringes
- Methadone
- Voluntary Counselling and Testing
- Peer educators
- Meetings (outreach)
- ART and OI treatment

In addition, cumulative costs were established for groups of interventions for the key populations: direct FSW, indirect FSW, higher-risk MSM, needle and syringe exchange for PWID, MMT for PWID and the long-term female sexual partners of PLHIV and PWID.

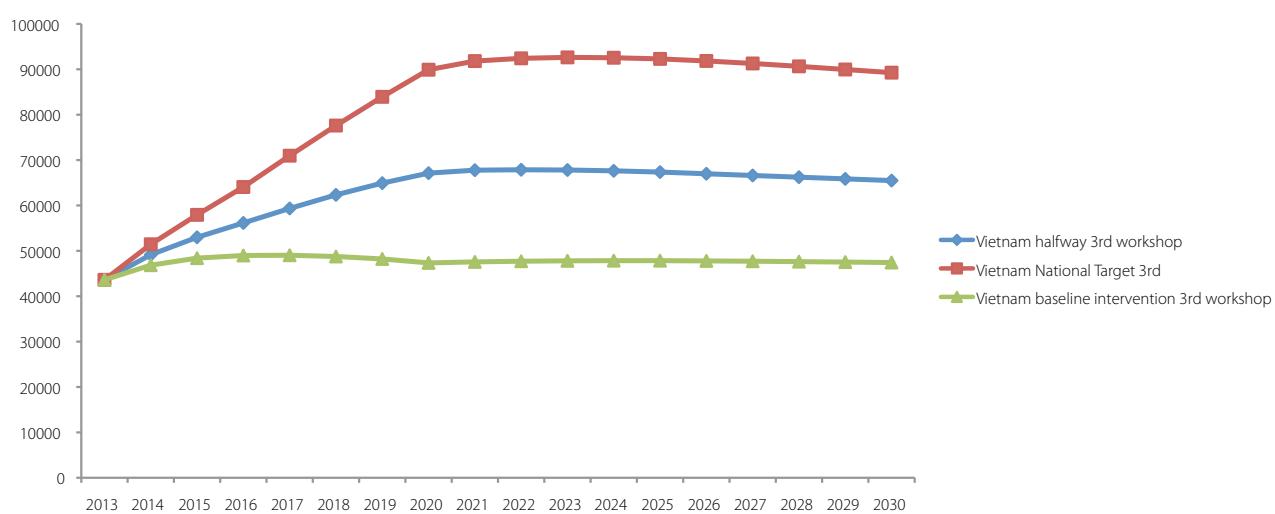
The estimated unit costs were repeatedly refined and validated with input from government and international donor technical experts at each of the AEM workshops. The scenarios used for this Investment Case are based on the unit costs agreed at the third workshop in July 2014:

**Figure 2: Unit costs used for the AEM modelling, July 2014**

	Direct FSW	Indirect FSW	Higher Risk MSM	IDU (NSE)	Partner of HIV positive people and IDU's	IDU (OST)	ART with OI
Condom	17.33	17.33	2.97	2.48		2.48	
Lubricant		-	8.17				
Needle		-		36.5			
Methadone		-					
VCT	4.82	4.82	2.41	4.82	2.41	4.28	
PE	14.29	14.29	14.29	14.29			
Meeting	0.95	0.95	.095	2.86		2.86	
<b>Unit cost (US\$)</b>	<b>37.39</b>	<b>37.39</b>	<b>28.79</b>	<b>60.94</b>	<b>2.41</b>	<b>181.83</b>	<b>285.85</b>
<b>Total Unit cost including non basic program. (US\$)</b>	<b>57.52</b>	<b>57.52</b>	<b>44.29</b>	<b>93.75</b>	<b>3.71</b>	<b>279.74</b>	<b>381.13</b>

When included in the various scenarios, the unit costs were used to generate comparisons of the required resources. For example:

**Resource Needs 2013-2030**



## **Limitations of the AEM**

The Working Group identified several limitations of the modelling that could be remedied for future exercises:

1. Women who inject drugs (WWID) were not disaggregated from the general population of women (they are included in the group of women who are long-term sexual partners of PLHIV/PWID). This decision was taken by the Working Group based on the fact that the population size of WWID is believed to be very small, there is little data available for that group, and many are believed to be included in the female sex worker population.
2. There are potential overlaps in the definition of the female long-term sexual partners of PWID and PLHIV.
3. The modelling of DALYs saved is based on new infections averted only, and does not include deaths averted.
4. The AEM resource needs analysis used average unit costs which may not reflect the varying unit costs of various projects and implementation modalities.
5. The AEM resource needs analysis does not include resource needs for PMTCT or pediatric ART.

