The Global Fund
To Fight AIDS, Tuberculosis and Malaria

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, additionality 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.**

Applicant Information			
Country	**GHANA**		
Funding Request Start Date	**1 JULY 2015**	**Funding Request End Date**	**31 DEC 2017**
Principle Recipient(s)			
If the programs are to be managed as separate grants:			
Funding Request Start Date for HIV	**1 JULY2015**	**Funding Request End Date for HIV**	**31 DEC 2017**
Principal Recipient(s) for HIV	**MOH, PPAG, ADRA & GAC**		
Funding Request Start Date for TB	**1 JULY2015**	**Funding Request End Date for TB**	**31 DEC 2017**
Principal Recipient(s) for TB	**MoH**		

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 in Ghana

Introduction

The epidemiological information contained in the Concept Note (CN) is gathered from data and information from detailed reviews carried out for both the HIV/AIDS and TB programs prior to the development of this CN. The Epidemiological Analysis (Epi Analysis) for HIV relied on findings from a series of antenatal HIV sentinel surveys (2005-2013); national Demographic and Health Surveys (DHS) 2003 and 2008, a number of behavioral surveillance surveys conducted since 1999 (4 among FSW, 2 among MSM, one each among miners, commercial drivers, and 2 among prison inmates), an Integrated Bio-Behavioral Surveillance Survey (IBBSS) in 2011 covering FSW and MSM, and prison inmates in 2012, and a KP Size Estimation for FSW and MSM in 2011. Additional data sources include the National Strategic Plan (NSP) for HIV and AIDS 2011-2015, the 2013 Midterm Evaluation of the NSP, Key Population Size Estimation of 2011, and National Strategic Plan for MARPs 2011-2015. The 2013 HIV Incidence and AIDS Prevalence Estimates from EPP/Spectrum modeling and routine HIV program data provide complementary information. MICS 2011 report also supported the evidence used in the Concept Note.

Current HIV Epidemiology in Ghana

Since 2005, Ghana has been determining its annual national HIV Prevalence and AIDS Estimates through Spectrum/Estimation Projection Package (Spectrum/EPP) modeling to guide the national HIV response. The 2013 Spectrum/EPP[1] modeling yielded an HIV prevalence of 1.30% in adults 15 years and older and 0.36% in children 0-14 years of age. The 2013 Spectrum/EPP modeling also estimated 224,488 persons living with HIV and AIDS (PLHIV), made up of 189,931 adults (85%) and 34,557 children (15%). The other relevant data from 2013 HIV Prevalence and AIDS Estimates

[1]National HIV Prevalence and AIDS Estimates Report 2013-2020

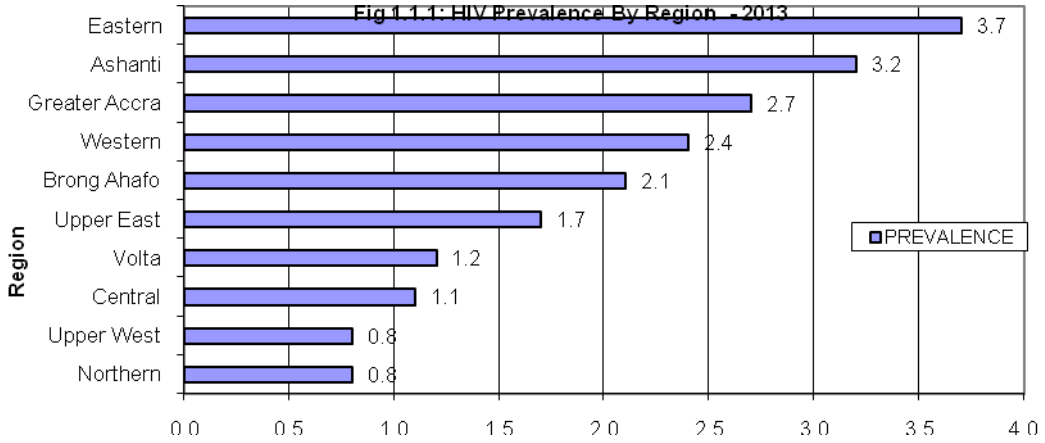
Report is as shown in table 1.1.1 .

Table 1.1.1: Selected Data from National HIV Prevalence AND AIDS Estimates 2013

	HIV Indicator	Adults	Children	Total	
1.	HIV Population	189,931	34,557	224,488	
2.	HIV Prevalence	1.30%	0.36%		
3.	New HIV Infections	5,405	2,407	7,812	
4.	AIDS Deaths	7,826	2,248	10,074	

HIV prevalence in pregnant women and regional variations: The median HIV prevalence among antenatal care (ANC) clients in 2013 was 1.9%; it ranged from 0.2% in Adibo (rural) to 11.6% in Agormanya (urban). Regional prevalence also ranged from 0.8% in Upper West and Northern Regions to 3.7% in the Eastern region of Ghana.

: The HIV prevalence varies between regions[2] and the regional variations are as shown in fig 1.1.1



Source: 2013 HIV Sentinel Survey Report, NACP GHS, MoH

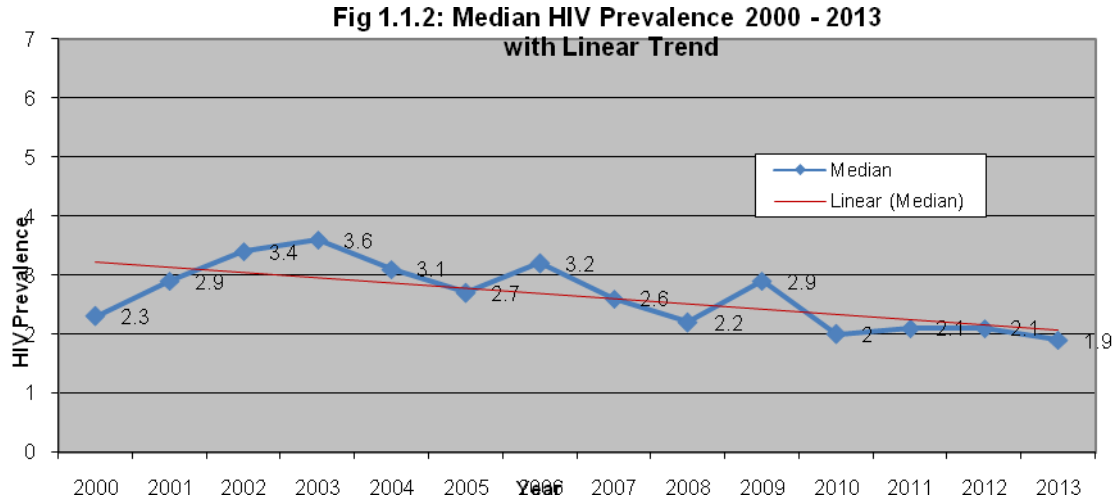
Trend in HIV Prevalence and Incidence in adults

The HIV prevalence has steadily dropped from about 1.8% in 2007 to 1.36% in 2012. The HIV prevalence and incidence are projected to drop gradually from 1.30% and 0.04% in 2013 to 0.99% and 0.01% in 2020 respectively.

HIV Prevalence: Trends in Pregnant Women and Location

The most consistent source of HIV prevalence data that provides prevalence trends over time with a reasonable geographic coverage is from the 40 antenatal clinics (ANC) sentinel surveillance sites using unlinked anonymous testing (UAT). The linear trend for HIV prevalence in pregnant women has been declining steadily since 2000 to 2013. (Fig 1.1.2)

[2]2013 HIV Sentinel Survey Report, NACP GHS MoH



The mean and median HIV prevalence of urban communities are 2.5% and 2.2% respectively and for rural sites are 1.4% and 1.3% respectively.

The 2013 HSS indicates the highest prevalence within the urban sites as 11.6% in Agomanya followed by Obuasi (5.4%) and Koforidua (3.9%) in that order. Jirapa and Ho have the lowest HIV prevalence (0.6 %) followed by Nalerigu (0.8%). Nine urban sites (Jirapa, Ho, Nalerigu, Assin Fosu, Navrongo, Tamale, Wa, Cape Coast and Bawku) recorded prevalence below the national median prevalence of 1.9% whilst seven sites namely Kumasi, Adabraka, Wenchi, Takoradi, Koforidua, Obuasi and Agormanya recorded prevalence above 3%.

From the 2013 ANC Sentinel Survey, two sites have been identified as definite hotspots with very high HIV prevalence (Agormanya 11.6% in Eastern Region and Obuasi 5.4% in Ashanti Region) whilst 4 others (Koforidua 3.9% in Eastern Region, Takoradi 3.8% in Western Region, and Adabraka 3.2% in Greater Accra Region) have been identified for closer examination due to relatively high prevalence levels and spikes over time. These areas merit additional investment to reduce the HIV prevalence.

Sex distribution of the HIV epidemic

.Analysis of data on men and women who were counseled and tested and received their results between 2010 and 2013 shows the number of females tested were consistently higher than males whilst the HIV positivity rates (period prevalence) were higher among males than females (Table 1.1.2). This contrasts with the gender pattern of HIV prevalence in general population in 2003 DHS, which indicates 2.7% among females against 1.6% among males aged 15 to 49 years were HIV positive.

Table 1.1.2: HIV positivity between Females and Males 2011-2013

		2011			2012			2013		
	Indicator	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**
1.	**# Tested and Counseled for HIV**	221,202	929,832	1,151,034	127,304	729,279	856,583	73,106	595,823	668,929
2.	**# HIV Positive Clients**	14,090	42,801	56,891	11,709	32,050	43,759	9,524	27,755	37,279
3.	**Percentage HIV Positive**	6.4%	4.6%	4.9%	9.2%	4.4%	5.1%	13%	5%	6%

HIV Risk Factor Analysis

The HIV Ghana Epidemiological and Impact Analysis 2014 that was conducted to provide information for the development of this Concept Note highlights trends in key protective and risk behaviors[3] in respect to HIV infection in the country. These include:

a) Low comprehensive knowledge of HIV: While awareness about HIV/AIDS is almost universal in Ghana, comprehensive knowledge is low and did not seem to show significant increase over time. In 2011, comprehensive knowledge about HIV prevention was 36.8% and 38.6% for young women and young men, respectively (MICS 2011).

b) Multiple Sex Partnerships are on the increase among men: The practice of multiple sexual partnerships particularly in sexual liaisons without the use of condom is a high-risk act for HIV

[3]HIV in Ghana: Epidemiological and Impact Analysis 2014 page 8

infection. MSP have increased among men to 13.8% in MICS 2011 compared to 11.4% in 2008 DHS. MSP is of high concern in Eastern, Ashanti and Greater Accra Regions. Reduction of MSP should be very high on the HIV prevention agenda in Ghana.

c) Declining trend in condom use behavior in Ghana from 2008 DHS to 2011 MICS in the general population: In 2008, 26.2% of male respondents aged 15–49 who had more than one sexual partner in the past 12 months reported the use of a condom during their last intercourse (DHS 2008). However, in 2011, 12.7% of men used condom during multiple sexual partnership. Among women, in 2008 (DHS), 25.4% of females using a condom at their last sexual intercourse of risk (i.e., sexual intercourse with a non-marital, non-cohabiting partner (2008, DHS). In 2011, 23.1% of women used condom during multiple sexual partnership (MICS, 2011).

HIV in Key Affected Populations (KAP)

Ghana has a low-level generalized epidemic coupled with a high-prevalence epidemic among FSW and MSM. Based on 2010 Modes of Transmission Study data, approximately 38% of HIV infections in the country are attributable to key populations with significant transmission amongst FSW, their non-paying partners (Non-PP) and clients, and the primary sex partners of clients (non-paying partners) and MSM. The NSP 2011-2015 recommends critical steps to further define and scale-up the key population's response. This includes ensuring better data to improve coverage and targeting of services and the definition of a service package for MARPs as stipulated in the National MARPs Strategy 2011-2015 with accompanying Standard Operating Procedures (SOP) to improve the equality of service.

1. **Female Sex Workers (FSW):**Surveillance among FSW indicates persistently high rates of HIV infection compared to the general population, although there is evidence of reduction in prevalence over recent years.. A 2009 biological behavioral surveillance survey among FSW in Accra and Kumasi identified an aggregate reduction in HIV prevalence from 37.8% in 2006 to 25% in 2009. A GAC-commissioned size-estimation as part of an integrated behavioral and biological surveillance study (IBBSS) conducted for FSW and MSM in 2011 reveals that:

a) HIV Prevalence: FSW respondents testing positive for HIV was 11.1%. The seater-female sex workers were more vulnerable to HIV (21.4%) than the roamers (6.6%). Greater Accra Region had the highest rates of HV prevalence (16.3%), Ashanti (13.0%), Northern (11.1%) and Western (10.5%).

b) The 2011 IBBSS found 79.2% of FSW using condoms every time they had sex with a paying partner. However, when it comes to sex with their Non-Paying Partners, consistent condom is only practiced by 20.1% of FSW. A higher proportion of seaters (58.5%) used condoms consistently with their non-paying partners compared to roamers (38.6%).

2. **Men who have Sex with Men (MSM):** No major MSM studies were carried out in Ghana before the 2011 Men's Study. Bio-behavioral data on HIV prevalence in MSM obtained from a GAC IBBSS and size estimation for MSM (Ghana Men's Study) in 2011 found overall, HIV prevalence was highest among MSM in Accra /Tema at 34.3% compared to 4.7%, 13.6% and 11.3% in Cape Coast / Takoradi, Kumasi and Koforidua, respectively. Bivariate analysis of the presence of HIV infection and demographic characteristics showed HIV infection is highest among older MSM across all Ghana Men's Study sites. The proportion of MSM infected with HIV increases with each subsequent age category. With the exception of MSM in Accra/Tema, generally, MSM with lower education have higher prevalence of HIV. When analyzed by employment status, HIV prevalence is generally higher amongst employed MSM in all the study sites compared to unemployed MSM. Analysis by income level shows that HIV prevalence is highest amongst the highest income earners in all the sites compared to lower income earners. Among respondents sampled in the Men's Study in 2011, 62% identified as bi-sexual, 66% paid for sex with men and 48% used condoms. Around half of MSM surveyed reported having sex with both male and female partners. Modeling indicates that MSM contribute to 7.2% of new infections with an estimated total population of approximately 34,470 MSM.

3. **Prison Inmates:** The National Health and HIV Survey of Prison Inmates in Ghana in 2013 is the first nationally representative bio-behavioral survey of HIV and other key health problems of prison inmates in the country. The study assessed the prevalence of HIV, hepatitis B virus (HBV), and other health conditions such as hypertension, malaria, diabetes, and underweight /overweight among prison inmates. The general HIV prevalence among prison inmates in Ghana was 2.3% but significantly lower among male inmates (1.5%) but higher in female inmates (11.8%). At the multivariate level, none of the HIV knowledge and behavioral variables was found to be significantly associated with HIV prevalence. HIV/AIDS awareness was found to be almost universal (99%), which is similar to the level of awareness in the general population. However, knowledge about HIV is not deep, as many prison inmates have some misconceptions about HIV transmission. Stigma about HIV appears be an issue among prison inmates, as nearly half

(46.4%) of the inmates stigmatize against HIV-infected persons with male prison inmates significantly less likely to stigmatize HIV-infected persons than their female counterparts (47.4% vs. 34.5%).

4. **Findings of the Epi Analysis 2014:** Based on the existing information, the HIV Epi and Impact Analysis 2014, conducted to support the development of this CN, concludes it is safe to have following conclusions for HIV epidemiology among key populations, comparing with the general HIV prevalence,
   i. Disproportionately higher HIV prevalence among MSM, FSW and TB patients
   ii. Epidemics among MSM and FSW highly concentrated in Great Accra and Ashanti regions, probably Eastern and Western regions
   iii. Higher HIV prevalence amongst STI patients and inmates
   iv. HIV prevalence may be decreasing among seaters with a small population size but not among roamers with a large population size
   v. There is no data to define HIV epidemiology amongst PWID.

Sources of new HIV infection

The 2008 Modes of Transmission (MoT) model generated 13,437 new HIV infections in Ghana. The highest proportion of new infections (30.2%) occurred among the general population (low risk population), female partners of clients of sex workers (22.2%) and individuals involved in casual heterosexual sex with non-regular partners (15.5%). Clients of sex workers accounted for 6.5% while female sex workers accounted for 2.4% of all new infections. Female partners of clients of sex workers accounted for one-fifth (22%) of all new infections. The findings suggest that HIV transmission is occurring both among and outwards from high-risk groups particularly, FSW/ clients, and MSM as well as within the general population.

Preliminary results of the just concluded modeling of the 2014 Modes of Transmission of New HIV Infections in Ghana 2014 released on 9th October 2014 indicate casual heterosexual sex contribute 39.3% of new infections (up from 15.5% in 2009), stable heterosexual sex 24.2% (up from 20.2% in 2009), PWID 3.6% (up from 1.5% in 2009), FSW 1.8% (down from 2.4% in 2009), and MSM 3.6% (down from 7.2% in 2009). The preliminary report concludes that the intervention efforts for MSM and FSW have contributed to the reduction in transmission in these groups but advices the PWID result be treated with caution.

AIDS mortality trends

According to the national HIV prevalence and AIDS report 2013, annual AIDS-related deaths in adults have plummeted by more than 50% from a little under 16,000 in 2006 to about 7,800 in 2012. The downward trend in AIDS-related deaths will continue but slowly to below 2000 in 2016. By 2020, the annual death toll will be about 1000. AIDS death among pregnant women has also dropped precipitously from about 1200 in 2007 to about 250 in 2013.

AIDS deaths in children less than 1 year of age and 1- 4 years have declined significantly between 2006 and 2013. This decline in child deaths is expected to continue till 2016 and flat line thereafter at about 50 deaths per year till 2020. AIDS mortality in children 5-14 years remains stubbornly high but is projected to decline steeply between 2014 and 2020.

Epidemiology of TB in Ghana

Prevalence and Incidence of TB in Ghana

Preliminary results of the 2013 National Prevalence Survey (soon to be officially released) is as presented below. (Table 1.1.3). Previous estimates by WHO had put TB prevalence at 92 per 100,000 population, compared with survey overall adult prevalence result of 286 (229-343). The newly calculated case detection is 21% (2013) compared to estimated value of 81% case detection rate for 2012**.** Possible explanation of this variance may include among others, the low sensitivity of screening and diagnostic tools, poor access to TB services by patients, stigma, low health infrastructure coverage of diagnostics and health care services and huge funding gap for TB control. This may be further investigated through operations based research. TB incidence is not yet estimated for Ghana.

Table 1.1.3: National TB Prevalence per 100,000 adult population (95% CI)[4]

		S+	All study cases
i.	Total	139 (97-181)	286 (229-343)
ii.	Male	206 (139-272)	334 (244-426)

[4] Initial TB Prevalence Survey Report (National Tuberculosis Health Sector Strategic Plan for Ghana) 2015-2020,Pp 34

iii.	Female	91 (49-135)	251 (187–316)
iv.	Age Group (years)		
v.	15-24	54 (16-92)	137 (73-201)
vi.	25-34	53 (1-105)	199 (117-281)
vii.	35-44	131 (59-203)	264 (140-388)
viii.	45-54	265 (163-367)	392 (256-526)
ix.	55-64	291 (101-481)	521 (305-738)
x.	65+	290 (106-475)	657 (410-904)

TB Case Notification

Notification data points to a generalized *TB epidemic* [5]with higher incident regions and districts. (Fig. 1.1.3 and 1.1.4)

There is a general divide between the north and south due to the skewed development of the country hence case notification is higher in the south than in the north except for the Upper East Region where the small size of the region allows for better access to health care services.

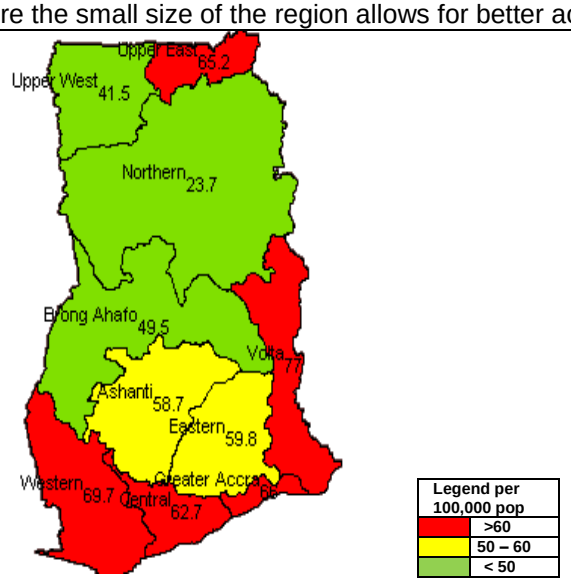


Figure 1.1.3: Regional TB Case Notification Rate per 100,000 Population, 2013

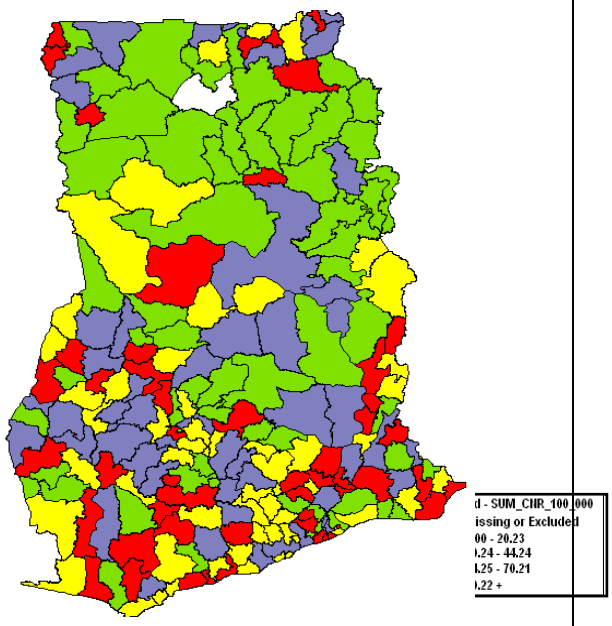


Figure 1.1.4: Case Notification Rate by Districts 2013

Geographical characteristics of TB epidemic in Ghana

The pattern of case notification is explained by

- Health infrastructure and human resource capacity coverage to detect and notify TB.
- Access to TB prevention and care (geographic, economic, and socio-cultural)
- Cross border districts with special implementation challenges (8 districts)
- Mining districts with high risk factors for TB (17 districts)
- Districts with associated high HIV prevalence
- Poverty levels by districts (pp 37,38)

Age-Sex Differentials of TB Burden

Since 2008 programmatic data have consistently shown more cases among males than females among the notified TB cases. The trend data shows that the rate of increase of new cases among males is much higher than that among females (Attached NSP pp 47).This can be explained by the fact that the burden of TB in males is higher as per the findings from the national prevalence survey results. The underlying reasons can be further investigated through program-based operations research. However, case notification data for 2013 suggests under diagnosis in the older age group 65+ years with relatively low TB case notification (for more informative analysis pp 34-43 NSP).

Tuberculosis in Children in Ghana

Between 2008 and 2013 cases among children constituted approximately 5% of all notified TB cases and ranged from 4.2% in 2009 to 5 % in 2013 (*NSP, pp 43-44*). The reason for the declining trends

[5] For more informative analysis (pp 35-38 of NSP)

in the proportion of TB cases among children in Ghana should be further investigated. However it is programmatically explained that, since 2010 there has been no systematic training on childhood TB. (for more informative analysis pp 43-44 NSP)

Prevalence of Drug Resistant TB

The prevalence of MDR-TB in Ghana is unknown. A DRS conducted in 2007 did not attain the expected sample size. Another DRS is planned for 2014 and efforts would be made to ensure attainment of the expected sample size.

Estimates provided by WHO based on case notification and HIV prevalence are provided and described. (see attached pp 47, 79 and 80 *NSP* for more informative analysis).

TB in Key Populations in Ghana

Key populations for TB in Ghana are PLHIV, prison inmates, children, miners, Diabetics, pregnant women and the elderly. These populations are scattered throughout the geographical spread in both TB high incident districts and non-high incident districts among the general population (for more informative analysis pp 47 NSP).

TB in PLHIV

The general observation from mapping of regional HIV sero-prevalence and regional TB case notification data is that, HIV sero-prevalence of 1.2% or more is associated with at least TB case notification rate data of 58 per 100,000 person population or more. The exception is in Brong-Ahafo Region where HIV sero-prevalence of 2.1% is associated with TB case notification rate of 49.5 per 100,000 person population. This can be a subject of operational based program research.

ART and CPT coverage: ART coverage among HIV positive TB patients increased from 13.9% in 2008 to 42.6% by 2013. There were regional variations in ART and CPT coverage. ART uptake is consistently higher in females than males at the national level and in all regions except in the Upper East and Volta Regions (NSP, pages 44-47).

The proportion of TB patients tested for HIV rose from 17% during the first year of the introduction of TB/HIV activities to 77.8% in 2012 but declined to 72.7% in 2013. In addition, the percentage of HIV positive persons with TB who were placed on ART increased from 13.9% in 2008 to 42.6% in 2013 while CPT uptake among HIV positive patients remained steady at around 70% during the past six years. (*NSP, pp 44-46*) In spite of this increases they are below program targets and important gaps for this plan (**for more informative analysis pp 44 - 47 NSP)**

TB in Prisons

TB case notification rate among prison inmates is higher (283 per100,000 population in 2012) than the case notification rate of 62 per 100,000 population in the general population. HIV prevalence among the prison population in Ghana is 2.3% (Male 1.5%; females 11.8%) compared with general population of 1.3%. Case detection in prisons is mainly passive. This approach will be complimented with active TB screening especially among PLHIV using Digital X-rays.(for more informative analysis pp 47 &48 NSP)

TB in Pregnancy

TB is known to be significant cause of ill health in pregnancy; however, this group is not systematically screened for TB. Data on TB in pregnancy is not available. However data from prevalence survey suggest that a number of asymptomatic pregnant women were culture positive for Tuberculosis. (Source: 2013 National Prevalence Survey) The AIDS program has prioritized 4 high HIV associated regions for intense PMTCT activities. Active TB screening among pregnant women will be integrated, as initial step before scaling up to cover entire country.

TB in Diabetics

With the increasing trend of non-communicable diseases, Diabetes Mellitus has become a major public health concern of the 21st century. With estimated national diabetes prevalence rate of 3.35% the risk of TB among diabetics is growing with the growth of the diabetes epidemic. Programmatic Data collected on TB in diabetes is limited. Among 6802 diabetics systematically screen for TB in two clinics using symptom screening tool, 499 were eligible for sputum test out of which 23 TB cases were confirmed over 2 year period.

Mining Populations

Mining takes place in all regions in Ghana. The population affected by mining in Ghana is not exactly known, but the mining population directly affected is estimated to be about one million including illegal miners scattered over 17 districts covering 6 geographic regions.

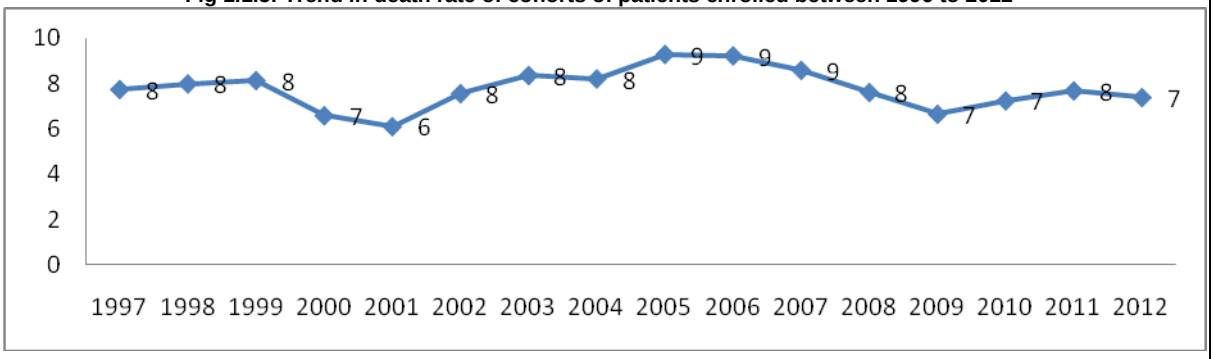
There are 17 well-known precious minerals mining districts where the Programme offers routine TB

control activities. The approach for case finding in Mining districts has been passive. This will be complimented with outreach community screening for illegal miners and those exposed to silica.*(For additional information see attached NSP, pp. 26-27, 68)*

TB mortality trends

Mortality trends estimates are by WHO projections. The latest report (WHO Country Profile, 2014) indicates a downward trend of general TB mortality with a rate of 4 per 100,000 population in 2013. However, routine programmatic TB Case fatality rate among smear positive cases has not appreciably decline, but stable over the last 15 years varying between six and nine percent. See Figure 1.1.5 below.

Fig 1.1.5: Trend in death rate of cohorts of patients enrolled between 1996 to 2012



While approximately seven percent (7%) of the new smear positive cases reported at the national level died, regional variation in death rates is noted. Brong-Ahafo, Northern and Upper West regions had higher death rates while lower death rates were reported in Greater Accra, Ashanti and Western regions. In 2012 two teaching hospitals (KATH and KBTH) and seven regions reported death rates that were significantly higher than the national average. (*NSP, pp. 50-51*) It is likely that the high death rates in the Teaching Hospitals may be due to high rates of TB/HIV co-infection but this requires further (for more informative analysis pp 51 NSP).

The Epidemiology of HIV/TB Co-infection in Ghana

A baseline study of HIV among TB patients revealed a co-infection rate of 14.7%.[6] In the last six years, following implementation of the first joint TB/HIV planning guidelines, there has been an improvement in TB case detection and management among PLHIV in Ghana. In 2012, 51,061 PLHIV on ART were screened for TB and whereas in 2013, 45,217 were screened for TB.[7] In 2013, 2,740 TB patients were diagnosed with HIV of which 37% (1,003) received ARVs. [8] An AIDS-impact model projects an additional 30,000 new TB cases in Ghana attributable to HIV/AIDS annually by the year 2015.[9]

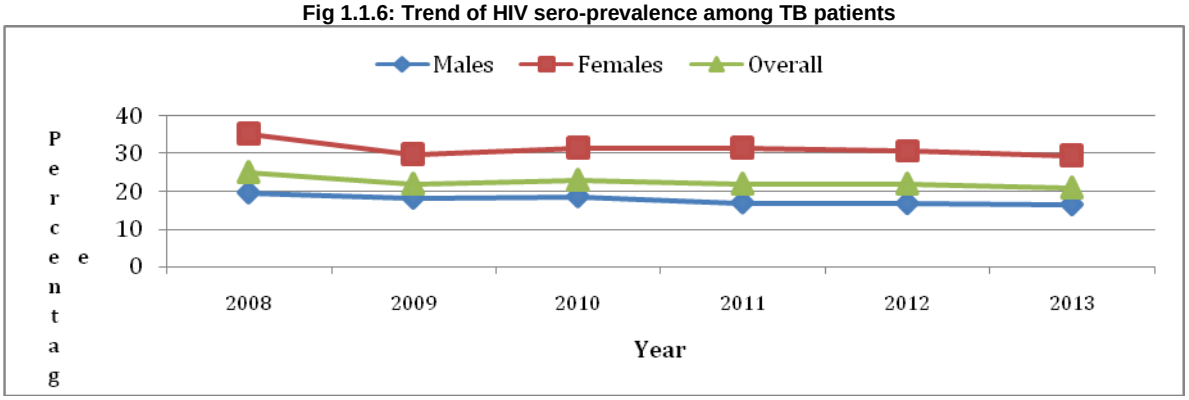
Hospital studies have shown the prevalence of HIV in TB patients is 25-30% and that as many as 50% of patients with chronic cough could be HIV positive.[10][11][12][13]

HIV Sero-prevalence among registered TB patients:

Analysis of TB data in Ghana between 2008 and 2013 shows more females are HIV sero-positive than males as shown in Fig 1.1.6.

[6] Addo KK,Bonsu FA HIV /TB surveillance report, 2008.
[7] NACP Annual Report 2013
[8] NTP Annual Report 2013
[9] HIV in Ghana. Epidemiological and Impact analysis, 2014,
[10] NTP/GHS Annual report 2013
[11] AnkrahTC, Roberts MA,Antwi P,AtubrahMP, BawuahPP et al. TheAfrican AIDS case definition and HIV serology inmedical in-patients at Komfo Anokye TeachingHospital, Kumasi, Ghana.W Afr J Med 1994; 13(2): 98-101.
[12] FrimpongEH, Lawn P, DwemohB,AffulB & AcheampongJW. HIVinfectionintuberculosispatientsinKumasi,Ghana.GhanaMedJ1997; 31b:850-854.
[13] HesseIFA & NeequayeAR. HIVinfectionin pulmonary tuberculosispatients admittedtothe Korle Bu Teaching Hospital,Accra,Ghana in 1996-1997.Ghana MedJ 2003;37(1):7-11.

Fig 1.1.6: Trend of HIV sero-prevalence among TB patients



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

TB key affected populations of PLHIV, children, diabetics, and miners or those exposed to silica, and majority do have access to general health services but are often missed, because the programme has not prioritize or targeted the risks groups for intervention.

HIV Key populations that may have disproportionately low access to prevention, treatment, care and support services include FSW, MSM, PWID and prison inmates. Legal barriers are the common thread enjoining FSW, MSM, PWID and prison inmates to have low access to services: All these groups are breaking/have broken the laws of the land in one-way or the other and also suffer much stigma and discrimination in the general population, even sometimes from health care providers. FSW, MSM, and PWID are often targeted by law enforcement agencies and are liable to arrest, prosecution and imprisonment or fine and so they are afraid to access services particularly at public facilities. Prison inmates also face stigma and discrimination and prison health services are poor. For inmates to attend health facilities outside prison they must be accompanied by prison warders at all times and prison authorities are unlikely to grant this except in very rare conditions.
Young people 15-24 years have very poor health seeking behavior, as they believe they are healthy and do not require health services. Very often, young people are loathed to attend public health facilities that also cater for adults and children as they feel they are neither adults nor children. In the absence of adolescent-friendly health facilities, young people are less likely to attend facilities where they feel uncomfortable.
Persons whose jobs take them away from home for long periods of time e.g. police and the military personnel on operations away from base and long distance truck and bus drivers and their assistants often have low access to health services as the jobs often leave them with little time to seek health services.

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

Laws, policies and socio-cultural and economic norms and practices greatly underpin and influence how human rights barriers and gender inequalities impede access to health services.

Human Rights and the Laws in Ghana
The Constitution of Ghana provides for equal rights to all citizenry (Constitution of Republic of Ghana, 1992 Article 37(2) (a & b). The directive principles of state policy, enshrines the provision of health services as a basic right to all Ghanaians.[14] Whilst this is laudable, the same Constitution criminalizes sexual activities of KPs (FSW and MSM) that makes them to be afraid of arrest, prosecution, and imprisonment as well as stigma and discrimination that drive them underground, which then impede their access to health care services including HIV prevention, treatment and care. However, efforts are being made by stakeholder organizations and some civil societies to ensure FSW and MSM have unhindered access to health services: the law enforcement agencies, the judicial service, and the Commission for Human Rights and Administrative Justice (CHRAJ) have been assisted to have a better understanding of the situation of FSW and MSM as key drivers of the HIV epidemic and the need for them to access health care including HIV prevention information and

[14] Constitution of Ghana: Directive Principles of State Policy. Chap 6 pg

services.

Gender inequalities and access to health services

1. **Education**: Even though many more girls are attending secondary school in Ghana now than in the past, gender inequality between boys and girls still persists in access to school education. Girls with some secondary education are up to six times less likely to marry as children, making education one of the best strategies for protecting girls and ending child marriage with its attendant health risks. Pregnancy-related complications are the leading cause of death for adolescent girls aged 15-19 in Ghana; therefore addressing gender issues in adolescent health is critical. Adolescent girls and women with some secondary education have greater understanding of HIV and are more likely to negotiate condom use with their partners and, if married, to have greater bargaining power and say when it comes to sexual relations.

2. **Child marriages**: Ghana's child protection law, the Children's Act, prohibits child marriages; however, data from the MICS 2011 shows about 28% women age 20-24 got married before the age of 18 years, about 6% before 15 years. Most of these women live in the rural areas of Volta, Western and Northern regions of the country. Many of them are in polygamous marriages and are exposed to contracting STI /HIV from their sexual partners. Their husbands are usually much older and more experienced sexually and may carry STIs including HIV, which they may pass on to the young brides. They usually have such dominance over the girls to the extent issues about sexuality cannot be openly discussed or the girls cannot access reproductive services such as HIV counseling and testing. Education of such girls is usually truncated once they enter the marriage; they do not have the power to negotiate safe sexual relationships with their husbands and are therefore at increased risk of unwanted and frequent pregnancies and acquiring sexually transmitted infections such as HIV.

3. **Sexual and Gender Based Violence (SGBV):** According to UNAIDS, women who have experienced violence are up to three times more likely to be infected with HIV than those who have not (UNAIDS 2010). This comes as a reflection of domestic violence that occurs in various Ghanaian homes. Rape contributes to HIV transmission due to tears and lacerations resulting from the use of force. In turn, the tears and lacerations facilitate the transmission of HIV from an infected to an uninfected person. Gender based violence is often fuelled by alcohol. Women, who fear or experience violence, lack the power to ask their partners to use condoms or refuse unprotected sex. Fear of violence can prevent women from learning and/or sharing their HIV status and accessing health care services for treatment.

4. **Harmful gender norms around masculinity and femininity**: Community acceptance of norms of masculine behavior and men's use of power over women promotes power inequality between the genders, which can lead to violence. Several forms of male dominance, while supported in greater numbers by men, are also widely accepted by women. Male masculinity and ego has lowered men's health seeking behaviors: for example, the uptake of ART (and other HIV and AIDS services) is comparatively lower among men than women in Ghana. This, according to Dako-Gyeke[15] et al. is a result of men's low health seeking behavior and the intent to not being identified as having HIV/ AIDS. Gender inequalities especially as a result of socio-cultural barriers exist in some areas. For example, in some communities in the North, women will have to seek permission from their husbands and mothers-in-law before seeking health care. And the GDHS 2008 shows that, only 25% of women currently married aged 15-49 years usually make decisions about their own health care in Ghana [GDHS 2008, p. 282]. Societal standards in Ghana encourage husbands' promiscuity while simultaneously preventing wives from insisting on condom use, thus exposing the woman to sexually transmitted infections including HIV.

5. **Harmful traditional rites:** Harmful traditional rites may deny women from knowing their HIV status or increase HIV risk for women and men. Customary practices in some local communities regard normal physiological processes such as menstruation and giving birth as abominations. According to Tagoe 2013[16], these abominations in Dove in the Volta Region, prevent women from exercising their right to health and accessing reproductive and child health services including STI/HIV prevention education, counseling, testing and treatment. And Ayagiba in her

[15]Dako-Gyeke et al. International Journal for Equity in Health 2012, 11:62; http://www.equityhealthj.com/content/11/1/62

[16] Tagoe P.T. 2013. Commonwealth Human Rights Initiative: Violence against women. [Accessed on 11th September, 2013] http://thechronicle.com.gh/violence-against-women/

presentation on "Widows Rights in Northern Ghana" notes that widows are forced to sleep with unknown men whose HIV status is not known as part of rites they have to perform when their husbands die[17]

6. **Income Equality:** Throughout the world including Ghana women, on average, have lower cash incomes than men. This is an example of a gender inequality. Inadequate cash may prevent women from seeking medical care because they are unable to pay transport cost to the health facility or to pay for consultation and purchase any prescribed medication.

These critical gender issues discussed above will form the drivers that will inform interventions for the prioritized modules (modules 1-11).

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.

The Ghana Health Service (GHS) and the Teaching Hospitals are agencies of the Ministry of Health (MOH); they form the public health sector. The private sector is made up of faith-based private not-for-profit and private-for-profit health institutions. The MOH is responsible for policy making and regulation of healthcare practice in the public and private sector. The GHS is responsible for service delivery including the management of human resources, infrastructure, systems and supplies for efficient health care service in a three-tier delivery system that includes primary (health center), secondary (district hospital) and tertiary levels (specialist and teaching hospitals). Districts are divided into sub-districts, which are further sub-divided into Community Health Planning & Services (CHPS) zones.

The following are the key health systems in Ghana that have impact on the delivery of HIV and TB services.

1. Procurement and Supply Chain Management

The MoH operates an integrated sector-wide procurement and supply chain management system for health commodities and other related products. This system is meant to ensure the continuous and reliable availability of sufficient quantities of quality-assured, effective health products to end-users, procured at the lowest possible prices in accordance with national and international laws. Across all levels of service delivery challenges exist in the areas of commodity quality, pricing and availability.

Key Challenges include:

- Poor distribution of goods from central medical stores to health facilities and inadequate number of haulage vans.
- Inadequate storage: Storage conditions and stores management procedures throughout the supply chain and within facilities are highly variable and not up to standard.
- Data Challenges: Modern automated information system for the management of health commodities is limited throughout the supply chain.
- Weak Quantification of commodities: Capacity in commodity quantification and stock management is weak at all levels.

These challenges would be addressed by implementing specific aspects of the Sector's Supply Chain Master Plan, which covers the provision of haulage vans, training in quantification and stores management and Improving and expanding on the LMIS.

2. Health Information Systems and M&E.

The main health information system tool used in the health sector is the District Health Information Management System (DHIMS2). All the regions and districts are using DHIMS2 to capture data and report on sector indicators. Challenges of the HMIS exist and include weak integration of data and data quality at all levels in the health sector (HSMTDP Reports 2010-2013), low data completeness and timeliness.

To address these challenges, continuous training of M&E officers, improve on data integration between programmes and DHIMS and strengthen supervision and monitoring of data quality, timeliness and completion.

3. Human Resource for Health (HRH)

The key function of the HRH is the production, equitable distribution, retention and management of

[17] Ayagiba B: 2012. *Widow's Rights in Northern Ghana (page 1)* – Addressing Inequalities: Global Thematic Consultation on the Heart of the Post 2015-Development Agenda and the Future We Want for All.

the health workforce. In support of the Community Health Service close to client system, more Community Health Nurses are being trained to serve at the CHPS Zones
A major challenge in human resource development and management is inequitable distribution of critical health staff.
The sector will invest in the implementation of the HR strategic plan by completing and implementing the staffing norm and comprehensive staff redistribution plan**.**

Community Systems
Ghana operates an integrated decentralized health service especially at the district, sub-district and community levels. Community-based services are provided through the Community-Based Health Planning & Services (CHPS) system where Community Health Officers (CHOs) work with community volunteers, traditional community leaders and other community-based organizations and structures to increase access to integrated package of health services, including those for TB and HIV (and Malaria and MNCH services).
A typical district with a population of 100,000 has one hospital, 5 health centers and 10-15 CHPS zones [MPR 2013, p.58-59]. There are nearly 2,000 CHPS zones in the country, most of them in rural communities. The implementation of the HIV Community and Home Based Care (CHBC) and Community TB Care (CTBC) services have leveraged extensively from the CHPS system. The strengthening of the community system offers enormous opportunities for scaling up CBHC and CTBC for the HIV and TB programs respectively. Integration of the CHBC and CTBC activities will further improve the health outcomes and impacts of both diseases.
Village Development Committee (VDC) is a key community-based institution, which provides oversight and accountability for development activities including health and social services. The CHOs in the various CHPS zones are linked closely with VDCs and other community-based organizations (CBOs) such as women and youth groups, and PLHIV and TB support groups for the promotion of health activities, including those for TB and HIV. These CBOs engage in various health-related activities like social mobilization, awareness raising and sensitization on environmental sanitation. Capacity of these community-based organizations to carry out their core functions is often poorly developed. There are also issues with accountability and monitoring of community-based initiatives.

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.

National TB Strategic plan Ghana

a) For further details on Goals, objectives and implementation of strategic interventions and key activities please refer to pages 57-97 National Strategic plan.

The goals, objectives, and main strategic interventions of the TB NSP 2015-2020 are summarized in Table 1.2.1. The ranking of the priorities in descending order are 1,2.and 3 as in table 1.2.1

Table 1.2.1:Summary of goals, objectives and main interventions

Goals	Objectives	Main Strategic Intervention	Priority
Goal 1: To reduce by 20% the 2013 TB prevalence baseline level of 286 per 100,000 person population by 2020 in line with post 2015 Global TB Control Strategy	Objective 1: To early screen, detect and enrol into treatment all forms of notified (new cases) from 15,606 in 2013 to 37,302 by 2020, while increasing the proportion of bacteriologically confirmed pulmonary TB from 51% in 2013 to 60% by 2020	1.1 Improve health facility based TB case finding 1.2 TB screening in key affected populations: i) Household contacts ii) Diabetics iii) Children iv) Prisoners v) Miners 1.3 Improve quality of laboratory diagnosis 1.4 Improve HR Capacities 1.5 Engage other private care providers 1.6 Communication strategy to reduce stigma	1
	Objective 2: To early detect and enrol into treatment at least 85% of confirmed MDR-TB cases among new and previously treated cases by 2020	2.1 Early diagnosis of drug resistant TB including universal drug susceptibility testing	
Goal 2: To reduce by 35% the 2012 TB mortality rate baseline of 4 deaths per 100,000 person population by 2020	Objective 3: To attain higher treatment success for all forms of TB from 84% in 2012 to at least 91% by 2020 through improved quality clinical care and community TB care	3.1 Improve quality clinical care of TB patients (DOTS) 3.2 Provide Patient care & support 3.3 Improve , treatment & care of drug resistant tuberculosis 3.4 Strengthen coordination and collaboration among DR-TB management teams 3.5 Community TB care 3.6 Strengthen community systems to improve TB outcomes (CSS) 3.7 Timely Procurement & Drugs & logistics Management	2
	Objective 4: To reduce death rates of TB/HIV co-infected cases from 20% in 2012 to 10% by 2020 and uptake of ART coverage among co-infected from 37% in 2013% to 90% by 2020	4.1 Intensify TB Case finding among PLHIV 4.2 TB infection control in health care facilities and prisons 4.3 Coordination of HIV/TB activities at all levels	
Goal 3: To end the TB epidemic in Ghana by 2035 without catastrophic cost due to TB affected families	Objective 5: To improve Programme management; coordination Monitoring & Evaluation and operations research to support treatment and screening strategies for TB/HIV	5.1 Programme Management & Supervision 5.2 Monitoring & Evaluation 5.3 Operations Research 5.4 Promote infection control in DOTS corners, ART and MDR-TB centres and among health staff 5.5 Implement TB screening interventions in maternal, new born and child health and NCD programs 5.6 ProcureTechnical Assistance	3

Target populations

The TB Epidemic in Ghana is generalized; therefore the target is the whole population of Ghana with special attention for *specific key populations*. The size of various risk group as a percentage of total population, and as absolute number is presented in Table 1.2.2 below. Similarly the prevalence of TB in each risk group, total number to be screen, and estimated prevalent cases are presented for each risk group in the same table. The analysis indicates that approximately 60% of population in need or at risk of TB are reachable with proposed screening strategy in the risks groups. The total TB cumulative number in need for the period of 2015 to 2020 is estimated at 435,085**.**

Table 1.2.2: Target Population for Various Risk Groups

Screening Site	**Risk Groups**	**Size of Risk Group**		**Prevalence of TB in Risk Group**				**Risk Group # to be Screene**	**# Case s**
		Risk Gp	**Absolute # of Risk**	**TB Prevalenc**	**Relativ e Risk**	**Reachable % of pop**	**% pop acceptin**		

		as % of pop	Gp	e/ 100k pop	of TB		g screening	d	
Community	Gen pop	100%	24,965,816	286.0	1.0	50%	60%	7,771,379	22,226
	HH contacts	0.6%	22,307	3,100.0	10.8	70%	70%	10,931	339
	Comm. contacts	0.8%	75,215	978.1	3.4	50%	60%	22,565	221
Hospital & Health-care settings	PLHIV	0.5%	230,000	5,720.0	20.0	60%	83%	114,540	6,552
	Diabetics	10.0 %	2,496,582	889.5	3.1	50%	50%	647,615	5,760
	Gen outpatients	4.0%	998,633	572.0	2.0	50%	57%	295,312	1,689
	Preg. women	10.0 %	2,496,582	429.0	1.5	65%	90%	1,515,419	6,501
Residential institutions	Prisoners	0.5%	124,829	572.0	2.0	100%	100%	129,523	741
Workplaces	Miners & others exposed to silica	0.1%	24,966	858.0	3.0	60%	84%	13,056	112

An important childhood TB screening strategy for children and those under 5 years will be implemented as part of household contact investigation. Similarly children with HIV will be systematically screen for TB. The use of Gene Xpert in childhood TB diagnosis will be explored. It is projected to screen 489,608 community and household contact for TB index cases within a 6 year period.

Within the period, 1,367 MDR-TB cases are expected to be confirmed of whom at least 1,161 would be enrolled on treatment with available resources and capacity.

b) **TB Control Plan Implementation** 1994**-2013**

Three strategic plans have been successfully implemented within the period from 1994-2013. The implementation was to address the neglected TB problem, make it visible, and build the necessary infrastructure, with the ultimate goal of reducing the TB burden.

With full time appointment of Programme Manager, the Central Level Team was strengthened ensuring establishment of the form and structure of the NTP as it is today. This set the platform for development and implementation of strategic plans through resource mobilisation, capacity building, supervision, protocols and guidelines development. The general approach of programme implementation was systematic roll out of interventions initially targeted at high incident geographic populations and key affected populations.

The first plan addressed TB quality issues of diagnosis and treatment in the big cities of Accra and Kumasi from 2002-2006. The second plan focused on higher incident geographic regions and simultaneously addressed service quality in 60 districts while focussing on key affected Prisons population (2006-2008). It was also expanded to address quality issues of treatment and diagnosis in 6 cities (urban areas).

The third plan (2009-2013) expanded to cover 10 cities (regional capitals), and targeted the low incident regions with quality diagnosis and treatment.

Through these strategic plan implementations, systems and infrastructure to improve quality access to at least 70% of the population is in place. This ensured sustainability of TB control services as is being experienced now.

The general collective efforts have been directed at:

1. Correcting quality deficiencies of DOTS implementation and integrating into public sector facilities countrywide.
2. Expanding private sector participation
3. Implementing Community based DOTS care.

The most recent strategic plan implementation 2009-2013 focussed on putting in place infrastructure to address the problem of TB/HIV and MDR-TB.

In all these, the National TB Control programme provided leadership to implementing partners to undertake comprehensive multiple interventions in detail at National, Regional district, sub-district and community levels through coordinated approach. Key interventions implemented are summarised below:

- Maintain quality standards of DOTS in all public sector facilities
- Engaging private sector providers in TB control

- Developing the capacities of the laboratories and health staff for drug resistant TB
- Streamlining drug procurement , distribution and logistics management
- Implementing community based TB care activities
- Implementing TB/HIV collaborative activities
- Implementing infection control interventions
- Support control of bovine tuberculosis
- Conduct relevant operations research for programme implementation
- Health system support and strengthened programme management at all levels
- Implementing ACSM activities for stigma reduction and treatment adherence

Presently therefore, the way forward is to scale up best practices and improved upon, while addressing bottlenecks along the way in a sustainable manner.

Financing

The financing mechanism of all the plans have been from Government of Ghana, DANIDA, and Global Fund Round 1, 5 and 10 grants, with TB CAP, USAID TB Care 1 project, and WHO providing technical assistance**.**

Table 1.2.3: Country Strategic Plan Funding Mechanisms

Strategic Plan Period	Funding Mechanism					Total
	GoG	GF	USAID	WHO	Others	
1994– 2000	Not Available	-	-	$2,400,000	DKK 11,000,000 ($1,870,748)	$ 4,270,748
1997 – 2002	Not Available	$ 5,687,055	-	$2,000,000	-	$ 7,687,055
2003 – 2008	$ 51,127,832	$ 31,471,684	-	$800,000	-	$ 83,399,516
2009 – 2013	$124,014,795	$ 31,779,698	$ 3,598,122	$ 1,060,000	-	$ 160,452,615

Funding from Global Fund grants has constituted between 15-60% of available funding for each year staring from 2003 to 2012 leaving each year with further funding gap.

Figure 1.2.1: NTP Budget (Blue) and Available Funding (Green) (USD millions)

Best Practices: Improving Programmes Quality & Accelerating TB Case Detection

1.Patient Support (Enablers' Package)

This is a pro-poor strategy that ensures both provider and patient are supported to work together to achieve cure. Application of this pro-poor intervention immensely contributed to overall quality in programme implementation with almost 100% evaluation for all cases detected and treated. Clearly there has been rapid decline in defaulting patients and other adverse treatment outcomes. (Figure 1.2.2).

The Enablers' Package is a carefully formulated initiative designed to improve early case detection and adherence to treatment by providing financial or material incentives such as food, transport

vouchers, money, and material goods, which will reduce the cost of seeking TB diagnosis and treatment. The current value of the Enablers' Package is USD 65 per patient for a six-month period. The distribution is 50% for the patient; 30% for the health staff; and 20% for the participating health facility. The package is an integral part of TB control in Ghana, and appears to have led to a decrease in the defaulter rates since its inception. In 2003 at the onset of implementation, the total value of the Enabler's Package was USD 100 per patient.

An independent external review of the National TB Control Programme led by WHO and USAID in 2013, attributes the successes of the Programme to the Enablers Package intervention[18] and community based TB care approach.

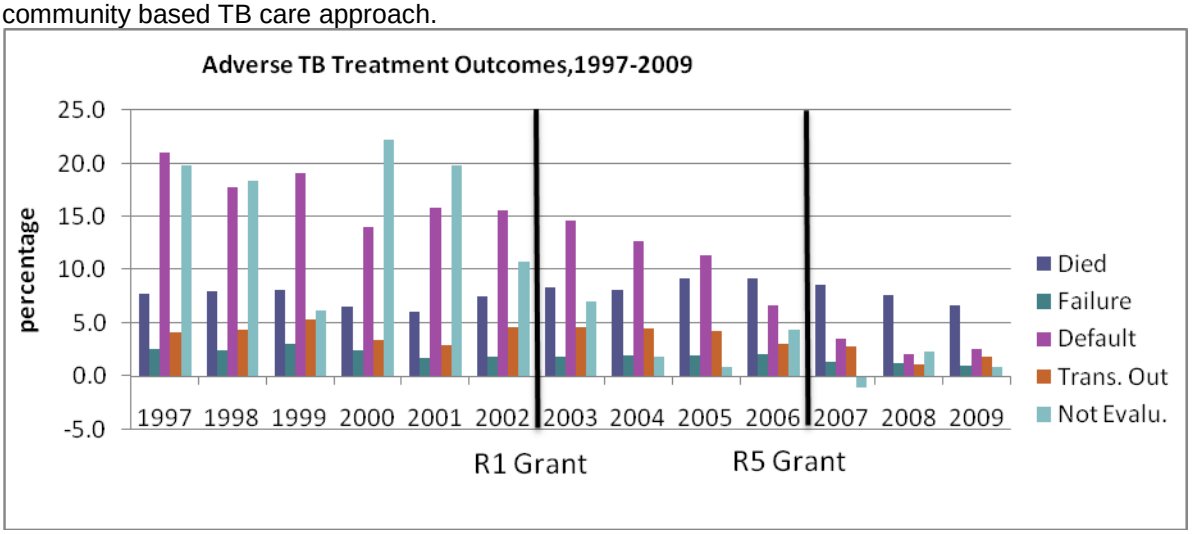


Figure 1.2.2: Trend of Adverse Treatment Outcomes 1997-2009

In the early stages of implementing the national strategic plans, two major cities with large and busy health care facilities had the highest defaulter rates. Strategically, therefore the programme targeted and focussed on these facilities. This yielded effective results in improving the quality of treatment outcomes in the cities remarkably reducing default rates from 19.7% to 0.8% with rapid decline compared to the national rate of decline. The intervention positively impacted on improving the overall national defaulter rates reducing it from 14.8% to 6.2% (See Figure 1.2.3 below).

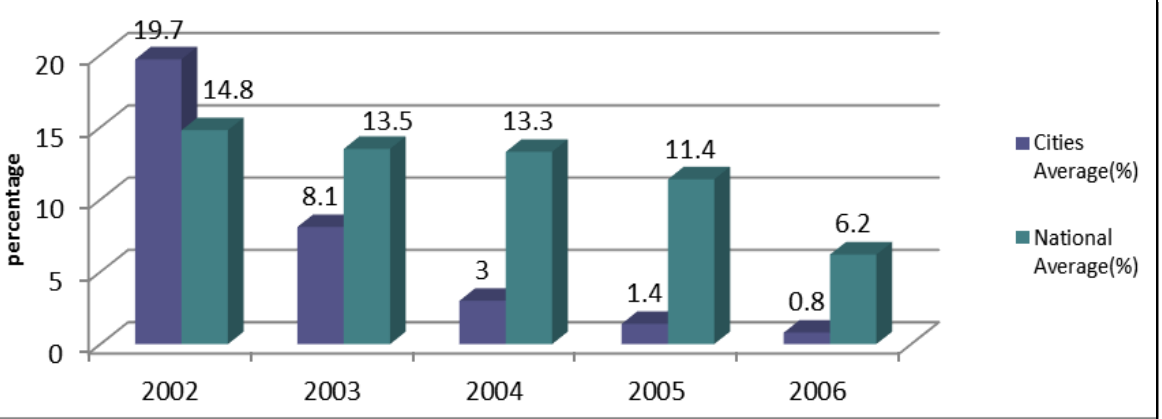


Figure 1.2.2: Comparative Trend of TB Defaulter Rates in Intervention Cities & National (2002-2006)

Achievement/Lessons

The lessons learnt from correcting quality deficiencies in DOTS implementation, providing patient care and support and private sector engagement were systematically applied in health care facilities leading to remarkable better treatment outcomes with improvements in defaulter rates (<5%) and other adverse outcomes (Figure 1.2.4).

[18] Comprehensive Review Report 2013

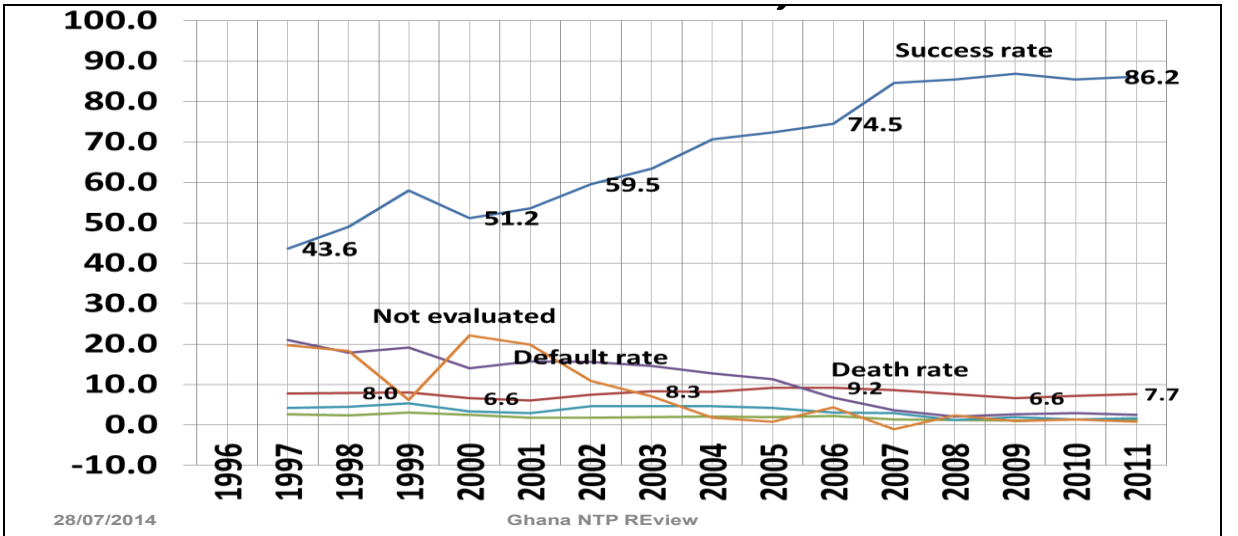


Figure 1.2.3: Trends of TB Treatment Outcomes 1996-2011

1. Implementing Innovative Case Finding Activities in Accra

Logically after successfully correcting quality deficiencies in health care settings and in districts, the next step was to look for sustainable ways of improving TB case detection. Generally the improved programme quality and surveillance system naturally also led to increased numbers of notified TB cases during the application of Global Fund assisted round based funding (See Figure 1.2.5 below)**.** Case notification rates however, appear to be stagnant around 60/100,000 person population in the last five years.

Informed by the criteria, easy access to interventions, feasibility and programmatic experience and cost a plan for accelerated progress towards TB case detection was designed. The programme was not oblivious of the fact that factors such as communities with high TB prevalence would lead to higher yield and more comprehensive screening will lead to more yields.

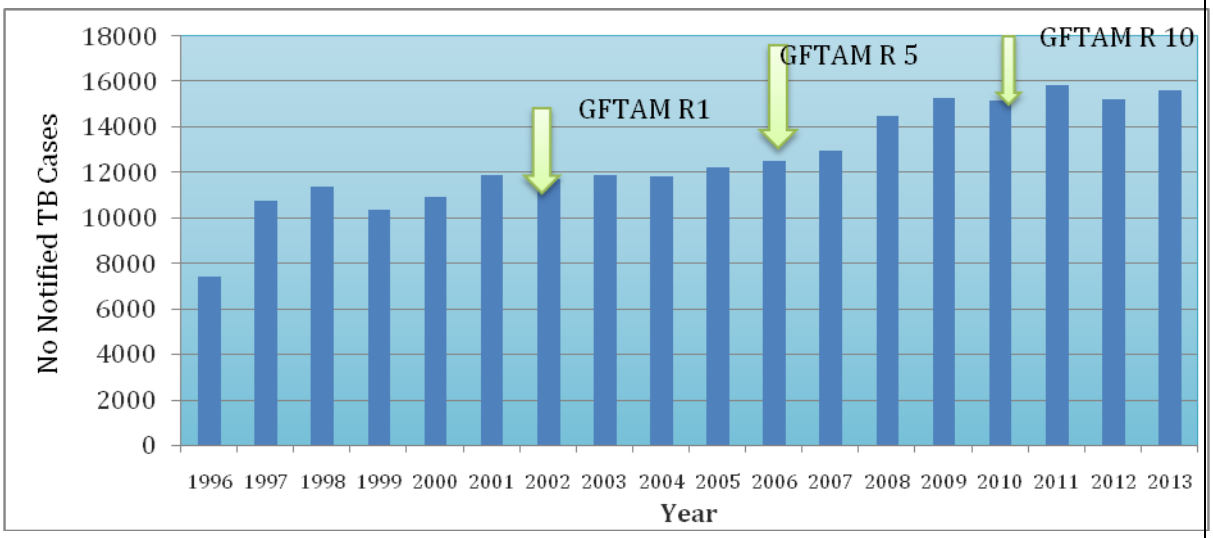


Figure 1.2.4: Trend of Reported TB Cases 1996-2013 Showing Global Fund Grant Start Years

TB Screening Prioritization

An approach therefore, on which to screen for TB was fashioned out based on TB case finding "Tree" as in Figure 1.2.6 below.

High branches: Community wide (door-to-door, mobile units, Prev. Surveys– Enhanced Case Finding) Door-to-door finds harder to reach patients.

i. **Mid-range branches**: (high yield; mod access) HIV-infected populations
ii. **Low hanging branches:** (mod/low yield; mod access) Diabetics, (Alcoholics/drug users/smokers)
iii. **Low hanging fruit:** (mod/high yield; mod access) Contacts; HIV-infected populations (many smear negatives; needing culture and Gene Xpert)
iv. **Fallen fruit:** (mod/high yield; easy access) Prisons; PMTCT; VCT, Hospital based case detection

Figure 1.2.5: TB Case Finding Tree

The programme have implemented fallen fruit, low hanging fruits/branches, and high branches strategies of the TB case finding "tree", drawing lessons to systematically expand to cover the network of health facilities, that is already prepared to support any additional cases detected for better treatment outcomes .
The challenge for the implementation was to address low TB case finding caused by health system delay and patients delay (estimated health system delay for TB diagnosis is 1.7 weeks and patient delay is 9 weeks). The intervention was in the city of Accra and non-intervention city of Kumasi as control.

Intervention: Fallen/Low Hanging Fruits/branches
Six relatively busy facilities of high outpatient attendance were selected for improvement in TB case detection in Accra. For the first time a provider initiated enhanced TB screening strategy was introduced in health care setting. Firstly, a period of time was used to study the health system through preparative activities, aim at getting the commitment of hospitals leadership and clinical staff. This was followed with staff orientation and re-arrangement of Outpatient department and patient flow. A triage nurse systematically screens all patients presenting with respiratory symptoms for TB using symptom based questionnaire, and those eligible fast track to the laboratory for examination. Frontloading of specimen was used and results were provided as much as possible within 24 hours or latest by morning of the following day. Standard operating procedure (SOP's) and diagnostic algorithms for TB case detection in Hospitals, Contact tracing, PLHIV, diabetic Clinics and community screening developed with assistance from TB Care project 1 was provided to institutions as reference material, after initial orientation for use. An institutional register was kept for each facility. As the intervention progressed task shifting officers and laboratory technicians were recruited to support the increase workload in most busy clinics.
A work plan was finally drawn, as shown below, with the institutions to integrate TB activities as part of routine services and for implementation by designated institutional TB focal point. Larger hospitals were expected to implement minimum activities including:

- OPD based case finding,
- Systematic screening for TB among PLHIV attending ART Clinics and
- Systematically screen for TB among vulnerable groups – Diabetic Clinics, Children's Clinics, Admission Wards and Other Patient Waiting Areas.

Table 1.2.4: Work Plan for Stepwise Introduction of Case Detection Strategies

Strategy	2009	2010				2011				2012			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Hospital-based case detection													
Contact investigation													

TB screening among Diabetics													
TB screening among PLHIV													
Involvement of pharmacies and chemical sellers in case finding													
Urban Slums													
Legend		Preparatory activities											
		Initiative implemented											
		Introduction of Task Shifting Officers											

Linkages of facilities with TB control services and Public Health Teams (District TB coordinator) was formally established. Facilities therefore received all surveillance tools, TB commodities and budget (enablers) to support patient care. The scope of work for institutions includes contact investigation, systematic screening for TB in PLHIV and diabetics (if the hospital runs a diabetic clinic). The work of the facilities was then linked with network of supported Health centres to ensure good referrals systems.

In 2010 with close monitoring and assistance from, and in partnerships with WHO/CIDA the following measures were systematically introduce within the programme context as presented in the Table 1.2.4 above.

Limitation/barriers to implementation and proposed solutions

The main barriers were:

- High laboratory work load
- Inadequate personnel/ high staff turn over
- Insufficient supervision from line Managers
- Slow response from health facility managers

The graph below (Figure 1.2.7) shows the additional laboratory workload as a result of the implementation, and how it was resolved with mutual benefits to the health system. The number of TB suspects sent to the laboratory increased which led to laboratory technicians complaining and threatening the implementation, until the Human resource aspects were addressed using task shifting officers and laboratory technicians in the very busy clinics.

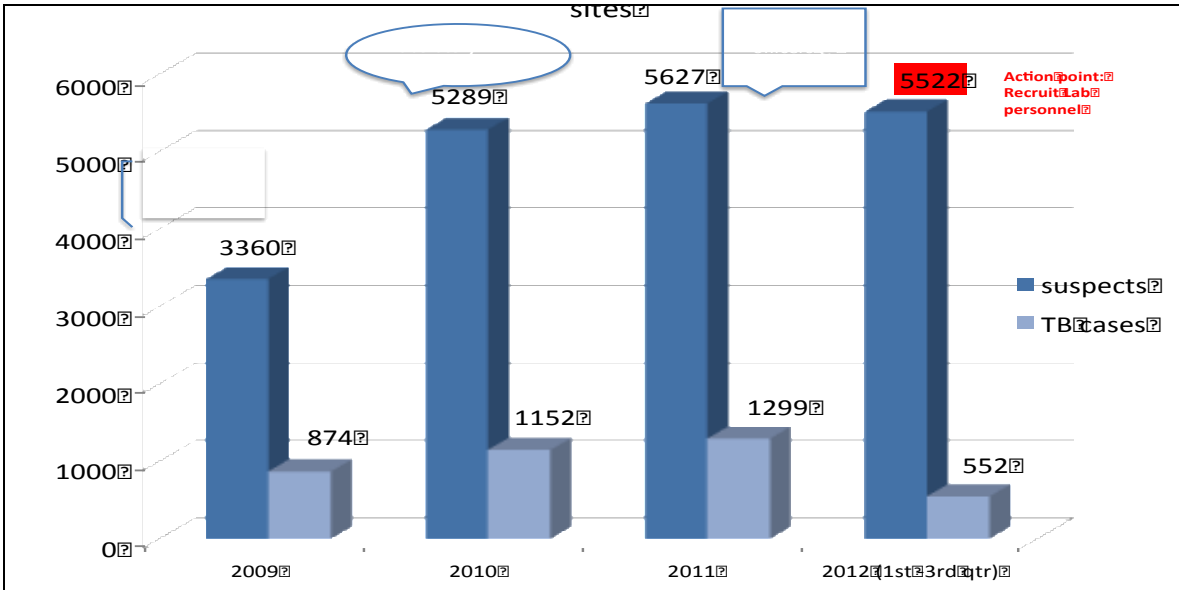


Figure 1.2.6: Trend of Suspects Screened With Smear Microscopy & Confirmed TB Cases at Intervention Sites Showing Health System Coping Mechanism

Results

The interventions detected cases that previously may have been missed. In all the interventions implemented the hospital based improvements exceeded target (Figure 1.2.8). The second best yield for TB was from screening PLHIV, followed by contact tracing, diabetic screening and community screening in pharmacies in that order. Potentially, all the cases detected from the interventions would have been missed if they were not systematically introduced.

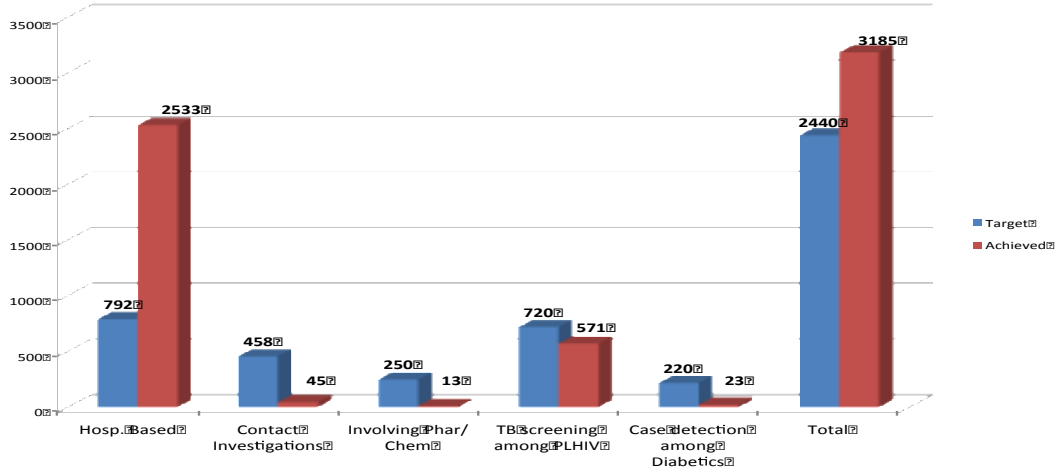


Figure 1.2.7:TB Case Finding Through Innovative Active Case Finding Interventions in Accra

Comparing trend analysis of TB case notification data with similar facilities in non-intervention city in Kumasi, an obvious increase in TB cases reported in the intervention city of Accra is observed (See Figure 1.2.9 below).

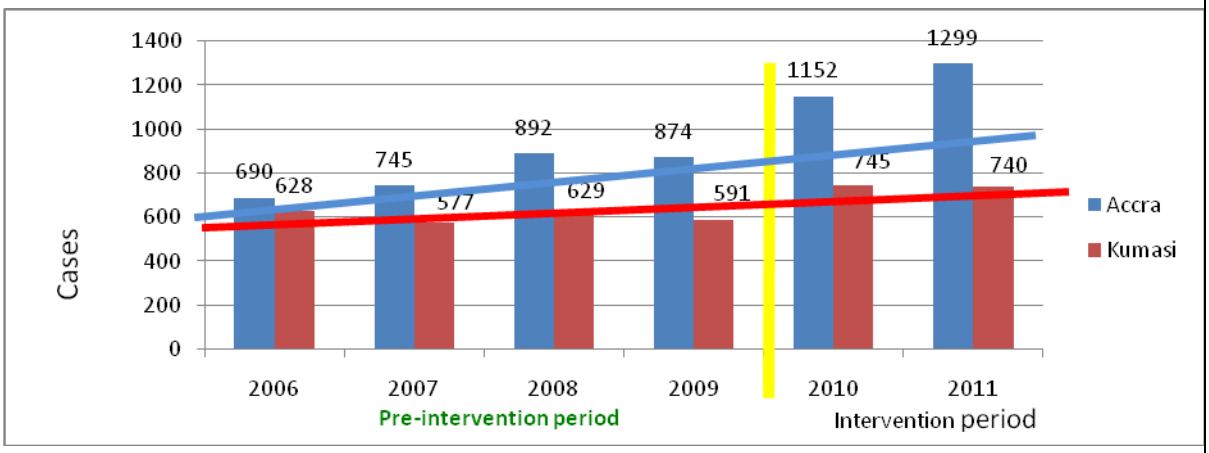


Figure 1.2.8:Comparative Trend of TB Cases Reported in Intervention and Non-Intervention Cities

Lessons

- Important lessons are listed below:
- Health personnel are willing to rearrange Out-Patient Department systems to include routine TB screening for respiratory symptomatic and other patients.
- Health laboratories accept sputum specimens from other health facilities without TB diagnostic capacity and referrals from Civil Society Organisation's (CSO's) working in the communities though this invariably increases the volume of work.
- Owing to a health system unique challenge of high staff turnover at Out Patient Departments, hospitals with high throughput OPDs required Task Shifting Officers to support screening at the OPD.
- TB services have been fully mainstreamed into the general health services at all levels of service delivery.

Health System Strengthening Effect

Infection control: The changes made to the hospital systems were used to strengthen health system, by contributing to improving infection control at overcrowded OPD's. Potential infectious presumed TB cases were promptly removed thereby reducing duration of exposure to other patients.

Human resource: Task shifting officers introduce to support workload at the OPD as a result of the systematic screening were also utilize by the hospitals for other tasks owing to the peculiar health system problem of rotational staff.(staff turnover)

Additional laboratory personal recruited to support the increased workload of sputum examination were also available to the hospital for other laboratory duties

Way forward

Further improvement for expansion to include network of facilities should include

- Intensify supervision and on-site coaching of case finding
- Use X-rays to compliment diagnosis as part of initial screening tool for suspects in selected implementing sites.
- Explore the use of newer diagnostics (e.g. Gene Xpert) to reduce turnaround time for diagnosis in PLHIV and selected Clinics.

2. Case Detection among key affected populations

While the general population is at risk owing to the nature of the TB epidemic in Ghana, the most vulnerable populations such as PLHIV, prisoners, diabetics, mining communities are scattered throughout the geographical spread in both TB high incident districts and non-high incident districts among the general population.

1. The strategic approaches therefore are to identify and screen the vulnerable populations in 4 key settings:
2. Hospital care setting(PLHIV, diabetes, elderly, pregnant women)
3. Community (household contacts, community contacts)
4. Residential institutions such as Prisons)
5. Work places(e.g. miners and those exposed to silica)

This has been tested and results obtained for PLHIV, diabetics and household contacts in the

hospital setting and will be systematically expanded to cover the network of health care facilities

Prisons

Prisoners have been systematically reached and integrated into routine programme activities in a sustainable manner. This approach has been passive. TB case notification rate among prisoners is higher than the case notification rate of 62 per 100,000 people in the general population. (See Table 1.2.5 below). In addition, HIV prevalence among the prison population is 2.3% (males 1.5%; females 11.8%) as compared to the general population of 1.3%19.

Table 1.2.1: Trend of TB Cases Diagnosed Among Prisoners in Ghana, 2007-2012

Year	Prison Population	TB Cases	TB Deaths	CNR/100,000 pop	Fatality	% TB Among Inmates
2007	13,335	94	12	705	12.8%	0.7%
2008	14,128	127	23	899	18.1%	0.9%
2009	14,171	182	19	1284	10.4%	1.3%
2010	13,500	68	17	504	25.0%	0.5%
2011	14,671	35	11	239	31.4%	0.2%
2012	15,171	43	14	283	32.6%	0.3%

Through an expanded collaboration with the AIDS Control Programme, different approaches would be employed in the current plan. Mobile digital X-ray equipment acquired in 2013 would be used to routinely screen all prisoners once a year to complement other interventions.

Mining Populations

Mining takes place in all regions in Ghana. The population affected by mining in Ghana is not exactly known, but population affected by precious minerals mining is estimated to be about one million including illegal miners scattered over 17 districts covering 6 geographic regions.

There are well known precious minerals mining districts where the Programme has undertaken activities. These mining districts/communities were systematically reached and the services integrated into the Programme. The approach has been passive. Results from these mining districts are presented in Table 1.2.6 below.

The performance of the mining districts indicates that they are at various stages of correcting underlying poor programme quality. The notified cases pattern is not different from other districts. The responses from implementing districts vary and are dependent on availability of infrastructure and health personnel.

Table 1.2.6: Routine TB Case Notification and Treatment Success Rates in Selected Mining Districts, 2010-2012

Region	District	Total Pop	Reported TB Cases			CNR/ 100,000 pop, 2012	Treatment Success		
		2012	2010	2011	2012		2010	2011	2012
Western Region	Tarkwa-Nsuaem	94,132	182	185	171	197.5	82.4%	93%	84.86%
	Prestea-Huni Valley	165,740	160	134	159	104.3	86.9%	97.8%	99.43%
	Wassa Amanfi West	167,677	84	98	119	77.1	92.9%	94.9%	97.85%
Eastern Region	Kwaebibirem	200,735	362	208	129	69.9	66.6%	78.4%	77.36%
	Atiwa	115,317	56	42	30	28.3	80.4%	95.2%	86.67%
	Birim North	82,256	42	62	56	74.0	90.5%	91.9%	76.79%
Ashanti Region	Obuasi Municipal	177,871	27	31	17	154.6	74%	83.9%	84.58%
	Amansie West	141,683	61	70	61	46.8	90.2%	98.6%	93.44%
	Asante Akim North	148,394	186	203	206	150.9	83.3%	69%	68.93%
Brong-Ahafo Region	Asutifi	110,768	42	58	48	47.1	90.5%	33.7	93.75%
	Tano North	83,694	54	59	41	53.2	78%	25%	90.24%
	Wenchi Municipal	93,914	26	27	32	37.0	53.8%	86.36%	84.32%

Active TB Screening (High branches intervention)

Mining & Urban vulnerable communities, refugees and host communities in a higher incident region (Western Region) using stepwise geographical community target approach and mobile diagnostic

[19] IBBS Among Prisoners 2014

van with active case finding team.
Among mining districts, urban slums and refuges populations some sections do not use TB services or health care in general. These vulnerable populations are harder to reach. Often they do not use our services and are relatively poor as compared to the general population. The Programme therefore in collaboration with TB Reach International Organization for Migration (IOM) intensified case detection efforts through a community screening approach in Sekondi-Takoradi Metropolitan, Tarkwa-Nsuaem Municipal, Prestea-Huni Valley Municipal, Ellembelle District and Jomoro District, all in the western region of Ghana. We compared case detection efforts with a control population.

Target populations: The target population for this project is estimated at 317, 495 (30.3% of the total Regional population) and broken down as follows:

a. Refugees, their host communities and cross border population in Jomoro district: 39, 695 (1000 refugees, 20,716 host population, 17,979 cross border population.);
b. Refugees and their host communities in Ellembelle district: 29,932 (4733 refugees, 25,199 host population);
c. Miners and communities around mine fields in Tarkwa district: 63,770 (10,594 miners, 53,176 person population around mine fields)
d. Miners and communities around mine fields in Prestea/Huni Valley district: 46,542 (3,333 miners, 43,209 person population around mine fields), and
e. Urban vulnerable living in slum-like settlements in and round Secondi-Takoradi Municipality- 137,556

Control population: Five districts that do not share or minimally share borders with the intervention districts formed the control population.

The intervention period was over one year, and was implemented as follows:

- Community mobilization and screening for chronic cough through door-to-door visits of targeted communities;
- TB screening using mobile diagnostic van with Gene Xpert MTB/RIF's machine of all presumed TB cases according to programme guidelines.

The use of Gene Xpert MTB/RIF was to address the problem of low diagnostic sensitiveness of microscopy.

Results

Initial results show that for the period Q2 to Q4/2013, the project achieved a 23% additionally on new sputum smear/bacteriological TB case notification and 30% on all forms of TB (See Table 1.2.7 below).

Table 1.2.7: Additional TB Case Finding through Active Case Finding Intervention in Western Region

	Population	Historical Baseline Notifications			Implementation Period Notifications			Unadjusted additional cases	% change from baseline
		Q2/12	Q3/12	Q4/12	Q2/13	Q3/13	Q4/13		
SS+/B+	Evaluation	139	113	142	145	170	149	70	18%
	Control	51	66	62	65	58	47	-9	-5%
	Difference (% Evaluation minus %Control)								23%
All forms	Evaluation	207	196	212	223	251	289	148	24%
	Control	65	92	95	85	75	77	-15	-6%
	Difference (%Evaluation minus %Control)								30%

Lessons:

- Community active screening of key affected populations is much more expensive compared to the others interventions and should be complimentary rather than as routine activity. The capita cost to detect and successfully treat a TB case in the intervention region is USD 127. (Source: NTP, Ghana). This compares to per capita cost to only detect without treatment in community active TB screening as USD 1667. (Source: TB Reach IOM)
- It would be difficult to implement this "project like" approach as an integral component of TB control services in higher incident regions and is unlikely to be sustained.
- The effective social mobilization lessons from this targeted approach would complement provider-initiated hospital or facility based TB screening (fallen/low fruits/branches interventions) for maximum effects.
- Results of the recent National prevalence survey study have shown that TB prevalence is high 657 (410-907) per 100,000 adult populations and in older age male population.

Targeted screening among this high TB prevalence population would lead to higher yield for TB.

HIV National Strategic Plan 2011-2015

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

The key goals (Impact Results) of the NSP 2011-2015 are: 1) Reduction of new HIV infections and 2) Reduce morbidity and mortality among people living with HIV (page 41). The key objectives are to 1) Reduce new HIV infection by 50% from 25,869 in 2010 to 12,934 by 2015 (page 41) and 2) Increase survival of adults and children with HIV known to be on treatment 12 months after initiation of ART from 89.8% in 2010 to 95% in 2015 (Page 41). The key program areas are: 1) Prevention of New Infections through Prevention of Mother to Child Transmission of HIV (page 42), HIV Testing and Counseling (page 45), Blood Safety (page 48), Universal Precaution and Post Exposure Prophylaxis (page 50), Behavior Change Communication (page 51) High Risk Sexual Behavior (page 53), Sexuality Transmitted Infections (page 57), and Most-at-Risk Population (MARPs) (page 58). 2) HIV Treatment, Care, and Support: Treatment of HIV and AIDS (page 65), HIV/TB collaboration (page 67),Care and Support for PLHIV (page 70), and 3) Mitigation of the Social and Economic Effects of HIV and AIDS: Reduction of Stigma and Discrimination (page 73), Access to Basic Needs for HIV and OVC (page 76).

a. 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.

The thrust of the NSP 2011-2015 is to reduce new HIV infections and AIDS-related deaths by providing high impact activities of targeted behavior change interventions especially for key affected populations, prevention of mother to child transmission of HIV and providing treatment, care and support for people living with HIV. Good progress is being made in reducing new HIV infections but less than expected coverage is being made in providing ART for PLHIV needing treatment and ARVs prophylaxis to prevent mother to child transmission of HIV. Table 1.2.8 shows selected impact and outcome results for the period 2011-2013.

Table 1.2.8: Selected Impact and Outcome Results NSP 2010-2013

	Indicator	2010 Baseline	2011	2012	2013	% Change 2010 & 2013
1.	New HIV Infections	14,165	12,077	7,991	7,812	-45%
2.	HIV Prevalence (Adult)	1.53%	1.5%	1.37%	1.3%	
3.	People Living with HIV (PLHIV)	230,363	225,478	235,982	224,488	
4.	AIDS-Related Deaths	17,231	15,263	11,674	10,074	-42%
5.	AIDS Orphans	183,480	181,788	192,193	184,168	
6.	# PLHIV Needing ART	38,188	113,414	121,027	125,396	+328%
7.	Number of PLHIV receiving ART	13,814	63,383	66,366	75,762	+548%
8.	% PLHIV receiving ART	36%	56%	55%	60%	
9.	# HIV Positive pregnant women needing ARVs for PMTCT	11,319	10,742	9,479	11,682	
10.	# Pregnant women who received ARVs for PMTCT	5,845	8,057	7,781	7,266	
11.	% HIV positive pregnant women attending ANC who received ARVs for PMTCT	52%	75%	82%	62%	

The key impact results of the NSP implementation so far include reduced number of new HIV infections and AIDS-related deaths. Between 2010 and 2013, new HIV infections have dropped by 45% from 14,165 new infections in 2010 to 7,812 in 2013. Females continue to be more infected than males: of the 7,812 new infections in 2013, 57% (4,442) are female. About 28% of the new infections in 2013 occurred in young people 15-24 years of age and 10.7% in children 0-14 years, an indication of the poor performance of the PMTCT program that has a target of achieving less than 5% HIV infection among infants born to HIV positive mothers. Between 2010 and 2013 the number of AIDS-related deaths has declined by about 42%, most probably due, in part, to the impact of ART program. More than 90% of deaths are in patients not on ART. In 2013, the number of AIDS-related deaths was 10,074 including 2,248 (22%) children 0-14 years.

The estimated number of HIV positive mothers in need of PMTCT was 9,479 in 2012; down from 11,319 in 2010. The PMTCT treatment coverage increased from 52% in 2010 to 62% in 2013. The MTCT rate was 2.74% in 2012 and 8.26% in 2013 at 6 weeks and 8.99% in 2012 and 20.6% in 2013

at the time of complete cessation of breastfeeding. The target MTCT rate is less than 5% of all HIV exposed babies.

HIV Prevalence: Adult HIV prevalence has dropped consistently from 1.5% in 2010 to 1.3% in 2013. The number of PLHIV seems to be consistently above 220,000 between 2011 and 2013. In 2013, an estimated 224,488 people were living with HIV, 57% of who were women and 18% children 0-14 years. This is, in part, due to patients surviving longer on lifesaving ARVs. The drop in HIV prevalence is likely due in part to the significant reduction in new HIV infections derived from HIV prevention and ART program efforts. HIV prevalence among pregnant women in 2013 indicated a national prevalence of 1.9%that ranged from 0.8% in the Northern and Upper West Regions to 3.7% in the Eastern Region. Four other regions (Ashanti, Greater Accra, Western and Brong Ahafo) had HIV prevalence of 2% and above. The trend analysis shows a decline in HIV prevalence in all regions.

PMTCT and EID coverage for 2013 are 62% and 17% respectively and have consistently been below national target of 95%. About 90% and 70% of pregnant women attend ANC visits at least once and 4 times respectively during pregnancy[20] and the low coverage may indicate lost opportunities for providing PMTCT and EID services. The reasons for the low PMTCT and EID coverage are many and include low male involvement (including couple HTC) in PMTCT, stock out of HIV test kits and ARV, challenges with transporting DBS, stigma and discrimination surrounding HIV and AIDS, and lost-to-follow up of mother and baby pairs. The PMTCT coverage will reduce considerably when the denominator changes from the current number of HIV positive pregnant women attending ANC to the expected number of pregnant women in need of PMTCT from 2015. The EID coverage is very small (17% in 2013) and woefully below national target of 95%. This low coverage will reduce considerably when the denominator changes from the number of babies born to HIV infected pregnant women who received HTC to the number of babies born to the expected number of HIV positive pregnant women from 2015. Going forward strategies to address the challenges associated with the poor PMTCT and EID coverage will include a) improving male involvement through reaching male audiences by targeting men's and boys clubs e.g. Men's Fellowships and Clubs and Boys Scouts, male dominated sports including football etc. and using male peer educators); b) continue establishing new PMTCT sites in hard to reach rural communities and EID at additional health facilities and training health providers (nurses, midwives, and lab technicians and scientists) to operate them to improve access to PMTCT and MNCH services to increase coverage; c) intensifying efforts to increase domestic funding including urging GoG to meet all financial commitments in order to procure adequate HIV test kits and ARVs and scale-up services d) Work with other stakeholders to improve the PSCM system (effective forecasting, quantification, procuring, adequate storage, and timely distribution from central and regional stores to health facilities including out sourcing) to address commodity stock outs; e) intensify efforts at strengthening the capacity of CBOs, community volunteers, support groups, and community leaders to reduce gender inequality (social and economic inequalities, traditional gender roles that make women subordinate to men, gender based violence, gender-bound cultural factors that make women want to continue having children despite HIV) and assist in tracking clients lost to follow-up and reduce stigma and discrimination against PLHIV and KAPs including the use of PLHIV and celebrity HIV Ambassadors; and outsourcing DBS transportation to the private sector.

ART coverage in 2013 is 60% and has been consistently below the national target of 85% since 2011. This below-target coverage will decrease considerably when the denominator for initiating ART changes from the current CD4 count ≤ 350 to CD4 count ≤ 500 in 2015. The ART retention rate of 72% is below expectation. The challenges associated with low coverage and retention on ART are similar to those for the PMTCT program: ARV stock out occasioned by inadequate funding and weak PSCM system, stigma and discrimination against PLHIV, high lost to follow-up (low retention) rate for patients on ART, inadequate access to ART services, and low ART coverage amongst men.
Going forward, the strategies to address these challenges are similar to those for the PMTCT program in addition to plans to a) continue establishing more ART sites and allowing ARV refills at sub-district hospitals and in for-profit private health facilities b) ART initiation by non-physician medical staff to increase coverage and improve access to ART services.(HIV Data Quality and Quality of Service Assessment in Ghana 2014)

The HIV program for Key Affected Populations (KAPs) started, in earnest, in 2011 with substantial financial investments that has enabled 46,129 FSWs, 11,918 MSM, and more than 12,465 prison inmates in 35 of the country's 44 prisons to be reached with HIV prevention

[20]Ghana Shared Growth and Development Agenda 2011 page 155

information and services (HIV education and information by trained peer educators, condom promotion and distribution, HTC, STI treatment, and support for mitigating stigma and discrimination and sexual and gender-based violence) by December, 2014 using nationally approved Standard Operating Procedures (SOPs) developed in 2012.The planned IBBSS in 2014/2015 will provide evidence on the coverage, size and prevalence of the KAP when compared with the results of the 2011 studies and provide evidence for KAP HIV programming. Meanwhile, the KAP program will continue to target known FSW and MSM hotspots nationwide as well as identifying new ones with HIV prevention information and services, provide more DIC as discussions and program data show KAP patronize them in preference to public health facilities, and continue to provide assistance to law enforcement agencies (the police and prisons service), the judicial service, CHRAJ, civil society human rights organizations, and health workers to ensure the rights of KAP and PLHIV are upheld and respected. As TB prevalence and fatality in prison are very high (TB prevalence 8%, and fatality 32%), going forward, TB screening will be included in the HIV program for prison inmates, which will be expanded from the current 35 prisons to all the 44 prisons in the country. The Draft Ghana AIDS Commission Review Bill currently before Cabinet includes an anti-discrimination clause that protects the rights of PLHIV and KAP and the establishing an HIV and AIDS Fund to provide dedicated and sustainable funding for the national HIV response.

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.

Major Limitations to implementation of the HIV NSP 2011-2015 include:

1. Weak PSCM system: responsible for poor quantification of needs and delayed procurement and ineffective distribution of essential HIV drugs and other commodities including HIV test kits, ARV, and condoms leading to frequent stock outs that have contributed to low program performance especially for HTC, PMTCT, and ART services.
2. Weak HMIS: Delayed and incomplete reporting and suboptimal data quality continue to plague the HMIS leading to provision of inaccurate data for decision making that contributes to poor quality of services
3. Inadequate number of trained service providers for HIV and TB services leading to task shifting and task sharing in efforts to maintain service coverage; shortage of qualified health care providers has led to delays or inability to establish new service delivery sites especially for HTC. Shortage of staff is due, in part, to government moratorium on public sector employment
4. Weak capacity of CBO involved in community-based HIV and TB care: Poor human, material, and financial resources and inadequate management and technical capacity of CBO have contributed to low community involvement in TB and HIV programs leading to poor treatment adherence and high lost-to-follow up of TB and HIV treatment defaulters and challenges in tracking TB contacts.
5. Inadequate funding of the NSP: Funding from both the domestic and external sources is always not enough to adequately fund all key activities in the NSP leading to scaling back and downsizing of planned activities leading to low performance of the response.

The Report of the Mid-term Review of the NSP 2011-2015 in September 2013 has documented a number of lessons learned that will inform future HIV programming including:

1. The use of social media as an innovative approach has helped reach some otherwise inaccessible KAP e.g. closeted middle-class MSM in Accra. Social media techniques will be used to reach closeted MSM, FSW, and PWID and other marginalized groups in other places to improve access to HIV prevention, treatment, care and support.
2. Empowering FSW to advocate for reduction of rights abuses and involving them as resource persons during advocacy sessions with police personnel facilitates partnership and corporation between FSW and police in dealing with rights abuses. This activity will be rolled out as an important component of KAP programming in the country.
3. The use of HIV Ambassadors (involving persons living with HIV) and local celebrities to spearhead the national anti-stigma campaigns are benefitting the national HTC, PMTCT, and ART programs. Meaningful involvement of PLHIV and celebrities will be rolled out nationally and to disease programs including TB.
4. The near total integration of HIV and other outpatient services at St. Joseph's Catholic Hospital Outpatient Department (OPD), Koforidua demonstrates that it is possible to integrate HIV

services into outpatient care without having a special clinic day and location to provide quality HIV services. High volume HIV sites that have special clinic days for PLHIV will be urged to integrate HIV services in their outpatient clinics.

5. M-Friends and M-Watchers Networks of law enforcement officers, lawyers, health professionals, and human rights experts that respond rapidly with help and support when violations of the rights of PLHIV and KAP are reported shows that it is possible for groups to protect the rights of people infected and affected by HIV and AIDS in the absence of anti-discrimination laws in the country.
6. Intensive lobbying and advocacy by many stakeholders has enabled the inclusion of an anti-discrimination clause and the establishment of the HIV and AIDS Fund into the Review of the Ghana AIDS Commission Bill currently before Cabinet.

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

The HIV/AIDS/STI/TB control are linked to the policy objectives of the Ghana Shared Growth and Development Agenda (GSGDA), the blueprint for the national development as well as with the priority issues of the Medium Term Health Strategy.
Priority policy interventions to be implemented under health and nutrition include providing support for HIV and AIDS/STI/TB patients (GSGDA II page 21) and the key policy measures to be implemented to address the adverse effects of HIV and AIDS/STI/TB and other related conditions include: ensure the reduction of new HIV and AIDS/STI/TB transmission; ensure reduction of the impact of HIV and AIDS-related morbidity and mortality; and mitigate the negative socio-cultural effects of HIV and AIDS, and enhance their proper management (GSGDA II page 22) whilst the key policy measures to be implemented to ensure effective population management include: Integrate Sexual and Reproductive Health and HIV and AIDS (GSGDA II page 23)

The HIV/AIDS/STI/TB control which is an integral component of health care delivery cuts across various priorities in the HSMTDP. Specifically, objective 5: - Enhance national capacity for the attainment of the health related MDGs and sustain the gains, shows clear linkages by setting out priorities activities that aims at reversing trends in the spread of HIV/AIDS and TB and halting of the spread of other communicable diseases pg 39.
Key indicators for measuring progress in achieving targets in the HSMTDP include HIV/AIDS and TB indicators in their NSPs. The sector indicator can be found at appendix A in pg 24 of the HSMTDP. The HSMTDP provides strategic directions for both the National Aids Control Program and TB Control Program strategic plans.

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.

Tuberculosis
A mid-year stakeholder review meeting of 2009-2013 strategic plan firstly engaged all partners from Academia, civil society, Public Health sector, Private health sector and CCM.(October 2013) the output from this review was a group work from all stakeholders to inform the development) of current 2015-2020 strategic plan. A technical team from the national Tuberculosis control programme was constituted to assemble various program review, and technical mission reports and to draft an outline for NSP. Following from this, the civil society was specifically engaged in another forum to make direct inputs into the draft outline (November 2013). The document was subsequently shared with all CSO's. Areas needing emphasis were stress. Further inputs into NSP was made at Joint **TB/HIV review meeting**, that also had representations from all stakeholders including the civil society(February 2014). An expanded working group to compliment the core technical team at NTP jointly reviewed and drafted the first NSP for 2015-2020 (June 2014). In September 2014 two engagements of the civil society was organised by the Stop TB partnerships, NAP+ and coalition of NGO's in Health to discuss among others the National strategic plan.

HIV/AIDS
The 2013 Mid-term Evaluation of the HIV Strategic Plan 2011-2015 was engaging and involved all stakeholders including networks and associations of people living with HIV and members from KAP communities especially in focus group discussions and key informant interviews. PEPFAR and the UN system in Ghana particularly UNAIDS, UNICEF, WHO, UNFPA and ILO were involved in the development of the tools for and drafting of the evaluation report, which was shared iteratively with all stakeholders for comments and inputs. A final draft report was developed and presented for validation at a stakeholders' workshop. Comments and inputs from the workshop were incorporated into the final report, which was widely disseminated. The GAC plans to lead the process of carrying

out the final evaluation of the current strategic plan in mid-2015 and to develop the successor strategic plan 2016-2020. All stakeholders including KAP community members, association and networks of PLHIV, the public and private sectors and development and implementing partners will actively participate in the evaluation of the current and the development of the new strategic plan.

Strategic Overview of the CN Application for TBHIV

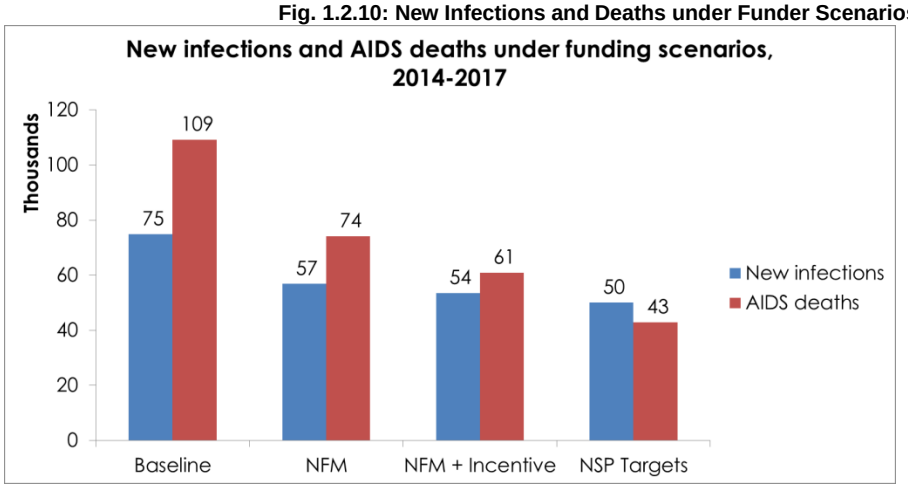
Strategies

External funding resources that have been the mainstay of financing the expanded scope of interventions of both HIV and TB programs have been decreasing in the last 3-4 years. However, domestic funding sources are not increasing fast enough to sustain the activities at the same level owing to slow economic growth. Whilst increasing efforts at mobilizing domestic funding must be priority, there is the need to maximize the impact of all the available funding by doing more with less through the adaption and implementation of internationally accepted high impact intervention that will reduce morbidity, mortality among most vulnerable and target the main sources of new infections for TB and HIV.

HIV/AIDS

In the absence of a robust NSP covering the period 2015-2017, Ghana undertook an Investment Case Modeling[21] to inform the development of the NFM CN. The Investment Case Modeling modeled four scenarios for the HIV program: 1- Baseline Scenario of constant program coverage until 2020, based on 2013 levels; 2 - NFM Scenario includes coverage targets that can be achieved with the NFM funding allocation and domestic funding sources; 3 - NFM plus Incentive Funding Scenario includes additional program coverage enabled by funds requested above the standard NFM allocation amounts; and 4- NSP targets Scenario achieves the full National coverage targets (current NSP coverage targets for universal access till 2015 then extending the targets till 2020). The projected health impacts through end of NFM period 2014-2015 are shown in Fig. 1.2.10.
The Report of the Investment Case Modeling using Goals to Inform Ghana NFM October 2014 is attached as Annex 1 of the CN.

Fig. 1.2.10: New Infections and Deaths under Funder Scenarios



The CCM selected the more impactful NSP targets Scenario that averts 24,838 new infections and 66,311 deaths.

Tuberculosis/HIV/AIDS: Prioritization of Modules

The new TB NSP 2015-2020[22], whose development was informed by the 2013 TB Prevalence Survey and the 2014 TB Epi Analysis and the HIV Investment Case Modeling[23] and the Epi Analysis 2014[24] provided much of the rationale for prioritizing the modules and interventions that are included in the CN. The priority interventions in the NSP for TB 2015-2020 are to address key programmatic gaps of low TB case detection for susceptible and drug resistant Tuberculosis and to ensure higher treatment success outcome for those enrolled unto treatment.

[21] Investment Case Modeling Using Goals to Inform Ghana NFM October 2014
[22] National Strategic Plan for Tuberculosis 2015-2020
[23] Investment Case Modeling using Goals to Inform Ghana NM October 2014
[24] HIV in Ghana: Epidemiological and Impact Analysis 2014

The HIV Investment Case Modeling and the Epi Analysis both identify ART, PMTCT, and KAPs programs as critical areas for achieving the impact results of reducing HIV infections and reducing AIDS-related deaths; the Epi Analysis identified improving HIMS and M&E and strengthening community participation as critical enablers to achieving the impact results.
Lessons learned in implementing the TB and HIV programs have informed the inclusion and scaling up of successful interventions of continuing relevance whilst making changes in implementation strategies for interventions deemed necessary but which failed to produce the desired results.
The following are the key strategies for achieving the desired output, outcome, and impact results of the CN:

1) **Maintaining and scaling up critical interventions that increase case detection, improve treatment outcomes and reduce new infections and deaths**:

HIV/AIDS
ART services reduce AIDS-related deaths and prevent new HIV infections; KAP are key drivers of the HIV epidemic and contribute about 40% of the new HIV infections; and preventing mother to child transmission of HIV reduces new infections and prevents AIDS related deaths in mothers and children. Key interventions will include maintaining ART services for the 61,780 patients; providing HIV prevention information and services for KAP (FSW, MSM, and prison inmates) and HTC for pregnant women and ARVs for HIV positive pregnant women to prevent mother to child transmission of HIV (Option B+ to start in 2015)and EID for HEI, are interventions currently funded by GF. These interventions are countrywide and will continue to be supported under the CN application.
Going forward, the country intends to undertake the following, which are new interventions: early initiation of ART among adults and children based on WHO newly revised guidelines 2013; improved early infant diagnosis through integration with Expanded Program on Immunization (EPI) services and prompt linkage of positive children to treatment; treatment of sero-discordant couples; increase male involvement in PMTCT; build capacity of TB DOTS centres to offer ART.

Tuberculosis
For TB program, Active TB screening, diagnosis, and treatment of susceptible and drug resistant TB (including MDR-TB) will reduce new TB infections and deaths. The TB interventions will target 90 high incident districts and key affected risk populations in health care setting, community, resident institutions (prison), miners and those expose to silica. Drug resistant or MDR-TB treatment interventions is targeted at tertiary and regional level health care facilities. The general population would be reached through OPD attendants and household/community contact investigation.
Going forward, the country will adopt and scale up new TB screening algorithm with high positive predictive value and use enhanced provider initiated active TB screening in health care settings. The focus is early detection and enrollment of all susceptible and drug resistant TB cases into care. Capacity will be built for ART clinics to systematically screen for TB. This is a departure from previous passive TB case finding strategy.

2) **Strengthen TB and HIV collaboration**
TB is a major cause of AIDS-related deaths and HIV is a key risk factor for TB infection in Ghana. Joint TB and HIV interventions to support under the CN include joint planning and monitoring of services, improving patient referrals between TB and HIV programs, improving the diagnosis of TB in PLHIV using Gene Xpert technology, and improving the management of TBHIV co-infection nationwide are key TBHIV interventions that will be supported with the CN grant.

3) **Programmatic and geographic prioritization of HIV and TB services for optimal return on the limited resources available for investment**
Together, funding resources from all sources for comprehensive HIV and TB epidemic responses in Ghana are not enough (See Financial Gap Analysis Tables) with an expected shortfall of about US$3,256,134, US$10,108,795, and US$20,500,570 million USD for HIV programming in 2015, 2016 and 2017 respectively. Similarly the TB program will experience huge funding gaps of about US$55,414,554, US$36,687,586, and US$41,965,195 million USD in 2015, 2016, and 2017 respectively. Limited funding calls for a focused approach to geographic location that enables optimal HIV and TB collaboration, and a pinpoint targeting of the right population groups that are key drivers of the two epidemics. Prioritizing high-burden HIV and TB overlapping regions for investing the limited GF resources will yield quicker dividend and greater outcome and impact results of reducing new TB and HIV infections and deaths from both diseases than spreading the investment thinly across all regions in the country. Community participation that supports facility level care is critical to increasing service coverage and retention in care for both TB and HIV patients.

HIV/AIDS

Although implementation will be nationwide, four regions - Greater Accra, Ashanti, Eastern, and Western Regions - are prioritized to optimize the impact of the investment for the following reasons: The 4 regions had 58% of the country's projected population of 27.04 million people, higher HIV prevalence (2.4%-3.7%) than the national prevalence (1.3%) and accounted for 75% of the 224,488 PLHIV (Table 1.2.9). However, they have the greatest unmet needs for ART (73%).. They are also reported as having high levels of concurrent multiple sexual partnerships[25] and ranked as the top 4 regions[26] with highest population of and hotspots for FSW and heavy concentration of MSM. All 4 regions are among the 7 regions with the highest case notification rates of all forms and new sputum smear positive TB[27] in 2013. Additionally, Ashanti, Western, and Eastern Regions have very high concentration of mining communities, a vulnerable group for TB infection. These four regions will be saturated with HIV services, training and establishment of new PMTCT and ART sites.

Interventions will be implemented in a total of 97high-volume ART and PMTCT sites in the 4 regions and in the catchment communities surrounding these high-volume sites. Key interventions are providing HTC, PMTCT, ART services, HIV prevention information and services for KAP,TB Care and Prevention and MDR-TB treatment, and TBHIV collaborative activities and co-infection management. Key community level interventions are Institutional capacity building, planning and leadership development in the community sector; Social mobilization, building community linkages, collaboration and coordination; and Advocacy for social accountability.

Table 1.2.9: HIV Burden in Priority Regions

		PLHIV 2013		Expected HIV+ Pregnant Women 2015		High Volume (ART) Sites 2013
	Region	**Number**	**% National**	**Number**	**% National**	
1.	Ashanti	61,980	28%	3,913	20%	27
2.	Greater Accra	43,272	19%	3,432	18%	33
3.	Eastern	39,373	18%	1,914	10%	19
4.	Western	22,878	10%	2,048	11%	18
	Total 4 Regions	**167,503**	**75%**	**11,307**	**59%**	**97**
	Total National	**224,488**		**19,440**		**175**

Source: % Calculation based on NACP Program Data 2013

Tuberculosis

The geographical scope of coverage overlaps HIV/AIDs prioritized four interventions regions for effective synergies. High incident districts and health care settings are prioritized as follows;

Risk Groups	First Screening Tool	Second Screening Test	Diagnostic Tool	Implementing Sites
Diabetics	Cough >2 weeks or Cough <1 week + Any symptoms	CXR (AA) if available	LED microscopy / CD	12 Centres
PLHIV	Cough <1 week + Any symptoms	CXR (AA) if available	LED microscopy / Xpert	175 ART Clinics
Pregnant Women	Cough >2 weeks or Cough <1 week + Any symptoms	CXR (AA) if available	LED microscopy / CD	90 high incident districts
Household Contacts	Cough >2 weeks or Cough <1 week + Any symptoms		LED microscopy / CD	Countrywide
Community Contacts	Cough >2 weeks or Cough <1 week + Any symptoms	CXR (AA) if available	LED microscopy / CD	Countrywide
General Outpatients	Cough <1 week + Any symptoms/CXR (AA)	CXR (AA) if available	LED microscopy / Xpert	51 health care facilities
General OPD	Cough >2 weeks or Cough <1 week + Any symptoms	CXR	LED microscopy / CD	156 districts
Prisoners	Any symptoms	CXR (AA) + outreach screening programme	LED microscopy / Xpert	Countrywide
Mining Districts	Any symptoms	CXR (AA) + outreach screening programme	LED microscopy / Xpert	17 districts

[25]HIV in Ghana – Epidemiological and Impact Analysis 2014 – page 8
[26]IBBSS 2011 – Regional Representation of FSWs in Ghana pages 29-32.
[27]Epidemiological Situation of Tuberculosis in Ghana MOH July 2014 page 13

CXR = Chest X-ray; AA = Any Abnormality; CD = Clinical Diagnosis

4) **Improving TB and HIV Program Strategic Information and Monitoring and Evaluation**

Improved program measurements that enable program correction at earliest opportunity, real time monitoring and use of program data to monitor gaps between expected and actual coverage are to be initiated for priority locations, priority population groups, and priority interventions. Program reports and HIV Data Quality and Quality of Service Assessment in Ghana: ART and PMTCT Report 2014[28] indicate the HIV M&E system for ART and PMTCT is weak and recommends that the system be strengthened. The HIV Epi Analysis 2014[29] report also recommends strengthening of data quality assurance is needed at the facility, district and regional levels. Importantly, the system must be examined holistically, and quality assurance must be routine (e.g., SOP on DQA are available at the different levels). ART data quality and retention in treatment are concerning. Preliminary findings from DQ/QoS assessment show that retention on ART dropped by about 30% at 6 months; and by nearly 55% at 36 months. The DQ/QoS assessment shows that over one-fifth of HIV+ pregnant women did not receive ARV for PMTCT. Strategic information and service statistics from the TB and HIV programs will be integrated into the DHIMS2, the web-based national health sector platform of the MoH.

Tuberculosis

Similarly in 2013, evaluation of TB surveillance system using WHO evaluation criteria identified gaps in standards of TB surveillance, and is captured as a key programmatic gap in NSP (2015-2020) (page 56). Strategic information and service statistics from the TB and HIV programs will continue to be fully integrated into the DHIMS2, Interventions to be supported include recruiting temporary data entry and M&E officers for both TB and HIV programs, integrating CRIS and DHIMS2 databases, and training CBOs to collect and report community level data using a common reporting tool. Nurses and midwives will be trained to provide quality PMTCT and TB screening for pregnant women.

[28]HIV Data Quality an Quality of Service Assessment in Ghana: ART and PMTCT 2014 pages 41-43
[29]HIV in Ghana - Epidemiological and Impact Analysis 2014 – pages 9 -11

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

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.

Background

Ghana has implemented a work plan of TB/HIV collaborative activities borne out of Joint planning document since 2007 with the main goal of taking advantage of the natural synergies of the two programs. This national approach is consistent with current WHO recommendations on the need for collaboration in addressing TB/HIV.9

To further reduce the burden of co-morbidity and mortality of TB and HIV, Ghana has revised the policy and guidelines for implementation of TB/HIV Collaborative Activities[30]. Joint Program Planning Policy and Guidelines in March 2014. This document lays out a detailed strategy for moving forward further collaboration between NTP and NACP at the district, regional, and national levels. Using a joint planning and implementation approach the document delineates the responsibilities of health care workers in the collaboration. It also spells out the useful roles, which all stakeholders and partners in the public and private sectors can play in ensuring the achievement of the ultimate goal of decreasing the burden of TB and HIV co-infection by providing a continuum of quality care, prevention,andsupportatallservicedeliverypointsinGhanaforpeoplelivingwith,orat risk of, TB, HIV and/or AIDS.

a) Further alignment of TB and HIV program strategies, policies, and interventions

This is already aligned in the joint planning document

b) Barriers to the alignment process and mitigation approaches

There were no significant barriers to the alignment process owing to the overwhelming agreement on the need to harmonize and work to achieve a common purpose that culminated in the joint planning document.

The implementation challenges encountered in the joint implementation of TB/HIV collaborative activities are largely health systems and proposed solutions can be found in the joint planning document.. See attached Joint Programme Planning Policy and guidelines for further details.

SECTION 2: FUNDING LANDSCAPE, ADDITIONALITY AND SUSTAINABILITY

[30] Implementation of TB/HIV collaborative Activities in Ghana: Joint programme planning policy and guidelines *(march 2014)*

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 programsand 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.

2-3 PAGES SUGGESTED

a) Availability of funds for each program area and sources of funding

The major sources of funding for the National HIV Program are the GF, the GoG, and PEPFAR (Table 2.1.1). The UN System provides much technical assistance especially for HIV and AIDS systems strengthening and monitoring and evaluation. No HIV and AIDS program area are adequately resourced.

Table 2.1.1: Funding Landscape for National HIV program (2015 -2017)

	Funding Source	Total Available Funding (US$)	% Available Funding	% Budgeted Need	Program Focus	
1.	USG	$28,000,000	7%	6%	KAPs & HSS, CSS	
2.	UN System	$18,369,000	4%	4%	Technical Assistance	
3.	Domestic-Government of Ghana	$83,120,710	20%	18%	General Population HIV Prevention PMTCT & ART, HSS	
4.	Domestic -Other Source	$193,679,007	47%	42%		
5.	NFM Global Fund Allocation	$88,503,655	22%	20%	General Population (HIV test: Leverages GoG funding KAPs (FSWs, MSM, Prisoners): Leverages PEPFAR PMTCT & ART - Leverages GoG HSS & CSS - Leverages GoG	
6.	Total Available Funds (2015 -2017)	$411,672,372	100%	90%		
7.	Total NSP Budget (2015 - 2017)	$459,511,170				
8.	Financial Gap (2015 - 2017)	$47,838,798		10%		

The National TB Program has been chronically under-resourced for years now and the situation is likely to change in 2015 as the GoG has secured a Netherland Government loan to support the national TB program. GF has been the main funder of TB activities in the country. GoG funding has consistently been very low and is unlikely to increase substantially any time soon. PEPFAR, a key donor to the TB program over the years, has given notice it will completely stop funding TB activities in the country at the end of December 2014.The funding landscape for the TB program is shown on Table 2.1.2

Table 2.1.2: Funding Landscape for National TB Program (2015 -2017)

	Source	Total	% Available Funding	% Budgeted Need	Program Focus	
1.	Government of Ghana (GoG)	$47,111,217	61%	22%	• TB Care and Treatment • TBHIV • MDR TB • HSS	
2.	NFM Global Fund Allocation	$21,008,049	27%	10%	• TB Care and Treatment; Leverages GoG • MDR TB; Leverages GoG • TBHIV; Leverages GoG • HSS; Leverages GoG	
3.	Government of Netherlands	8,384,152	11%	4%	•	
4.	Total Available Funds (2015 -2017)	76,503,418	100%	36%		
5.	Total NSP Budget (2015 - 2017)	210,853,949				
6.	Financial Gap (2015 - 2017)	$134,350,531		64%		

b) **Leveraging NFM GF support with other donors:** GF funding is absolutely crucial for the NTP as there is no other donor support to be leveraged. The NFM GF funding is therefore the lifeline of the TB program in the country.

c) **Planned action to address significant funding gaps:** The NTP is redoubling efforts for the GoG to substantially increase funding for TB activities. To this end, GoG has secured a loan of €18,853,078 from the Government of Netherlands to support TB activities effective 1st January 2015.

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.

i. 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	☒Yes ☐ No	
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%)	☒Yes ☐ No	
iii. Increasing government contribution to disease program	☒Yes ☐ No	

b. Compared to previous years, what additional government investments are committed to the national programs (TB and HIV) 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.

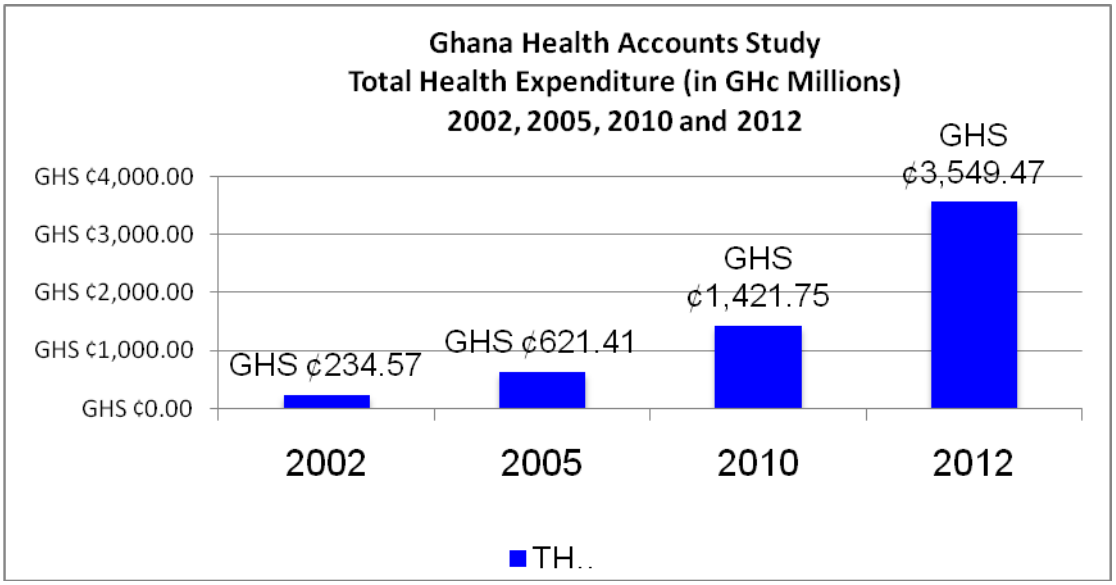
c. Provide an assessment of the completeness and reliability of financial data reported, including any assumptions and caveats associated with the figures.

b. **Additional government investments in national health programs that counts towards accessing the willingness-to-pay allocation from the Global Fund.**

Government of Ghana has shown its commitment in funding health services in general, strengthening of health systems, as well as TB/HIV specific interventions even though challenges exist. For the previous NSP 2008-2015, out of an actual amount of $112,934,870.91 mobilised, by 2011, GoG contribution amounted to $40,361,582 representing 35.74% [NSP 2014-2020 p.39; MPR p.67-72]. Overall GoG spending for health has increased over the years and it is expected to continue during the implementation period. See Fig 2.2.1 below

As investment resources from government increases the health system improves with consequent benefit for both TB and HIV.

Figure 2.2.1:Government Expenditure on Health [NHA studies, 2002, 2005, 2010 and 2012]



Since 2003 the government has introduced a National Health Insurance Scheme (NHIS) to address financial barriers to treatment arising from out-of-pocket payments at point of service. Government has made open declaration to continue to strengthen the NHIS to cover pregnant women, insured parents and their children under 18 years, as well as indigents. It is also embarking on strengthening the CHPS system through the "one million community health worker project", with GOG supporting capacity building of CHWs in CHPS zones. The goal of the project is to strengthen Ghana's community-based health delivery system by recruiting, training, equipping and deploying roughly 32,000 CHWs over a 10-year period (2014 – 2023). There is government commitment up to 2016, which is $59m out of a budget of $205m for the period 2014-2016. It is also embarking on a pilot larviciding project in selected areas as part of an integrated vector control programme.

Tracking of government investments is usually done through a variety of ways. There is an annual MOH/Partners Health Summit, which provides a forum to review programmes' implementation and funding commitments and actual releases by GoG and Partners. An aide memoire is usually signed with key stakeholders, which outlines what has to be done (programmatic and financial) by all parties, and it provides a way of tracking government investments in health. Ghana has developed its National Health Accounts (NHA) for 2010 and 2012, and is currently working on the 2013 version, which will be ready by end of year 2014. The Global Fund supported 2012 NHA and is also supporting 2013. NHA estimates the total expenditure on health and it breaks it down into the sources of funding and its uses and this will facilitate tracking of funds.
The Ministry of Finance also provides annual budget statement and expenditure patterns to Parliament, and this provides another opportunity to track government's investments. The public accounts committee of parliament also tracks all public financial expenditure by all government Ministries, Departments and Agencies.

The Ministry of Finance has introduced a new on-line financial management system termed "Ghana Integrated Financial Management Information System" (GIFMIS) and this will help improve tracking of actual expenditures. In addition, the "Great Plains" software has also been introduced by GHS to facilitate expenditure tracking to activity and programme level, and the system will be supported and strengthened.

b. **Assessment of the completeness and reliability of financial data reported, including any assumptions and caveats associated with the figures.**

As a basic principle, the Ministry of Health maintains its books and records using the Modified Accrual method of accounting, and presents its Financial Statements on a historical cost basis. Details of the system are described in attached document [Ghana Ministry of Health-Financial Notes, 2013, p. 1-3]
However, Financial data reporting is often incomplete. Various MDAs use different accounting

methods for financial data capture and reporting leading to conflicting information depending on source. Late reporting, as well as gaps in reporting by the reporting entities, including donor partners has worsened this. For instance, non-compliance by some partners with MOH guidelines on the transfer of funds to Budget Management Centres (BMCs) beyond Headquarters limits the Ministry's overall ability to account for and manage the flow of those funds. Furthermore, many external assistance agencies incur expenditure directly on behalf of the Ministry in support of its operational activities and some of these expenditures are not reported on to be captured in the overall Financial Statement.
Commitments do not always match actual releases both by the government as well as partners but some sources of financial information treat them as if they are the same, resulting in conflicting figures for same years. Government of Ghana figures for the implementation period are based on projections and assumptions from previous years. Refer to comments in Financial Gap Analysis and Counterpart Financing Table for further details.

C. The data is culled from sector financial statement and budget guidelines

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 (Table3).

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.

2-4 **PAGES**

SUGGESTED – ***only for modules that are difficult to quantify***

a.

Health Systems Strengthening (HSS)

The National TB Control Program (NTP) and the National AIDS and STI Control Program (NACP) are in the Public Health Divisions of the GHS, and receive support from Government and Development Partners. The newly developed TB Strategic Plan 2015 -2020 and the HIV Strategic Plan 2011-2015 are aligned with the Health Sector Strategy 2010-2013 and has linkage with the Medium-Term National Development Policy framework – the Ghana Shared Growth and Development Agenda II (GSGDA II)

Some of the challenges of the GHS, which impact on the TB and HIV and AIDS Control Program include the inadequacy of health management information system and inequitable distribution of human resource [National Policy on Human Resource for Health, Revised 2014, p.7,8]. The distribution of clinical staff is skewed in favor of the urbanized areas to the detriment of the north and the rural areas; about 50% of health workers are located in the 3 most urbanized regions (Greater Accra, Ashanti and Eastern) out of 10 regions in the country.
There is an integrated Procurement and Supply Chain Management (PSCM) system for the whole health sector. There are challenges, which result in delays in procurement and stock-out of essential HIV and AIDS and TB commodities[MPR 2013, p.98]. Even though there have been improvements in the PSCM system, stock outs of HIV rapid test kits, ARVs, condoms, and anti-TB drugs still occur. The stock outs are primarily related to inadequate funding for commodity procurement coupled with logistical associated with commodity distribution especially from the central and regional stores to health facilities especially those in rural and remote parts of the country.
The HMIS remains weak despite recent introduction in 2012 and use of an integrated web-based health information capture and management system, the District Health Information Management System 2 (DHIMS2). Delayed and incomplete reporting and suboptimal data quality continue to plague the system as noted in the August 2014 report of the HIV Data Quality and Quality of Service Assessment in Ghana: ART and PMTCT (page 41-43). Non-health data of the national HIV response is not integrated into the DHMIS2 yet even though attempts to do so have been ongoing for some time now.
Solutions
Data integration
Data quality and timeliness

i. Community Systems Strengthening (CSS): CSO Networks involved in CBHC in the HIV program and CTBC in the TB program

The immense contribution of civil society to the improving the health status of Ghanaians, especially the poor and rural populations, is not in doubt. However, no comprehensive evaluation has ever been conducted on the involvement of civil society in the delivery of healthcare in the country. CSOs working in providing health services at the community level in Ghana are organized under an umbrella networks. The major ones include the Coalition of NGOs in Health and ATM-specific CBO networks including the Stop TB Ghana Partnership of 130 NGOs that coordinates and monitors the activities of NGOs working in TB nationwide. The National Association of People Living with AIDS (NAP+) Ghana with registered branches in all districts in Ghana, the Ghana AIDS Network (GHANET) and its regional branches, and Societyfor Women Against AIDS in Africa – Ghana Chapter (SWAA-Ghana) spearhead civil society involvement in the national HIV response. (The Coalition of NGOs in Malaria is the civil society network leading efforts to control malaria in the country especially at the community level). These networks and their local chapters and branches provide basic health care at the community level free or very subsidized cost and often in hard to reach and very rural communities. However, the institutional and organizational capacity of these networks to provide leadership and guidance to their branches is weak. Local branches and chapters are even weaker as they struggle to provide much need health services at the community level.

Challenges of the Community System

i. *Weak institutional capacity of CBOs Networks:* There is a dearth of logistic and human resource capacity among CBO Networks resulting in poor data collection, reporting, limited service provision and impact across the country: The HIV and TB programs have earmarked funding in the CN to build the capacities of NAP+ and Stop TB Network to

provide leadership and oversight, capacity building, and monitoring and reporting responsibilities for their branches and affiliate associations at the regional, district, and community level involved in providing services in HIV and TB respectively.

ii. *Non-harmonized data collection, recording and reporting tools:* Community data collection and reporting tools are not harmonized with the national programs thus data collection tools employed at community level do not capture key and important data. The HIV and TB programs will provide a harmonized reporting tool and training and mentorship to collaborating and implementing partners to improve data collection, recording, and reporting.

iii. *Funding allocation is often only for program activities with little provided for CBO capacity building:* The main source of funding for many CBO community level work especially in AIDS, TB, and malaria CBHC work in Ghana is from the GF, bilateral and multilateral donors, and a few philanthropic organizations; there is little support from GoG. Funding is very often inadequate to provide quality CBHC services and of short term and restrictive nature that does not allow organizational capacity development. This affects CSO development and poses a threat to continuum services provided by the implementing CBOs. The HIV and TB programs have allocated funding in this CN to build the institutional capacities of NAP+, the lead implementing network NGO for HIV and AIDS

iv. *Preponderance of poor health seeking behavior and negative socio-cultural beliefs and practices:* Most people's first ports of call for care services are traditional healers and prayer camps because of the lack of knowledge of germ theory of disease and fear and stigma associated with the disease especially HIV and TB. Instead of providing curative care these 'centers become centers for disease transmission. Many CBOs are poorly trained to deal effectively with these kinds of situations. The HIV and TB programs will provide training and support in health education on common diseases to CBOs not only to improve health seeking behaviors but also sensitize communities on harmful traditional practices and social norms including gender inequality and stigma and discrimination that hinder access to health services

v. *Uneven geographical distribution of CSOs leading to different levels of implementation of community level activities in districts and regions:* Distribution of CSOs across the country is skewed towards the south. Most CSOs operate in Greater Accra, Eastern, and Ashanti Regions. CBO networks including Stop TB Network and NAP+ Ghana have branches in other regions outside of Greater Accra, Eastern, and Ashanti. These and other networks and organizations will be mentored on resource mobilization and encouraged to mobilize resources that will enable them to establish branches and/or offices in the less endowed regions, whenever resources are available.

3.2 Applicant Funding Request

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.

2-4 PAGES SUGGESTED

The Concept Note (CN) Funding Request

For the Concept Note development, the GF has made an allocation of US$88,503,655 for HIV programming and allowed a reprogramming of US$21,008,049 from existing TB grant for the period 1st January 2015 to 31st December 2017. CCM Ghana anticipates no pipeline funding ofthe current HIV grant that ends 31st December 2014 will be available for activities planned for the NFM Concept Note implementation period 1st January 2015 to 31st December 2017.

HIV Program

The total cost of budgeted need for the country from 2015 to 2017 as projected in the extended NSP is US$459,511,170 as shown in Table 2.1.1 (Section 2.1- Funding Landscape for National HIV Program 2015 -2017). The total available funding from various sources is US$411,672,372with the breakdown of contribution as shown in Table 2.1.1. The funding gap of the budgeted need is

US$47,838,798(10%). The Global Fund allocation of US$88,503,655 will contribute 20% towards the total need.The GoG will contribute 18% (US$ 83,120,710) of the need. In addition, the Concept Note makes a case for the Global Fund to invest an additional US$13,973,298 as above allocation incentive funding.

TB Program

The full cost of meeting national targets over the period of the request (2015-2017) is US$210,853,949. The total available funding for the implementation period is $76,503,418. The GoG will provide 62% (US$47,111,217) of this amount and The Government of Netherlands will provide 11% (US$ 8,384,152). PEPFAR support for the NTP will stop at the end of 2014 following its recent country budget rationalization. PEPFAR expects the NTP to continue to secure funding from the GF. The GF allocation is US$21,008,049 and represents 27% of the available funding in the upcoming implementation period. The funding gap for the NTP is 64% (US$134,350,531). In addition, the Concept Note makes a case for the Global Fund to invest an above allocation amount of US$283,195 as incentive funding.

Securing the full request of US$123,768,197.00(US$102,476,954.00for HIV and US$21,291,243.00for TB) would significantly move the country toward reaching the targets and achieving the expected impacts of the national HIV and TB responses.

For this application, the GF funding request has been earmarked for12 priority modules as shown in the Table 3.2.1immediately below.

Table 3.2.1: Strategic Overview of CN Funding Application 2015-2017

Mod.	Priority Module	Allocation Amount	Above Allocation Amount			Full Request Amount	Above Allocation Priority Ranking
			Incentive Funding	Unfunded Quality Demand	Total Above Allocation		
1.	Gen Population (HIV Test Kits)	2,302,465	0	0	0	**2,302,465**	
2.	PMTCT	15,618,329	0	0	0	**15,618,329**	
3.	FSWs	7,499,951	652,807	0	652,807	**8,152,758**	2
4.	MSM	3,827,880	1,673,658	0	1,673,658	**5,501,538**	4
5.	Prisons	1,314,732	0	0	0	1,314,732	
6.	ART	43,096,286	10,410,538	0	10,410,538	**53,506,824**	1
7.	TB/HIV	1,960,000	0			1,960,000	
8.	TB Care and Prevention	13,191,540	283,195	0	283,195.00	13,474,735	5
9.	MDR TB	3,261,886	0	0		3,261,886	
10.	HSS (HIV)	4,429,206	1,236,295	0	1,236,295	5,665,501	3
11.	CSS (HIV)	3,500,000	0	0	0	3,500,000	
12.	Prog. Mgt.	9,509,428	0	0	0	9,509,428	
	TOTAL	109,511,703	14,256,493	0	14,256,493	**123,768,197**	

Funding Application and response to gap in national programming

Analyses of the funding application and its response in relation to the gaps in each of the priority modules in relation to the national TB and HIV programs and crosscutting of HSS and CSS are provided hereunder.

Module 1 – General Population: HIV test kits and condoms

Related Gap: There is a gap of 92% in national HIV test kits.

Application response to gap: The application will contribute 12% of the national target for HIV test kits. Condoms are needed for large number of KPs we are targeting however, this funding request is not asking for funding for condoms because the country has ample supply of condoms.

Global Fund support to existing programs and adaptation to maximize impact: The current Global Fund grant supports the national HTC program. This support will contribute 4,029,089 over the period in HIV test kits of the national requirements. The GoG will provide the remainder of the national HIV test kits.

Module 2: PMTCT

Related Gap: The gap for the PMTCT (Prong 3) is 51% in 2015, 61% in 2016 and 62% in 2017.

Application response to gap: This concept note will finance 59% (11,440) 58% (11,939), and 57% (11,907) of country target in 2015, 2016 and 2017 respectively.

Global Fund support to existing programs and adaptation to maximize impact: GF support expires in Dec 2014 and therefore there will be no existing programs to adapt to maximize impact. GoG is the only other funding source for PMTCT and the GF funding will contribute to GoG efforts at eliminating mother to child transmission of HIV.

Modules 3 – KAP - MSM

Related Gap: The expected coverage gap for the MSM program is 59%(20,299) in 2015, 2016, and 2017, as the number of MSM is held constant until a repeat MSM size estimation is done in 2015.

Application response to Gap: This concept note application grant will contribute 39% [23%(8,092) within allocation and 15%(5,313) above allocation), 44% (30%(10,480) within allocation+ 13%(4,649) above allocation) and 44% (34%(11,808), within allocation + 10%(3,321) above allocation] to the national targets of 85%, 90% and 90% coverage of national targets in 2015,2016, and 2017 respectively.

GF support to existing programs and adaptation to maximize impact: Current GF support expires in Dec 2014 and therefore there will be no existing programs to adapt to maximize impact. As GoG does not provide direct funding to MSM programming, the only other funding source for MSM is PEPFAR. GF contribution will leverage PEPFAR support for the MSM programming in the country.

Module 4: KAP - Female Sex Workers (FSW program)

Related Gap: The expected coverage gap for the FSW program is 58% (34,236) in 2015, 2016, and 2017, as the number of FSW is held constant until a repeat FSW size estimation is done in 2015.

Application Response to Gap: This concept note application grant will contribute 38% (34% (20,012) within allocation and 4% (2,440) above allocation), 43% (39% (23,263) within allocation+ 4% (2,135) above allocation) and 48% (46% (26,818) within allocation + 3% (1,526) above allocation) to the national targets of 85%, 90% and 90% coverage of national targets in 2015,2016, and 2017 respectively.

Global Fund support to existing programs and adaptation to maximize impact: Current GF support expires in Dec 2014 and therefore there will be no existing grant to adapt to maximize impact. As GoG does not provide direct funding to FSW programming, the only other funding source for FSWs is PEPFAR. GF contribution will leverage PEPFAR support for FSW programming in the country.

Module 5: KAP – Prison Inmates

Related Gap: The related coverage gap for the Prison program is 100% (15,498 in 2015, (16,738 in 2016, and 18,077 in 2017).

Application Response to Gap: This concept note application grant will contribute all HIV program activities for prison inmates, as GoG supported health services for prison inmates does not include HIV prevention and no other donor is providing funding for this.

Global Fund support to existing programs and adaptation to maximize impact: Current GF support expires on 31st Dec 2014 and therefore there will be no existing grant to adapt to maximize impact.

Module 6: Antiretroviral Treatment (ART)

Related Gap: The ART gap in the country target is 84%, 77%, and 70% (156,311 in 2015, 146,936 in 2016, and 135,755 in 2017).

Application response to gap: This concept note application will finance 40% i.e. 33% (61,870 for all the three years) within allocation and 7% (13,846 above allocation) of national target in 2015, 40% (32% within allocation and 8% (16,153) above allocation) in 2016, and 40% (32% within allocation and 8% (14,838) above allocation) in 2017].

Global Fund support to existing programs, and adaptation to maximize impact: GF support expires on 31st Dec 2014 and therefore there will be no existing programs to adapt to maximize impact. GoG is the only other funding source for ART program and the GF funding will contribute to GoG efforts to reaching national targets.

Module 7: TB/HIV

Related Gap: The gap for screening PLHIV for TB in HIV care settings is 84%, 77% and 70% in 2015, 2016 and 2017.
Application response to gap: 49% (90,820), 55% (105,878), 62% (120,936) for 2015, 2016, 2017 respectively
Global Fund support to existing programs, and adaptation to maximize impact: GF support expires on 31stDec 2014 and therefore there will be no existing programs to adapt to maximize impact

Module 8: TB Care and Prevention
Related Gap: The country gap for TB Care and Prevention 89%, 87%, and 85% in 2015, 2016, and 2017 respectively.
Application response to gap: The application will finance 29% (22,227), 34% (25,424) and 39% (28,293) within allocation.
Global Fund support to existing programs, and adaptation to maximize impact: GF support expires 0n 31stDec 2014 and therefore there will be no existing programs to adapt to maximize impact.

Module 9: MDR-TB Case Detection and Diagnosis
Related Gap: The country gap for TB Care and Prevention 100%, 100%, and 100% in 2015, 2016, and 2017 respectively.
Application response to gap: Concept Note application would finance gaps of 7% (136), 9% (171) & 11% (207) for 2015, 2016, and 2017 respectively.
Global Fund support to existing programs, and adaptation to maximize impact: All GF funding for the TB program expires at 31st December 2014 and cannot be adapted for maximize impact

Module 9A: MDR-TB Treatment
Related Gap: The gap for MDR-TB Detection and Diagnosis is 100% each year in 2015, 2016, and 2017, as there is no GoG and other support for MDR-TB.
Application response to Gap: Concept Note application would finance gaps of 4% (82), 6% (111) & 8 % (145) for 2015, 2016, 2017 respectively
Global Fund support to existing programs, and adaptation to maximize impact:. All GF funding for the TB program expires on 31st December and cannot be adapted for maximize impact

Module 10: HSS
Related Gap: HSS gaps that are critical to the HIV program are procurement and supply chain management, HMIS and M&E, human resources, and quality of services for the HIV and AIDS.
Application response to gap: This application will support HMIS and M&E and human resources to scale-up and improve quality of HIV services
Global Fund support to existing programs, and adaptation to maximize impact: GF support expires on 31st Dec 2014 and therefore there will be no existing programs to adapt to maximize impact. Separate discussions between Ghana MoH and GF are underway to use funds from the existing Malaria grant to improve PSCM system

Module 11: CSS
Related Gap: NAP+ weak institutional capacity, poor social community mobilization and inadequate advocacy skills for social accountability.
Application response to gap: This application will support NAP+ Ghana and KAP, and CSOs and network to improve their institutional capacity, social mobilization strategy and advocacy skills for social accountability.
Global Fund support to existing programs, and adaptation to maximize impact: NAP+ Ghana does not have any Global Fund support.

Module 12: Program Management
Related Gap: The four PRs (ADRA Ghana, GAC, MoH and PPAG) to manage the application grant.
Application response to gap: All the funds will be applied to manage the grant.
Global Fund support to existing programs, and adaptation to maximize impact: GF support expires in Dec 2014 and therefore there will be no existing programs to adapt to maximize impact.

3.3 Modular Template

Complete the **modular template (Table3)**. 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.

The rationale for the selection and prioritization of each of the 12 modules and associated interventions and the expected impact and outcomes of interventions being proposed are detailed hereunder.

Module 1: General Population – HIV Test Kits

The rationale for selection and prioritization of module: HTC is the gateway to all HIV and AIDS services and correct and consistent condom use is key to reducing HIV infection in high-risk sex. The CN application lays emphasis on scaling up especially PMTCT and HIV testing and counseling services for the drivers of the epidemic (KAPs and as well as people having casual heterosexual sex and stable heterosexual couples). HTC rates among adults are low: 17.3% of women have ever received an HIV test and only 8.4% of men have ever had the test. The CN prioritizes the availability of HIV test kits in anticipation of increased demands for HIV testing and counseling. The proportion of men to be tested is expected to increase with a vigorous targeting of men through couple testing and counselling strategy. Correct and consistent condom use will be emphasized and heightened and GoG and other partners will ensure condoms are available all the time.

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$2,302,465.44 and comprises the amounts shown in the table immediately hereunder.

Item	Allocation	Above Allocation		Full Request
		Incentive Funding	Unfunded Quality Demand	
HIV Test Kits	2,302,465.44	0	0	2,302,465.44
Total HIV Test Kits	**2,302,465.44**	**0**	**0**	**2,302,465.44**

Allocation: US$2,302,465.44

Target Population/Geographic Scope: General Population but with a focus on PMTCT, KAPs, TB patients, and STI cases

Implementation Approach: Provider initiated testing and counseling (PITC) will be the modus operando at antenatal clinics, TB DOTS, and in patients being treated for STIs in all the regions. The SOP for KAP program requests FSW, MSM, and Prisoners have at least 2 HIV tests a year. Facility based testing will be supplemented by outreach HIV testing programs particularly for KAPs and pregnant women in hard to reach locations. Pre-test and post-test counseling will be offered to all who receive the test. HIV positive clients will be enrolled in care and treatment programs.

Expected Impact: PMTCT coverage is currently low and this will increase. GF funding will enable 1517985,1376055, 1135049 to know their HIV status in 2015,2016 and 2017 respectively.The percentage of KAPs who know their status will increase and this could lead to KAPs adopting safer sex practices that could reduce the transmission of new HIV infections.

Module 2: Preventing Mother to Child Transmission of HIV (PMTCT)

The rationale for the selection and prioritization of module and interventions: The PMTCT module and associated interventions have been prioritized because PMTCT is a top priority in the NSP 2011-2015 with the country committed to achieving elimination of mother to child transmission of HIV. The PMTCT testing coverage (48%) is below the national target of 95% and 23% of children born to HIV positive mothers are HIV positive at complete cessation of breastfeeding. Only 17% of HIV exposed infants receive virological test within 2 months of birth. Prongs 3 and 4 are the main targets to benefit from the GF NFM funding. Key interventions include HIV testing and counseling, ARVs for life for HIV positive mothers, provision of Cotrimoxazole and virological test for HEI.

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$15,618,329.17 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
15,618,329.17	0	0	15,618,329.17

Allocation: US$15,618,329.17
Target Population/Geographic Scope: Pregnant women, HIV positive mothers and HIV exposed infants (HEI) in the country. With a focus on the 4 high HIV burden regions of Greater Accra, Eastern, Ashanti, and Western Regions where the CSS interventions will take place.
Implementation Approach: Provider initiated testing and counseling for HIV and Syphilis, treatment of pregnant women that test positive Syphilis, Provision of ARVs to HIV positive pregnant women and Cotrimoxazole for HEI, virological test for HEI at 6 weeks, anti-body test at18 months, mother-baby follow up at child welfare clinic, adherence counseling on treatment compliance, and data entry into software and DHMIS2.
Expected Impact: 10468, 10917,10861 of HIV positive pregnant women given ARVs to reduce the risk of transmission in 2015, 2016, and 2017 respectively. This represents 95% of pregnant women in need of ARVs in each of the three years.

Module 3: FSW
The rationale for the selection and prioritization of module and interventions: The IBBSS 2011 estimated there are 58,920 in Ghana. The prevalence of HIV in FSWs is 11.1%, much higher than the 1.3% prevalence in the general population. FSWs, their clients, sex partners of clients, and non-paying partners are key drivers of the epidemic contributing about 31% of new HIV infections. Only about 60% of FSWs have ever had a HTC, 79% consistently use condom with their clients, but only 20% use condom with non-paying partner. FSWs are highly concentrated in Greater Accra, Ashanti, Western, and Eastern Regions of the country. Issues of their relatively higher vulnerability including criminalization, legal and policy barriers and stigma also inform the need for their prioritization. The absence of government funding for specific interventions targeting this population is also important. The prioritized interventions are as contained in the SOP for KAP programs. These are: peer education and outreach services, HTC and STI diagnosis and treatment at DIC or KAP-friendly public health facilities, provision of condoms and condom-compatible lubricants, screening and support for SGBV, and referral for HIV, STI, TB and other health care services.

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$0000 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
7,499,951	652,807	0	8,152,758

Allocation: US$7,499,951
Target Population/Geographic Scope: All the nearly 59,000 FSWs in in all 10 regions in Ghana.
Implementation Approach*:* Trained PEs will provide regular risk reduction education and referrals through PE outreach to their clients/peers; Trained HTC service providers will provide HIV testing and counseling to FSWs, clients and Non-Paying Partners (NPP) and those testing positive will be referred for further HIV services using chit system (Two-way referral form) that KPs use to access services; the chit is endorsed by the health service provider and copy is retained by PEs for record keeping at the program level; Provide STI screening and referrals to FSWs, clients and NPPs; distribute condom and lubricants to FSWs, their clients and NPPs; Provide screening for SGBV for FSWs; Provide HIV care and support to HIV positive FSWs by PEs and referral for enrolment in care, support and treatment services provided by the national HIV program). ADRA. GAC, and PEPFAR supported implementing partners will ensure that there will be no duplication in of services in regions where they support FSWs services to FSWs.
Expected Impact*:* Allocation funding will provide 20,012, 23,263, and 26,818 FSWs with HIV prevention information and services in 2015, 2016, and 2017 respectively. This will contribute 34%, 39%, and 46% to the country coverage targets of providing 47136, 50082 and 53028 FSWs with HIV prevention information and services in 2015, 2016, and 2017 respectively.

Above Allocation: US$652,807
Target Population/Geographic Scope: same as above

Implementation Approach: same as above
Expected Impact: Above allocation funding will provide 2440, 2135, and 1526 FSW with HIV prevention information and services in 2015, 2016, and 2017 respectively. This will contribute 4%, 4%, and 3% to the country coverage targets of providing 47136, 50082 and 53028 FSWs with HIV prevention information and services in 2015, 2016, and 2017 respectively.

Module 4: MSM
The rationale for the selection and prioritization of module: The total estimated population of MSM in Ghana is 34,470, most of them domiciled in the big urban center – Accra, Kumasi, Takoradi, Cape Coat, and Tema. The MSM module and interventions are prioritized and included in the CN application because MSM are a key driver of the epidemic, have the highest HIV prevalence (17.5%) of any population in Ghana in 2013, and contribute about 7.5% of new infections. Condom use amongst MSM is low. Issues of their relatively higher vulnerability including criminalization, legal and policy barriers and stigma also inform the need for their prioritization. The absence of government funding for specific interventions targeting these population is also important. Key interventions include peer education and outreach services, HTC and STI diagnosis and treatment at DIC or KAP-friendly public health facilities, provision of condoms and condom-compatible lubricants, and referral for HIV, STI, TB and other health care services.
Summary of Funding Request: The full funding request (Allocation and above allocation) is US$0000 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
3,827,880	1,673,658	0	**5,501,538**

Allocation: US$3,827,880
Target Population & Geographic Coverage: About 34,470 MSM in all 10 regions in Ghana.
Implementation Approach: Trained PEs will provide regular risk reduction education and referrals through PE outreach to their peers; Trained HTC service providers will provide HIV testing and counseling to MSMs and those testing positive will be referred for further HIV services (HIV care and support to HIV positive MSMs by the national HIV program) endorsed by the health service provider and a copy retained by PEs for record keeping at the program level; Provide STIs screening and referrals services to MSM, distribute condom and lubricants to MSM (ensuring that when condoms are mentioned, compatible lubricant will be part of the discussion); Training of health care workers aimed at attitudinal change towards MSM during service delivery; Community theatre performances by identified MSM friendly theatre groups, focusing on attitudinal change among the general population aimed at reducing stigma and discrimination towards MSMs and further encouraging MSM to come out for HIV and other STIs screening and treatment; the provision of Drop in Centre services for the purpose of reducing stigma and providing cost free care to MSM for both HIV testing and treatment of STIs.
Expected Impact: Allocation funding will provide 8092, 10480, and 11808 MSM with HIV prevention information and services in 2015, 2016, and 2017 respectively This will contribute 23%, 30%, and 34% to the country coverage targets of providing 27576, 29300, and 29300 MSM with HIV prevention information and services in 2015, 2016, and 2017 respectively.

Above Allocation: US$1,673,658
Target Population/Geographic Scope: Same as above
Implementation Approach: Same as above
Expected Impact: An additional 5313 in 2015, 4349 in 2016 and 3321 in 2017 MSM will be reached with HIV prevention information and services. The above allocation amount will increase the coverage by 15%, 13%, and 10% over allocation coverage in 2015, 2016,and 2017 respectively. This will contribute to achieving the national target of 90% by 2020.

Module 5: Prison Inmates
The rationale for the selection and prioritization of module: There are currently about 14,350 prisoners in Ghana's 44 prisons. This module and associated interventions have been selected and prioritized because prisoners are among the key drivers of the HIV epidemic and the NSP 2011-2015 identified prisoners as priority population for HIV services. The Epi-Analysis 2014 indicates that HIV prevalence in prisons was 2.3% in 2011, with female inmates having much higher HIV prevalence of 11.8% than their male counterparts (1.5%). The prison health services presently do not provide HIV and TB services to inmates. Ghana is presently providing HIV and AIDS services to prisoners with the Global Fund grant that ends in December 2014 and there is therefore a need to

continue this. Also, since particularly female prisoners have a higher prevalence of HIV, they will act as a nucleus of HIV transmission to their spouses and other sex partners on release from prison. Therefore the Prisoner Module has been selected and prioritized for inclusion in the Concept Note application

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$1,314,732 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
1,314,732	**0**	**0**	**1,314,732**

Allocation: US$**1,314,732**

Target Population/Geographic Scope: About 14,350 Prisoners (98.61% males and 1.39% females) in all 44 Prisons in Ghana as at September 2014.

Implementation Approach: Trained Peer Educators will provide HIV and TB (and also Malaria) information and education to prisoners, Advocacy for Prison Officers to improve on the Human Rights of the Prisoners, Collaborate with infirmary nurses and GHS nurses to provide HIV Testing and counseling services (4 screenings a year) and STI (2 times a year). TB notification rate in prison population is 62/100,000 with a case fatality of 32.6%. TB screening and referral will be included in the HIV prevention package of services for prisoners in this grant implementation. Prisoners will also be given Hygiene Kits (Tooth brush and tooth paste, disposable shaving sticks).

Expected Impact: Allocation funding will provide 12398, 14227, and 16269 prison inmates with HIV prevention information and services in 2015, 2016, and 2017 respectively. This will contribute 80%, 85%, and 90% to the country coverage targets of providing 12398, 14227, and 16269 prison inmates with HIV prevention information and services in 2015, 2016, and 2017 respectively.

Module 6: ART

The rationale for selection and prioritization of module and interventions: This is to maintain patients on already on ART with GF support.GF grant currentlysupports ART services for 61,870 patients. This grant expires 31st December 2014. This module is selected to enable the program to maintain the 61,870 patients on treatment for the implementation period 2015-2017.

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$53,506,824.60 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
43,096,286.34	10,410,538	0	53,506,824.34

Allocation: US$43,096,286.34 (Maintenance)

Target Population/Geographic Scope:61,870 patients from all regions in the country already of ART with GF support at the end of 2014.

Implementation approach: The implementation approach includes provision of ARVS, adherence counseling to reduce drug resistance and ensure compliance, treatment of OIs, TB screening at each clinic visit, lab work including hematology, biochemistry, 2 viral load test a year, and tracking lost to follow up.

Expected Impact: 61,780 patients will be maintained on ART every year from 2015 to 2017.

Above Allocation:US$10,410,538.00 (Scale-Up)

Rationale for Above allocation: Scaling-up of ART services toward national coverage target of 90%. The ART coverage in 2013 is only 60%. The number of patients in need of ART will increase significantly when Ghana adopts CD count of ≤500 from the current initiation threshold of ≤350 from 1st January 2015 for initiating ART. GoG and GF will provide funding for scaling-up ART services in the country.

Implementation Approach: Pediatric ART coverage is very low at about 20%. This will be prioritized: key approaches will include improving access to PITC amongst children <15 and strengthening existing DBS transport systems between health facilities and PCR labs in the National EID network to reduce overall turnaround time. Secondly, improving coverage and access to HIV treatment services to children using a family centered approach to care in existing and new treatment sites. In addition, the program will increase capacity of health care workers to identify and manage HIV exposed or infected children and improve retention amongst HIV positive children in care and treatment. Priority will be given to TB-DOTS centers without ART services and existing high volume PMTCT sites. Improvement of TB-HIV referral system will be ensured as well as

instituting clinical audit /CQI processes for both diseases. TB screening for all pediatric patients in the ART clinic will also be prioritized. Training and re-training of health care workers (HCWs) will be undertaken. Development of new linkages and leverage on existing public- private partnerships of the national ART and TB programs will be pursued.

Target Population/Geographic Scope:New patients enrolled on ART in the whole country.

Expected Impact: On the average, this investment will put 15,000 new patients on ART annually cumulatively, a total 45000 over the three-year period. It will help achieve 104666 (56%) in 2015, 122031 (64%)in 2016 and 135774 (70%) in 2017 of National ART needs based on the 500 CD4 cut off for ART.

Module 7: TB/HIV

The rationale for the selection and prioritization of module and interventions: TheTB and HIV co-infection rate (24%) is high. There is huge treatment gap; only 5.7% of eligible population of TBHIV cases is on ART. There is therefore the need for integrated approach to TB and HIV programming that improves efficiencies, leverages resources, and strengthens systems.

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$1,960,000.00 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
1,960,000.00	0	0	1,960,000.00

Allocation: US$**1,960,000.00**

Selected Interventions:

A. TB/HIV Collaborative interventions

Target population & Geographical scope:

TB and HIV co-infected patients or people at risk of TB and HIV co-infection in 175 ART clinics and 38 high burden HIV districts as well as other health facilities nationwide especially in the 4 prioritized regions (Greater Accra, Ashanti, Eastern and Western) for accelerated comprehensive TB/HIV interventions to demonstrate impact.

Implementation approach:TB HIV collaborative activities are reflected in the *Implementation of TB/HIV Collaborative Activities in Ghana: Joint Programme Planning and Policy and Guidelines* (March 2014) Roles are defined for each program and other stakeholders in annex one page 35-37 and targets also in annex 3 page 40.Drawing on lessons from previous implementation, a revised TB/HIV diagnostic algorithm will be used to screen all PLHIV enrolled on treatment twice in a year. Task shifting officers will help to reduce the workload in busy clinics. NTP will build capacity for ART clinics on use of TB screening algorithm and SOP's. NTP will provide logistics and medicines to treat TB patients and for IPT on individual basis. NACP similarly will develop capacity of TB DOTS Centers to provide ART to co-infected persons. NACP would provide test kits, ARVs, CTX and other logistics to DOTS Centers.

Gene Xpert tests would be available to confirm TB in ART clinics in line with diagnostic algorithms in high burden districts. Standard infection control measures using the FAST approach would ensure patient-centered service delivery in a one-stop shop approach. Integrated service supervision by jointly planned activities such as joint M&E, training, planning, supervision and mentoring would guide collaboration and integration.

Expected Impact: Integrated service delivery will be institutionalized with associated cost efficiencies. Investment in the target areas would contribute to the screening of 104666 (56.5%), 122031 (64%) and 135774(70%)of PLHIV in the country for TB.

Module 8: TB Care and Prevention

The rationale for the selection and prioritization of module and interventions: TB case detection is low (21%). Targeted active screening interventions yield large numbers of TB cases and are cost efficient in high TB prevalent populations, hospital care setting and high risk groups.

The expected impact and outcomes of the interventions being proposed: Active TB screening detects cases early reducing risk of transmission of TB and improves equity of TB care services. This consequently reduces incidence and prevalence of TB.

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$13,474,735.01 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
13,191,540.01	283,195	0	13,474,735.01

Allocation: US$13,474,735.01
The unfunded quality demands would enable the program to reach its full country NSP targets. The following are the priority areas of the NSP:

A. Case detection and diagnosis
Allocation: $: 5,786,684.47
Target population & Geographical scope: The target population is the general population with special attention to high risk and key affected populations. The geographical scope includes 90 high incident districts with estimated population of 8.1 million, 21 districts with intense mining activities with estimated population of 2.5 million, a cumulative total population of 571,026 of PLHIV, a yearly screening population of 213,000 diabetics and a screening population of household contacts of 196,930.

Implementation approach: Almost 50% of the burden of undiagnosed TB is to be found in the general population. (for additional information pp,60 NSP). These are harder to reach population, and much expensive to screen. The general population would therefore be reached through general health services. The provider initiated active TB screening strategy would detect those presenting at out patients departments. Detailed description on how these will be done is described in pp 22 &23 of attached National strategic plan.(2015-2020) . The general population will further be reached through community and household contact investigations.(for further additional information pp 65,attached NSP). The programme has SOP for contact investigation and screening algorithms for contact investigation (Annex 1,NS pp109).The implementation approach therefore draw on lessons learnt from implementing prioritize interventions that is likely to yield more TB cases at most reasonable cost. It is an accelerated effort towards case detection. An improved screening algorithm with a better PPV (Positive predictive value) would be used in this plan. TB screening prioritization has been assessed using WHO prioritization tool and fashion along a "TB case finding Tree" with stepwise implementation of lower hanging fruits to much higher branches interventions. The summarized key activities implementation built on programmatic experience with different approach, and described fully in NSP(2015-2020). pp 64-94
1.1 Improve health facility based TB case finding
1.2 TB screening in key affected populations:
1.3 Improve quality of laboratory diagnosis
1.4 Improve HR Capacities
1.5 Communication strategy to reduce stigma
The following bottlenecks identified from lessons learnt is addressed in the implementation: The main barriers were:

a) High laboratory workload
b) Inadequate personnel/ high staff turn over
c) Insufficient supervision from line Managers
d) Slow response from health facility managers

Details of barriers and lessons can be found on page 20-28, NSP 2015-2020

Monitoring & Evaluation: The TB screening strategy based on developed diagnostic algorithms and diagnosis will be monitored to generate further data to prioritize risk groups for screening
Expected Impact: Reducing TB transmission by shortening of the duration of infectiousness. This reduces the incidence of TB infection and consequently contributes to reduce incidence of TB disease.

Key Affected Populations

Allocation: $601,285

Four potential settings for screening to improve TB case notification were assessed for the risk groups (key affected populations). They are:

1. Community, (sub-populations with risk factors for TB e.g. household & community contacts)
2. Hospital and health care setting
3. Residential institutions (e.g. prisons) and
4. Workplaces (e.g. miners and others who are exposed to silica)

The total prevalent TB cases based on reachable and screening acceptable population for all risk group is 44,141. (Calculated using the WHO Prioritization tool)

The assessment shows almost 50% split in the burden of undiagnosed TB prevalent cases. In the general population the prevalence is 22,786 almost as in combine hospital care settings, residential institutions and workplace with 21,335. Hence prioritization to implement easy to reach activities with potential to find more cases

Target population & Geographical scope: Target populations are all PLHIV, prisoner inmates, and people with diabetes, miners, and pregnant women. Special focus will be given to the 4 prioritized high HIV and TB burden regions (Ashanti, Greater Accra, Eastern and Western), inmates in all 44 prisons, and persons with diabetes enrolling into care in 12 large diabetic clinics.

Implementation approach: Integration of TB/HIV services into the minimum prevention and care packages for key affected populations – PLHIV, miners, and persons with diabetes.

Implementation Approach: Active TB screening will take place in designated large busy hospitals in a stepwise manner. It will take place at OPDs, and specialized Clinics of diabetics and ART clinics. All TB index cases from these clinics will systematically have contact investigation done. The scope of contact investigation will cover all facilities detecting TB index cases countrywide. It is key active TB screening strategy for Childhood TB for children under five years in contact with index case. Prisoners will be supported with periodic outreach screening program once in a year. All mining districts will be supported with intensified TB screening through a mobile out reach program twice in a year. The scope of these activities will cover 21 districts. The major Human resource constraints barrier for this activity will be addressed through task shifting officers' recruitment. The burden of high laboratory workload is addressed with laboratory technician's recruitment.

Monitoring &evaluation: for key affected populations will be focused and finally integrated into general M&E activities

Expected Impact: Reducing transmission and adverse social and economic consequences of TB for the individual. This reduces suffering, the prevalence of TB, and death from TB; addresses equitable access. This will contribute to finding 3742, 4048, 4371 cases among KAPs in 2015, 2016 and 2017 respectively.

B. Treatment

Allocation: $ 3,510,004.97

I**ntroduction**:

The expectation is that all cases detected will be put on treatment. All commodities to support treatment will be timely procured.

Target Population: The target treatment populationsare children and adults.

Implementation Approach: Treatment will occur in facility level and community level. . Every individual on treatment will be supported to go through treatment to achieve cure through a support system called enablers. 51% of TB patients have BMI below 18mg/kg and will benefit from food supplements after assessment within budgetary constraints. The strategic interventions to support treatment includes

1. Improve quality clinical care of TB patients (DOTS)
2. Provide Patient care & support
3. Improve treatment & care of drug resistant tuberculosis
4. Strengthen coordination and collaboration among DR-TB management teams
5. Community TB care
6. Strengthen community systems to improve TB outcomes (CSS)
7. Timely Procurement & Drugs & logistics Management

Monitoring & Evaluation: Clinical monitoring of patients will take place at facility level, however treatment outcome monitoring will be through cohort Analysis reports

Expected Impact: To reduce the risk of poor treatment outcomes, health sequelae, and the adverse social and economic consequences of TB for the individual. This reduces suffering, the prevalence of TB, and death from TB. Treatment success rate will increase from 84% to 89% over the period of implementation.

C. Community TB care delivery

Allocation: $ 3,253,665.95

Introduction: A functional network of NGOs,TB affected people, civil society, Academia and National TB program operates under an umbrella of Stop TB Partnerships Ghana.

Target Population: The partnerships target rural population of adults and children with difficult access to healthcare. The scope of interventions also covers urban slums and poor.

Implementation Approach: In partnerships with community actors such as Ghana Stop TB Partnerships the network of implementing active NGO's is supported, monitored and coordinated to implement activities that support TB screening strategy and treatment. The NGO's compliments hospital based screening strategy by conducting contact investigation and community education and screening for TB. In rural areas the partnerships collect and transport sputum to diagnostic sites. The partnerships activities will take place in 540 sub district (CHPS) zones. The CHPS zones capacity to supervise the NGO's will be developed. The CHO's will conduct oversight field implementation support visits to patients as well as supervise the NGO's.

Monitoring and evaluation is conducted by secretariat with full time employed personnel

Expected Impact: Increase case notification from Non-NTP providers. Improved access and adherence to treatment; defaulter rate of less than 5%; an average contribution of 12% of all notified cases is anticipated.

D. Collaborative activities with other programs and sectors

Allocation: $: 39,900

Introduction: An oversight committee at the instance of the TB program comprising PPME, Reproductive Health, and Non Communicable disease program will facilitate engagement of the various programs to support active TB screening strategy with other programs.

Target population & Geographical scope: MNCH and diabetic clinics, the PMTCT program, PLHIV Care Programs, and prison settings.

Implementation Approach: Engagement with maternal care services will lead to TB screening among antenatal attendants routinely tested for HIV. Similarly NCD program will facilitate routine screening among diabetics in specialized diabetics clinics. Monitoring and Evaluation: The NTP will provide the necessary screening and reporting tools and lead supportive supervision monitoring and evaluation with the other programs.

Expected Impact: Larger stakeholder involvement in service delivery as a means of ensuring improved access to services and uniform standards of care

Module 9: MDR-TB

The rationale for the selection and prioritization of module and interventions:

MDR-TB is an emerging problem in Ghana with an estimated 640 new cases expected annually. Few eligible persons are getting DST. Early routine testing and treatment would reduce transmission. A Gene Xpert scale up plan developed with the assistance of external consultants will be implemented (see attached Gene Xpert scale up implementation plan).

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$3,261,885.96 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
3,261,885.96	0	0	3,261,885.96

A. Case detection and diagnosis: MDR-TB
Allocation: $1,084,272.85

Target population/Geographic Scope: All new registered TB patients, but focus on all previously treated patients, including relapses, other retreatments and dually infected with TB/HIV. The geographical scope is at tertiary, regional levels where capacity to detect MDR-TB exist.
Implementation Approach: Capacity for two laboratories for culture and DST is completed and certify by a supra National reference laboratory. TB culture capacity for 5 other laboratories will be completed. All specimens for culture and DST will be collected and transported to the two certify laboratories. All RR-TB cases identified through Gene Xpert will have culture and sensitivity done at the two certify laboratories. A quality assurance program for Gene Xpert and DST exist to support detection activities. A supra National reference laboratory in Borstal Germany supervises DR-TB diagnosis.
Monitoring & evaluation: This will be done from the central level along side a quality assurance program
Expected Impact: Early routine testing among re-treatment cases reduces transmission and is cost effective. This improves equity of TB care services and consequently reduces prevalence of MDR-TB. Successfully confirmed 75% of resistant TB cases by 2017 from baseline of 41%.

B. Treatment: MDR-TB
Allocation: $2,177,613.11
Target Population: The target treatment population are children and adults with drug resistant TB.
Implementation Approach: Drug resistant Treatment will occur at Tertiary facility and regional hospital levels and would be supervise by a team of specialized clinicians. Every individual on treatment will be supported to go through treatment to achieve cure through a support system called enablers.
Monitoring & Evaluation: Clinical monitoring will be done in accordance with program guidelines, and cohort analysis done as part of monitoring and after treatment duration.
Expected Impact:Reduce MDR-TB transmission, and death rates. Successfully enrolled at least 503 MDR-TB cases on treatment. Improved treatment success from baseline of 50% to 60%.

Module 10: HSS

The rationale for the selection and prioritization of module: Based on programmatic risk analysis, the health systems with major challenges are procurement and supply chain management (PSCM), health management information system (HMIS), human resources for health (HR), and service delivery (and financial management). Ghana is currently in discussions with GF to support improvements in the PSCM from existing GF Malaria grant. Improvement in the PSCM could lead to improvement in HIV and AIDS commodity supply and reducing stock out of ARVs, HIV test kits, and condoms for the HIV program. The HMIS for the HIV program is weak, the adoption of Option B+ for PMTCT, higher CD4 count of ≤ 500 for initiation of ART, and strengthening TBHIV collaborative activities will require training more health providers in these disciplines.

Summary of Funding Request: The full funding request (Allocation and above allocation) is US$5,665,501.00 and comprises the amounts shown in the table immediately hereunder.

Allocation	Above Allocation		Full Request
	Incentive Funding	Unfunded Quality Demand	
4,429,206.00	1,236,295.00		5,665,501.00

Allocation: US$4,429,206.00

Target Population/Geographic Scope: M&E officers including data entry clerks and health care providers including nurses and midwives throughout the country
Implementation Approach: Training M&E officers on improving data quality and complete and timely data reporting, maintaining and training contracted HIV data entry clerks, training clinicians on new ART guidelines and Option B+ and midwives and nurses providing MNCH services on continuity of care and support for HIV positive mothers and HIV exposed infants.
Expected Impact: Improved HMIS **will lead to timeliness and completeness of reporting and improved data quality.Training of 6400 health workers comprising Clinicians, Nurses, Pharmacy personnel, Data Managers, Lab personnelwill lead to an improvement of service quality.**

Above Allocation: US$1,236,295
Target Population/Geographic Scope: Same as above
Implementation Approach: Same as above
Expected Impact: Same as above

Module 11: CSS
The rationale for the selection and prioritization of module and interventions
The expected impact and outcomes of the interventions being proposed: Improves access to HIVTB services
Summary of Funding Request: The full funding request (Allocation and above allocation) is US$3,500,000 and comprises the amounts shown in the table immediately hereunder.

Allocation	Incentive Funding	Unfunded Quality Demand	Full Request
US$3,500,000	US$0.00	US$0.00	US$3,500,000

Rationale for selection*:* Within the CHPS system there are distinct and complementing roles for the VDCs and the CSOs with the overall goal of ensuring improved health outcomes for the members of the community they serve. The VDC have the primary responsibility of identifying health and social needs and plan for them; supervise the implementation of developed work plans, mobilize the community for health actions, identify local human and material resources to meet these needs. They are also important to liaise with government and other voluntary agencies in finding solutions to health, social and other related problems in the communities. Similarly, the CSOs play critical roles in supporting the health system and are concerned with other aspects that are not universally accepted as part of the health system, such as building capacity and assuring the voice of "right-holders" and the accountability of "duty bearers"; provision of social support, human rights work and community mobilization, all of which help to improve health outcomes.
The CN application request is aimed at enhancing the scale up of community based prevention effort through community mobilization, sensitization, demand generation for HIV, TB and Malaria (ATM) services, encouragement and provision of care and support to people affected as well as make referral to health facilities or other CBOs that could render services. In view of persisting human right issues including stigma, discrimination, and covert exclusion/denial of services, the role of CSOs in ensuring rights-based programming is important. CSO efforts are based on strong social analysis of underlying causes of inequities and social injustice, which if properly addressed, will, over time, lead toward the sustainable achievement of a common human rights goal.
Available evidence from the current CSS implementation, feedbacks from community dialogues in Ghana experience support integrated community response to the control of HIV, TB and Malaria. Despite limited investment in national, regional and community network institutional capacity strengthening, program data indicate increase demand for ATM services resulting from Support Group/CBO participation in demand creation.

The key prioritized interventions are:
a) Social mobilization, building community linkages, collaboration and coordination:

Target Population: Persons Living with HIV/AIDS countrywide 2) working in collaboration with the CBOs and CHPS zones in all districts and with a focus in the 4 high HIV and TB burden prioritized regions (Ashanti, Greater Accra, Eastern, and Western Regions).

Allocation: $ 2,475,219

Implementation Approach:NAP+ GHANA will carry out Mapping of PLHIV Associations to help in social mobilization and demand creation for HIV prevention (especially HTC and PMTCT) and TB (and Malaria) services at the community level as well as provide support for the delivery of services at the facility and community levels. They will provide ATM-related disease services including delivering key health messages, making client referrals between community and health facilities, providing community and home-based care for HIV and TB patients including treatment adherence support and education, tracking HIV and TB patients lost to follow up, and undertaking active TB case finding and contact tracing. CBOs will develop strong informal and formal relationships between communities, facilities, and other community actors and stakeholders that will generate demand for services and result in stronger integration and increased utilization of TB/HIV services.

Specific implementation arrangements will include assigning at least one CBO to each high volume site (97 of 175 high volume sites identified already) to spearhead HIV and TB activities, routine data collection, and quarterly data verification and program review coordination and update meetings for community actors that bring together CBOs, KAP groups, and CHPS and health facility staff. Psychosocial Support provided by strengthening the capacity of PLHIV, Models of Hope (Trained PLHIV caregivers) and support groups to facilitate access and adherence to treatment through follow up at community levels for PLHIV and their families. This support will also facilitate access to preventive with Positives (PwP) efforts.

NAP+ Ghana national, regional and district offices will coordinate CBO activities including the creation of networking and effective linkages with other actors and broader movements such as human rights and women's movements.

Expected Impact: This intervention will result in integrated community based demand generation and increased uptake of PMTCT services, HCT Services, TB suspect referrals and ART adherence support and education. The outcome will be to improve delivery and uptake of the ATM services, which will ultimately contribute to reducing new ATM infections and related deaths.

b) **Institutional capacity building, planning and leadership development in the community sector**

Target population: Lead HIV Network (NAP+ GHANA/CBOs) and regional and/or district branches. To strengthen institutional capacity of NAP+ Ghana, that is its National, regional and associated Support Groups/CBOs. The continuous strengthening of ATM networks institutional capacity at national and regional level will provide a platform to improve the quality of mentoring support for Support Groups/ CBOs and other community actors including VDC and "community health promoters". This will act as a catalyst for scaling up sustainable community driven demand creation activities in an integrated TB, HIV and Malaria community systems framework to support the health systems. The integrated CSS framework will ensure improved capacity for community actors to deliver effective and efficient community based health care services.

Allocation Amount: $525,000

Implementation Approach: NAP+ GHANA will collaborate with Ghana HIV/AIDS Network (GHANET) to build its organizational capacity including (infrastructural, institutional and Human resource capacities) including providing training and mentoring to improve administrative and financial systems and technical knowledge, skills and competencies of the HIV network to lead, supervise, mentor, and report on community level HIV (and TB and malaria) activities as well as advocate with national, regional, and district authorities on behalf of people infected and affected by ATM and engage government on human rights and strategic advocacy issues in relation to PLHIV and key affected population.

Expected Impact: The capacity of the lead HIV Network will be built to enable it to provide effective leadership on HIV and AIDS issues.

c) Advocacy for social accountability

Allocation amount: $499,781

Target population: GOG, MDA, Developing Partners, GHS/NACP, GAC, MMDA and Health care workers at the ART sites

Implementation Approach:NAP+ GHANA in collaboration with GHANET, Stop TB Partnership Ghana, TB Voice Network and Other stakeholders will set up the Social Accountability Monitoring Committees (SAMC) at community level. The SAMC will hold local leaders and service providers accountable for provision of high quality and accessible TB and HIV services including commodity security issues. Training packages, methods and materials appropriate for different target groups will be developed on social accountability. Training on social accountability will be conducted targeting community level participants including representatives of minority groups from both demand and

supply side of TB/HIV services in order to increase the awareness of the citizenry and marginalized sub-populations in particular. NAP+/CSO networks will use community radios and production of a quarterly newsletter to disseminate messages on implementation of activities and advocacy thereby enhancing community participation, inclusiveness and dialogue.
Expected Impact: The capacity of the lead HIV Network will be built to enable it to provide effective leadership on HIV and AIDS issues.

Module 12: Program Management
The rationale for the selection and prioritization of module and interventions: This module is focused on policy, planning, coordination, management and grant management. The activities are mostly in direct support to programmatic implementation and critical to achieving set goals and targets. The MoH is in discussion with the GF to secure funding for PSM improvement from existing grants and therefore PSM system is not included in the CN application. On grant management, this application provides for the capacity strengthening requirements of PRs, SRs and SSRs to appropriately manage the grant as well as address grant management risks identified for each PR.
Summary of Funding Request: The full funding request (Allocation and above allocation) is US$9,509,428.67and comprises the amounts shown in the table immediately hereunder.

Allocation		Above Allocation		Full Request
		Incentive Funding	Unfunded Quality Demand	
HIV	4,954,806.00	0	0	4,954,806.00
TB	4,554622.67	0	0	4,554,622.67
HIV&TB	9,509,428.67	0	0	9,509,428.67

Allocation HIV Program:US$ 4,954,806.00
Target population/Geographical Scope: This intervention is targeted at strengthening 4 PRs, SRs and SSRs to manage the joint TB/HIV concept note grant.
Implementation approach: This will be done through CCM and selected PRs as well as SRs and SSRs later to be engaged for grant implementation. CCM will be responsible for grant oversight and executive decisions, PRs for grant management, and SRs/SSRs for grant implementation activities.
Three approaches will be used, including 1) Strengthening institutional capacity of PRs to effectively manage GF grants. This involves salaries for selected PR staff, support for office operations/equipment and support for travel. 2) Support PRs to engage (potential) SRs/SSRs (including of key affected populations) to apply for and implement GF grants. This includes facilitating their participation in CCM meetings, orientations on GF grant application, undertaking grant applications (call for proposals) and awards and orientation on GF grant management. 3) Providing SR institutional strengthening (salaries, office operations and travel), undertaking SR monitoring, managing grant disbursements, undertaking grant audits, and preparing grant reports.
PR Allocation

	Name	Amount	%
1.	MoH	US$2,716,587	55
2.	GAC	US$1,516,641	31
3.	ADRA	US$414,394	8
4.	PPAG	US$307,184	6

Allocation TB Program- US$4,554,622.67

The key TB program management areas are:
A. Policy, Planning Coordination and management
Allocation $: 3,963,918.00
Introduction: In the last five years the complexities and scope of implementation of TB control services, has grown. Reporting demands have been huge and accountability complex and rigorous. The operating environment of service delivery has changed requiring intense efforts to show results regardless of the human resource situation.
Increasingly innovations are expected to achieve efficiency and for results, as financial, human and material resources are limited. That means evidence implementation that is supported by operations research. As implementation of services takes place in an integrated health system environment there is competing demands on both health care managers and operational level staff time.

The impact programs made is largely dependent on a functional strong central level management team that has extensive technical, managerial experience to support, coordinate, supervise and build capacity at all levels of health care delivery system to support implementation.
Activities: The critical broad and essential activities include Training, management and supervision of interventions, monitoring and evaluation, research and procurement of technical assistance.
Target Population: All categories of healthcare providers at various level of health care delivery system countrywide. The geographical scope of management and coordinated actions are in the five-tier health system structure, National regional, district, and sub districts and CHPS zones.
Implementation Approach: Owing to Slow response of clinical services in adopting strategies, the central level in collaboration with Clinical care units would increase its supportive technical visits to Regions districts and facilities to ensure quick uptake of new tools.
Regional health care managers and district level care managers would be expected to intensify supervisory activities. Regular feedback, and performance level assessment would be introduced for peer review for the first time in this plan.
TB Quarterly review meetings will be assessed and scored as part of peer review performance.
The central level will advocate with other agencies such as Food and Drugs Authority, National Health insurance to support pharmacovigilance, rationale drug use, and insurance for TB patients. Capacity for implementation research and operations research will be encouraged.
Expected Impact: Harmonization, coordination of interventions for better program outputs, outcome and impact as per M&E targets.

B. Supporting Procurement & Supply Management
Allocation: **$590,704.26**
Introduction: This is Associated cost for procurement such as inspection, freight, forwarding, insurance and handling of TB commodities and other logistics.

3.4 Focus on Key Populations and/or Highest Impact Interventions

This question is <u>not</u> 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.

1 PAGE SUGGESTED

Ghana is a lower lower-middle income country and as such is required to demonstrate that the funding request focuses at least 50% of the budget on underserved and most-at-risk populations and/or highest impact interventions. The full funding request is US$ 123,768,197 made up of US$ 102,476,953 for HIV and US$21,291,244 for TB.The allocation amount is US$109,511,704made up of US$88,503,655 for HIV and US$21,008,049 for TB.

Specifically, US$**105,093,267** (85%) of the full Funding Request for HIV and TB is focused on:

a) Underserved populations for HIV: men, pregnant women, and children
b) Key affected populations: FSW, MSM, and prisoners for HIV; and PLHIV, miners, and diabetics for TB
c) High impact interventions: ART, PMTCT, TBHIV, TB Care and Prevention and MDR-TB.

Table 3.4.1: Focus of Funding Request Mapping

	Module	Full Request	Category	% Full Funding Request
1.	Gen Population (HIV Test Kits)	**2,302,465**	High Impact	2%
2.	PMTCT	**15,618,329**	High Impact	13%
3.	FSWs	**8,152,758**	KAP	7%
4.	MSM	**5,501,538**	KAP	4%
5.	Prisons	**1,314,732**	KAP	1%
6.	ART	**53,506,824**	High Impact	43%
7.	TB/HIV	**1,960,000**	High Impact	2%
8.	TB Care and Prevention	**13,474,735**	High Impact	11%
9.	MDR TB	**3,261,886**	High Impact	3%
10.	HSS	**5,665,501**		5%
11.	CSS	**3,500,000**		3%
12.	Prog. Mgt. HIV	**4,954,806**		4%
13.	Prog. Mgt. TB	**4,554,623**		4%
	TOTAL	**123,768,197**		100%

Prog Mgt. TB = Policy, planning, coordination & management of NTP

SECTION 4: IMPLEMENTATION ARRANGEMENTSAND 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**.**

4.1Overview 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:

a. If applicable, the reason why the proposed implementation arrangement does not reflect a dual-track financingarrangement (i.e. both government and non-government sector PRs).

b. 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.

c. The type of sub-recipient management arrangements likely to be put into place and whether sub-recipient(s) have been identified.

d. How coordination will occur between each nominated PR and its respective sub-recipient(s).

e. 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. 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 Principal Recipient(s).

The proposed implementation arrangement reflects a dual-track financing arrangement involving the government (MOH/GHS and GAC) and a non-government sector (ADRA and PPAG) Principal Recipients (PRs)

b. If more than one Principal Recipient is nominated, how coordination will occur between Principal Recipients.

Five PRs will be implementing different modules of the grant. MoH/GHS will implement the module on Treatment , Care and Support; PMTCT; HTC; HSS; TB prevention and care, MDR-TBand TB/HIV . The three other PRs will implement the module on Key Affected Populations (FSW, MSM, and Prison Inmates) and CSS. Program Management is common to all PRs

CCM will ensure that the PRs implement as per the grant agreement through the work of the HIV/TB Oversight Committee (comprising members and non-members) of the CCM. The central management team for TBHIV Programs will play the lead role in the coordination. The Expanded Technical Working Group and the Key Population Technical Working Group at the Ghana AIDS Commission level; the ART Technical Working Group and PMTCT expanded Technical Working Group of the GHS/NACP, which are technical advisory committees for the HIV National response in the country. Additionally, the TB National Advisory Board and the technical Working Groups for TB/HIV and MDR-TB will ensure effective coordination and harmonization. All PRs will be represented on the specific working groups related to their area of work to ensure standardization and improved coordination.

c. The type of sub-recipient management arrangements likely to be put into place and

whether sub-recipients have been identified.

The sub recipients are yet to be identified. However, the process for the selection of sub-recipients will be followed when the grant is approved.

For PR1 (MOH/GHS): PR will be working with implementing partners to ensure the various activities outlined in this grant are carried out. The implementing agencies include:

- The civil society organizations (such as Stop TB Partnerships, Ghana)
- Academic and research institutions (such as NMIMR, Kintampo, Dodowa and Navrongo
- Health research institutions): who will undertake research
- Society for Private Medical and Dental Practitioners: for training, supervision and
- Food and Drug Authority: ensuring anti-TB medicines and HIV medicines

- The police and the military for TBHIV services
- Community agents: for community mobilization and advocacy
- private medical laboratories: medical surveillance
- Private Health Facilities

d. How coordination will occur between each nominated Principal Recipient and its respective sub-recipients.

The three other PRs that will be implementing through sub-recipients, the implementing agencies access funds through submitting proposals which are reviewed. The finalized and accepted proposals are processed for funds to be disbursed to the implementers as per agreed contract. The work of the implementing agencies will be supervised by the PRs in addition to the required progress and finalized financial and technical reports they submit. Additionally, quarterly performance review meetings will be organized. The implementing agencies are only paid the full amount for implementation if they fulfil all the terms of the contract.

e. How representatives of women's organizations, people living with the three diseases, and other key populations will actively participate in the implementation of this funding request.

Persons living with HIV through their network will take leadership role in the implementation of the CSS component of this grant. Similarly, the Stop TB Partnership, Ghana will be responsible for community TB care.
At the national level, PLHIV and TB Patients are represented on all technical working groups and also participate in the semi-annual and annual program review meetings. In addition, at the implementation level women and men from the KAP community will be the main channel for services delivery at the community level.

4.2 Ensuring Implementation Efficiencies

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.

All grants expires by December 2014 and this request is not linked to any existing Global Funds grant or other funding requests being submitted by the CCM hence, this request does not complement any other existing Global Fund grant.

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	MOH	**Sector**	
Does this PR currently manage a Global Fund grant(s) for this disease component or a stand-alone cross-cutting HSS grant(s)?		xYes ☐No	
Minimum Standards		**CCM assessment**	
1. The Principal Recipient demonstrates effective management structures and planning		The PR has systems and structures in place for the planning, organization, management and delivery of health services at all levels in the country. The PR has capacity to manage resources such as government funds at national, regional and district levels by the respective BMCs using approved and verifiable financial management structures. Earmarked funds are captured by broad areas in the health sector program of work and forms part of the program of work for the divisions, which are responsible for the implementation at the program levels. The programs provide guidance to the implementing levels or agencies to develop implementation activities.	
2. The Principal Recipient has the capacity and systems for effective management and oversight of Sub-Recipients (and relevant Sub-Sub-Recipients)		The PR has capacity for effective SR oversight and management; however, the PR will only work with implementing agencies such as Society for Private Medical Practice, Pharmaceutical Society of Ghana, etc. The track record of the PR is evidenced by successful implementation of previous GF grants success from round 2, Round 4 rated A, Rolling continuation Channel Funding and Round 8 approved grants.	
3. The internal control system of the Principal Recipient is effective to prevent and detect misuse or fraud		The PR's internal control system is adequate to prevent and detect fraud and misuse of funds even though there is room for improvement. Since the OIG audit of the financial management system in 2010 a number of recommendations have been implemented to strengthen weaknesses in the internal control systems including pre audit and post audit of all procurement services. In addition qualified financial management staff have been employed at the program level to deal with all financial matters professionally. *o*	
4. The financial management system of the Principal Recipient is effective and accurate		The PR's financial management system has improved since the OIG audit of the PR in	

	2010. A number of financial management systems are in place for effective and accurate reporting systems. The system also ensures financial data quality through capturing of financial information for accurate preparation of bank reconciliation statements, fixed assets register, tracking activity balances which are consistent with the Global Fund reporting requirements. The introduction of a computerized financial management system recently called "Great Plain" has further improved financial management.
5. 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 PR's storage system in terms of warehousing capacity for health products has improved over the years. The capacity of the Central Medical Store has improved in terms of storage capacity and staffing. The PR has also benefited from the GF's support for HSS by the addition of new regional medical stores where there was none and refurbished 6 out of the ten regional medical stores to provide adequate capacity, condition, integrity and security of health products using modern storage practices.
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	The PR has a Central Medical Store (CMS) from where health products are distributed through two approaches: a push system and a pull system. The CMS is equipped with a transportation arrangement. The current capacity permits occasional and limited distribution to regional level. Regional Medical Stores consequently undertake most of the transportation of health products from the central level. Each of the ten regional stores is also equipped with a 10 trucks to support transportation of drugs and logistics from the central medical store and distribute them to the health facilities form where end users access the commodities.
7. Data-collection capacity and tools are in place to monitor program performance	Data-collection tools which were fully integrated into the national system are being implemented and used for data collection at facility and district levels where data is entered into the District Health Information Management Systems (DHIMS) for transmission to region and national. Data management staff at all levels has been oriented on the harmonized tools. However, there is a need to beef up staff and build capacity at district level to support data entry and processing.
8. A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	There exists a nationwide functional routine reporting system. The web-based district health information management system (DHIMS) has been in use since 2012

9. Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	The Food and Drugs Authority has the mandate to ensure the quality of medicinal product. The FDA conducts post shipment and post marketing surveillance at authorized ports of entry and along the supply pipeline respectively to ensure quality of the commodities. Drug Quality and Adverse Event Monitoring, are being followed up by the Food and Drugs Authority and samples of anti-malarials are randomly collected and basic tests carried out to determine quality. The Pharmacy Council ensures maintenance of professional standards for pharmacy practitioners

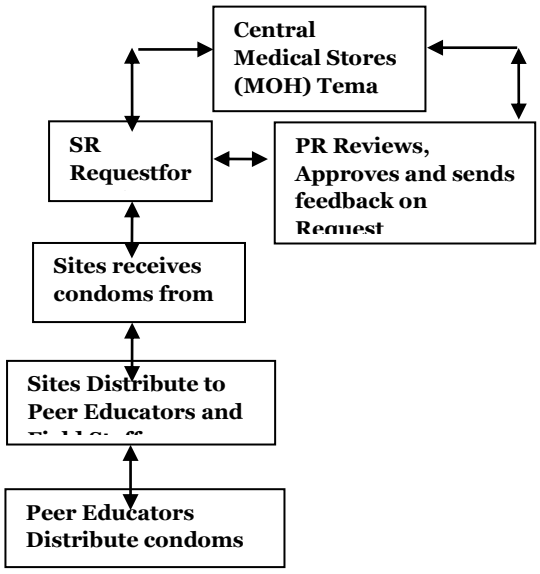
4.3 Minimum Standards for Principal Recipient (PR) and Program Delivery

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 2 Name	Ghana AIDS Commission	**Sector**	
Does this PR currently manage a Global Fund grant(s) for this disease component or a stand-alone cross-cutting HSS grant(s)?		xYes ☐No	
Minimum Standards		**CCM assessment**	
1. The Principal Recipient demonstrates effective management structures and planning		Ghana AIDS Commission (GAC) has huge experience managing donor funds in the past 12 years (e.g. GIZ, World Bank, USAID DANIDA, CDC, PERFAR UK-AID and JICA). The GAC Secretariat is headed by a Director General who leads a core team of five Directors to provide effective leadership and direction for the national HIV response, Through the five directorates, GAC liaises with other key institutions to guide the national response comprehensively since 2002 in the areas of: Policy issues, Strategic Planning (National Strategic & Operational Plans), Advocacy, Coordination and Management, Creation of enabling environment for impact mitigation, Research, M&E and Resource mobilization for sustainability. GAC dialogues with key stakeholders through partnership forum and business meetings annually. Monthly Technical Working Group meetings (Key Population (KP), Extended Technical Working Groups (ETWG) and Communications) also exist for technical review of implementation, information sharing and decision making. GAC co-ordinates and monitors the HIV activities of Ministries Departments and Agencies (MDA), National level Civil Society	

	Oganisations and Regional AIDS Committees (RAC) and all other implementing partners for performance. Regional Technical Support Units (TSU) & RACs co-ordinate and undertake performance monitoring and reviews of the activities of the District AIDS Committees (DAC). DACs co-ordinate, monitor and evaluate HIV&AIDS activities of CSO (CBO, FBO, NGO) and Private Sector at the community level.
2. The Principal Recipient has the capacity and systems for effective management and oversight of Sub-Recipients (and relevant Sub-Sub-Recipients)	The PR has managed and continue to manage major HIV projects based on national strategies since its creation (2002). GAC is currently a PR for the implementation of the Global Fund Round 8 HIV programme ($20mil) - Jan 2010 – June 2015 focusing on KPs, youth and employees. The PR is currently managing the following implementing partners under the GF Round 8 (2010-2014) and NSP (2011-2015) • WAPCAS – KP interventions • FHI360 & GES/SHEP – Youth interventions • GEA/ILO/GBCA – Employees at the workplace • GIZ – Hospitality Industry • Civil Society Organisations (NGO, CBO and FBO -38) – General population HIV interventions The PR has capacity for effective Sub Recipient (SR) oversight and management, however, the PR currently works with two SR. The PR has put in place rigorous financial monitoring and reporting of programmatic activities using fully computerized financial and technical systems (BiPro-online financial transaction system and Country Response Information Systems (CRIS)) that provide remote access to PR for real time expenditure and implementation tracking. The PR has in place an effective feedback system to complement the tracking of program performance through quarterly performance reviews, semi-annual data quality assessment of reports. Sub-recipients will be supported to strengthen their M&E systems for effective data management and reporting. Programme indicators will be

	measured through routine data collection and progress results tracked at various levels.
3. The internal controlsystem of the Principal Recipient is effective to prevent and detect misuse or fraud	Ghana AIDS commission employs rigorous internal control systems and mechanism for fraud detection and prevention. GAC has a robust Financial Management System for effective financial monitoring in line with the Financial Administrative Act, 2003 (Act 654). It has a fully computerised financial system (ACCPAC) and BiPro an on-line transactional system. GAC Secretariat has an internal Audit Unit that conducts routine internal audit of transactions. Annual external audit is carried out by the General (private audit firms are engaged to audit all transactions)
4. The financial management system of the Principal Recipient is effective and accurate	GAC currently engages the services of two Chartered Accountants to provide oversight for grant management. The PR also utilizes efficient software for financial management of the grant. The system has demonstrated significant accuracy since its introduction in 2008.
5. 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 procurement process of GAC follows procedures set out in the Public Procurement Act, 2003 (Act 663). Entity Tender Committee exists at the GAC Secretariat to manage the award of contracts and other procurement requirements of the Secretariat. There is a Procurement Unit headed by a Manager who guides the procurement processes in the secretariat. The procurement system in GAC has significant experience managing large multi-lateral and bi-lateral donor funds as well as GoG grants. GAC utilizes the PSM of MoH for procurement and storage of HIV commodities.
6. The distributionsystems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment / program disruptions	*Distribution Systems:* The Ghana AIDS Commission operates from its Head Office that coordinates the activities of its sub-project implementing partners country-wide.At the moment the GAC Secretariat is housed in a rented premise that was purpose-built as an office. It does not have adequate storage space for inventory. **The** GAC has an institutional arrangement with MOH/GHS to use their storage facilities including their inventory management system for its commodities/supplies. Therefore, all HIV commodities will be stored at the Central

	Medical Stores (in Tema) of the Ministry of Health - Ghana from where all SR will lifttheir allocations. GAC will ensure that lead times are kept to a minimum to prevent stock outs. In the chart below, SR sends in their commodity request to PR. The request is reviewed, approved and feedback given. SR picks up commodities directly from the Central Medical Stores to their sites. Sites distribute the commodities to the peer educator who in-turn distributes to the clients. Similarly, WAPCAS Headquarters also picks up minimal stocks directly from the CMS which is stored to enable them provide emergency supplies to the sites. An efficient documentation and feedback system are maintained throughout the entire process. **Fig 4.3.1:Distribution chain of PR:**  *Transportation System* The SR engages private transport operators to transport commodities from the CMS to the various sites. Additionally, The PR and SR transport limited quantities of commodities in official vehicles from the headquarters to the site during routine monitoring exercises whenever necessary to avoid program disruptions.
7. Data-collection capacity and tools are in place to monitor program performance	**I**n line with the 'Three Ones Principles' one National M&E Plan 2011-2015 has been developed for the NSP 2011-2015. Data Management Manuals have been developed for service delivery areas. In line with the underlying principles of one national M&E Plan, one national set of standardized

	indicators has been agreed by stakeholders. National M&E system clearly defines institutional and organizational framework for bottom-up reporting through the decentralized structures
8. A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	Grant Implementation or Project M&E Plan will be developed to define various levels of performance and key indicators that are to be measured. The main sources of data will be the periodic reports prepared by Sub-recipients. Project data will be channelled from the implementing partners to populate the database at the sub-recipient level and subsequently at the Central level.
9. Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	WAPCAS is the key SR to implement large scale KP programmes since 1996 and the sole KP implementing partner for GAC under the GF R8 programme (2010 – 2014). The SR is the foremost CSO to have established Income Generating Activities and Skills centres for KPs. SR currently operates in 22 FSW sites and five MSM sites in eight regions of Ghana.

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 3 Name	ADRA	**Sector**	
Does this PR currently manage a Global Fund grant(s) for this disease component or a stand-alone cross-cutting HSS grant(s)?		xYes ☐No	
Minimum Standards		**CCM assessment**	
The Principal Recipient demonstrates effective management structures and planning		ADRA has a 17-member Board of Directors, with varied expertise, which provide policy direction and takes cogent decisions. The agency is headed by a Country Director who is supported by four other directors. The PR has adequate institutional capacity including a staff strength of 55 about 70% of who are professionals with academic degrees and diplomas. Each of ADRA's Portfolio has a Director, Project Manager, Technical Staff and Field Officers who engage in regular program management and review meetings that are guided by financial management policy, program operations manual.ADRA in the past 27yrs, have managed and implemented huge funding from Donors such as SIDA, UNFPA, USAID, USDA, UNDP, inter alia with excellence.	

The Principal Recipient has the capacity and systems for effective management and oversight of Sub-Recipients (and relevant Sub-Sub-Recipients)	Currently ADRA is a PR for the implementation of the Global Fund Round 8 HIV programme. From January, 2010 – December, 2014, an amount of $5,264,349.00 was voted towards the implementation of the Project: targeting the general population, vulnerable groups, PLHIV and female sex workers. ADRA effectively and efficiently managed Seven (7) Sub Recipients and one hundred and fifty (150) Sub- Sub –Recipients, CBOs, (Community Based Organizations) to achieve set targets. PR is now managing two SRs,–Non Governmental Organizations, namely, Pro Link and Christian Council of Ghana in its areas of operation. The PR has capacity for effective SR oversight and management, as it has in place rigorous financial management system to monitor SR programmatic activities using computerized Accounting software (Sunsystems) based on International Accounting Standards. Additionally, ADRA has in place an effective M&E system to complement the tracking of SR program performance through quarterly performance reviews and data quality assurance while program indicators are measured through routine data collection and progress results tracked at various levels. Sub-recipients are supported to strengthen their M&E systems for effective data management and reporting through frequent refresher training programs.
The internal controlsystem of the Principal Recipient is effective to prevent and detect misuse or fraud	ADRA employs rigorous internal control systems and mechanism for fraud detection and prevention. The PR has a robust Financial Management System backed by a fully computerised financial system (Sunsystems) for effective financial monitoring. Before money is released for an activity, a voucher is raised by the Officer responsible, authorized by the immediate supervisor and approved by the Director of Finance. The Internal auditor conducts routine checks on transactions while an annual external Auditor from private audit firm are gaged to audit financial program implementation.
The financial management system of the Principal Recipient is effective and accurate	ADRA currently engages the services of external Chartered Accountants to provide audit of program grants as part of the financial Management Policy that guides financial operations. The PR also utilizes efficient software for financial management of the grant. The system has demonstrated significant accuracy since its introduction in in 2012.

Central warehousing and regional warehouse have capacity, and are aligned with good storage practices to ensure adequate condition, integrity and security of health products	Even though ADRA does not undertake direct procurement of its health products which are mainly condoms and lubricants and HIV Test Kits for FSWs, it is, however, conscious of the existing procurement process set out in the Public Procurement Act, 2003 (Act 663). The PR collects the aforementioned products from the Central Stores of MoH and stored in well ventilated, pelleted, cool, thermometer placed and adequate storage facilities to ensure safety and quality of stock of condoms. Stock of condoms are handled by the Procurement Unit headed by a Manager who guides storage and distribution processes for ADRA.
The distributionsystems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment / program disruptions	The Agency has a truck that conveys Health Products from the Central Medical Stores to ADRA Head Office where the Storage Facility is placed. The SRs which also have very good storage facilities, upon request, transport their allocation to their respective stations for distribution to the FSW.
Data-collection capacity and tools are in place to monitor program performance	Robust M&E Plan in place which defines the framework for periodic reporting as well as efficient data collection tools for regular field monitoring and data quality assurance. The PR has put in place a system of Institutional capacity strengthening for SRs as well as having quarterly program review meetings, financial monitoring and supervision of implementing partners.
A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	Grant Implementation or Project M&E Plan will be developed to define various levels of performance and key indicators that are to be measured. The main sources of data will be the periodic reports prepared by Sub-recipients and collated by PR after field validation exercise to populate the PUDR.
Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	ADRA has supported the two Implementers to establish well ventilated, pelleted, cool and spacious storage facilities for their health products. Implementers keep Bin cards where goods are recorded.

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 4 Name	PPAG	**Sector**	
Does this PR currently manage a Global Fund grant(s) for this disease component or a stand-alone cross-cutting HSS grant(s)?	xYes ☐No		

Minimum Standards	CCM assessment
The Principal Recipient demonstrates effective management structures and planning	PPAG has a well structured governance system made up of volunteers and staff. Volunteers of varied expertise constitute a governing Council that provides policy direction for the Association. The Association is headed by an Executive Director who is supported by two other Directors. The PR has adequate institutional capacity to manage donor funds. Currently the Association is receiving funding from International Planned Parenthood Federation, UNFPA, Japanese Organisation for International Cooperation in Family Planning, Japanese Trust Fund, the Netherlands Government among others. In the recent past the Association has received funds from the USAID, JICA, Big Lottery Fund, The World Bank, etc. Every year in August, the Association conducts an Annual Planning and Budgeting (APB) meeting to plan programs for the ensuing year. All of the Association programs are guided by a 5 year Strategic Plan.
The Principal Recipient has the capacity and systems for effective management and oversight of Sub-Recipients (and relevant Sub-Sub-Recipients)	PPAG has used social franchising approach to implement some of its programmes for the past 30 years. Partnership is forged with certain organizations that are carefully chosen using well designed operational manuals. Since 2010 under the Global Fund Programme PPAG has worked with six sub recipients namely GSMF International, Centre for the Development of People (CEDEP), West Africa AIDS Foundation, Theatre for a Change, NORSAAC and Society for Women and AIDS in Africa (SWAA). Currently in Phase II of the Round 8 HIV and AIDS Programme, the Association has one sub-recipient. The Association's partnership with sub recipients is guided by Sub recipients Operational Manual. There is an effective M&E system to ensure adequate tracking of SR programmatic performance. Routine data verification exercises are conducted to check accuracy of data at various levels of data collection and aggregation. Periodic performance reviews are also organized to provide feedback on programme implementation for improvement. Financial transactions are guided by the Association's accounting manuals.

The internal controlsystem of the Principal Recipient is effective to prevent and detect misuse or fraud	PPAG financial transactions are guided by the PPAG Financial Manual which provides guidelines on use of funds. These procedures are strictly followed. For instance the financial control system requires that for a transaction to go through an expenditure request is initiated by a spending officer backed by a justification. Next, recommendation for approval is sought from the supervisor of the spending officer. The transaction is then reviewed by the Director of Finance and Administration, Internal Auditor and then finally approved by the Executive Director before a cheque is issued. Periodically, the Associations accounts are reviewed by an external audit firm. An independent Budget and Finance Committee advises on all financial issues and review all audit reports. All these measures help prevent and detect fraud.
The financial management system of the Principal Recipient is effective and accurate	PPAG accounts are reviewed by Deloitte and Touche and PKF. Since its inception the Association has always obtained an unqualified audit.
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 PR uses the PSM of the MoH for the procurement of HIV commodities. PR stores at national and regional levels have good storage practices (e.g. air conditioned rooms with standby generators, tally cards, goods receive notes, etc) to ensure adequate condition, integrity and security of health products.
The distributionsystems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment / program disruptions	N/A
Data-collection capacity and tools are in place to monitor program performance	There is a robust M&E Plan in place which defines the framework for periodic reporting as well as efficient data collection tools for regular field monitoring and data quality assurance. The M&E system is aligned with the National M&E system. Data collection tools are standardized. The PR has put in place a system of Institutional capacity strengthening for SRs as well as having quarterly program review meetings, financial monitoring and supervision of implementing partners.
A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	The Association has an M&E Plan for all its projects. One will be developed for the New Funding Model. Project data will be reported using standardized reporting formats and agreed timelines. Data will be aggregated at Central and decentralized levels. National

	database will be used to report to the Global Fund.
Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	PPAG has supported its SRs and Zones to establish well ventilated stores for optimal storage of health products. Periodically, the monitoring visits are conducted to sites to ensure compliance with standards.

4.4 Current or Anticipated Risks to Program Delivery and PR(s) Performance

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.

1-2 PAGES SUGGESTED

Risks

1. The increasing burden on government resources for health systems strengthening coupled with current economic challenges may result in slow scale up of successful TBHIV interventions.
2. Development of HIV drug resistance as a result of increasing proportion of clients who have been on HAART for prolonged periods and may interrupt treatment due to treatment fatigue resulting in first line treatment failure and use of second line drugs thereby increasing treatment cost.
3. The potential of industrial action among healthcare workers.
4. Unfavorable legal environment for key population interventions.
5. Delay in disbursement from the Global Fund at the initial stage would disrupt start up activities and distort the entire implementation arrangement.
6. Failure on the part of development partners to redeem their pledges may negatively affect the overall impact of interventions and outcomes under this application.

Mitigation measures

1. Continuous high level advocacy to leverage national budgetary commitment to shore up government financing for health systems strengthening.
2. Ghana Health Service would continue to monitor HIV drug resistance and improve adherence counsel.
3. Employ task shifting measures to empower lower cadre of health staff to provide minimal services at ART sites and TB DOT centres in case of industrial action.
4. Improve reporting of human right abuses in partnership with the Commission on Human Rights and Administrative Justice.
5. Improve communication with country team and GF secretariat to ensure early disbursement and funding flexibility.
6. Improve capacity building for civil society and government stakeholders to engage development partners to fulfill their pledges.

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.

☐	Table 1: Financial Gap Analysis and Counterpart FinancingTable
☐	Table 2: Programmatic Gap Table(s)
☐	Table 3: Modular Template
☐	Table 4: List of Abbreviations and Attachments
☐	CCM Eligibility Requirements
☐	CCM Endorsement of Concept Note