UNAIDS NACP NATIONAL AIDS CONTROL PROGRAMME

Center for Sustainable Development
EARTH INSTITUTE | COLUMBIA UNIVERSITY
MILLENNIUM PROMISE

LOCATE, TEST, TREAT & RETAIN

A Community Systems Strengthening Intervention to Meet the UNAIDS 90-90-90 Targets in Ghana

BASELINE RESEARCH PROTOCOL

PREPARED BY

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Acronyms Used:

1mCHW - One Million Community Health Workers Campaign
AIDS - Acquired Immune Deficiency Syndrome
ANC - Antenatal Care
ART - Antiretroviral Therapy
ARV - Antiretrovirals
CeTracker - Community-based Electronic Tracker
CDC - Center for Disease Control, U.S.A.
CHO - Community Health Officers
CHPS - Community-Based Health Planning and Services
CHW - Community Health Workers
DHIMS - District Health Information Management System
FSW - Female Sex Workers
GAC - Ghana AIDS Commission
GDHS - Ghana Demographic and Health Survey
GFATM - Global Fund to Fight AIDS, Tuberculosis and Malaria
GH¢ - Ghanaian Cedi currency
GHS - Ghana Health Service
HIV - Human Immunodeficiency Virus
HSS - HIV Sentinel Survey
HTS - HIV testing services
IDI - In-Depth Interviews
KAP - Knowledge, Attitudes and Practices
LMIC - Low and Middle Income Countries
LTFU - Lost to Follow Up
L2TR - Locate, Test, Treat and Retain
MPA - Millennium Promise Alliance
MoH - Ministry of Health, Ghana
MSM - Men who have Sex with Men
NACP - National HIV/AIDS/STI Control Program
NAP+ - National Association of Persons Living with HIV and AIDS
NSP - National HIV & AIDS Strategic Plan 2016-2020
PLHIV - Persons Living with HIV
PMTCT - Prevention of Mother-To-Child Transmission
RDT - Rapid Diagnostic Test
SBCC - Social Behavioral Change Communication
SSA - Sub-Saharan Africa
UNAIDS - The joint United Nations program on HIV/AIDS
UN - The United Nations
USAID - United States Agency for International Development
WCA - West and Central Africa region
WHO - World Health Organization
YEA - Youth Employment Agency

Table of Contents:

I. Rationale and Background Information

Over the past 35 years, AIDS has established itself as one of the worst global epidemics of all time. Deaths caused by HIV/AIDS-related illnesses have claimed an estimated 35.4 million [25.0 million–49.9 million] lives (UNAIDS, 2017), and the virus continues to destabilize the workforce, health and security of low and middle income countries (LMICs) grappling with the double burden of concentrated poverty, especially in Sub Saharan Africa (SSA). Despite the persistent severity in SSA, significant progress has been made since HIV/AIDS first emerged as a global threat. Impressive technological advances achieved over the past decade for antiretroviral therapy (ART) have allowed the pandemic to transition from a public health emergency to a chronic, manageable disease that now allows PLHIV to be treated on an outpatient basis and complete a near-normal lifespan (NAID, 2017). These improvements in ART radically altered the course of the epidemic by drastically reducing mortality from AIDS and related illnesses, and influenced major shifts in HIV control strategies.

Thankfully, the globe has made a strong commitment to making HIV/AIDS a permanent part of history by 2030. In 2014, the United Nations General Assembly adopted a Fast-Track strategy, to achieve the goal of ending AIDS globally by 2030,and the **90-90-90 aspirational targets** were adopted:

1. **By 2020, 90% of all people living with HIV will know their HIV status.**
2. **By 2020, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART).**
3. **By 2020, 90% of all people receiving antiretroviral therapy will have viral suppression.**

In Ghana, HIV incidence increased steadily from 2010 to 2016, which presents an urgent call-to-action to reverse this alarming trend and control the spread of the virus. Ghana was selected as one of the 35 priority countries in the UN Fast-Track strategy to end AIDS and featured prominently in the UNAIDS 2017 Western and Central Africa Catch Up Plan. In response to these international mandates, Ghana quickly prioritized building a partnership with UNAIDS to implement and achieve the 90-90-90 targets.

In 2016, the WHO established new "Test-and-Treat" guidelines on the use of antiretroviral drugs (ARVs) for HIV control, which mandates that all adults (>19 years old) who test positive for HIV begin ART immediately, regardless of their clinical stage and at any CD4 cell count (WHO, 2016). There is demonstrative evidence that implementation of these early-initiation recommendations allows PLHIV to complete average lifespans, provides a better cost-benefit ratio for the care of PLHIV, and reduces overall HIV incidence rates (Brown, et. al., 2016; Cohen, et. al., 2011; INSIGHT, 2015; TEMPRANO, 2015; WHO, 2016). However, the provision of ART to all PLHIV places new demands on health systems at all scales, requiring a new approach to the continuum of care for HIV/AIDS. It also places an enormous long-term financial burden and debt liability on governments (Kabajulizi and Ncube, 2015).

Undoubtedly, scaling up the availability of HIV testing services (HTS) and antiretroviral therapy (ART) in Ghana is requisite to meet the 90-90-90 targets; however, the government faces numerous funding and commodity challenges throughout this scale-up process. There are frequent stock-outs of supplies needed for both HTS and ART, and currently there is a long backlog of HIV+ people in need of ART but unable to receive treatment due to supply shortages. The primary reason for these supply gaps is funding shortfalls. Therefore, it is essential that Ghana looks to the most cost effective strategies to realize these human resources, commodities and service delivery scale-ups.

One of the main reasons, cited in the National HIV & AIDS Strategic Plan 2016-2020 (NSP), that the unmet need for ART remains around 65% is due to an inadequate number of frontline health care

workers to initiate the ART. This human resources shortage is resultant of the standard continuum of care, which has mandated that ART be physician led. Per the NSP recommendations, there is a critical need for task-sharing and shifting and the capacity building of lower-level, frontline health workers in order to scale up the national HIV response, including the delivery of ART. A reconfigured service delivery strategy focused on policies and programs dedicated to community systems strengthening is necessary to ensure increased access to HTS and ART. In 2016, the Ghana Health Service developed the *Operational Policy and Implementation Guidelines on Task-Sharing* as well as an *Operational Manual for Differentiated Service Delivery for HIV*. These two documents provide clear guidelines and the enabling environment for the utilization of community health workers (CHWs) and community health officers (CHOs) for community-based HIV service provision. Following this framework, the National HIV/AIDS/STI Control Program (NACP) plans to extend the availability of health facilities providing ART from the baseline of 197 recorded in 2015 to 307 by the end of 2020 (NACP, 2015). This will ensure community-based delivery of ART and allow Ghana to meet the second target in the UNAIDS 90-90-90. The role of CHWs in demand creation for service uptake will be instrumental in enhancing the utilization of these services.

HIV and AIDS in Ghana: The National Context

In Ghana, the 2017 national adult prevalence for HIV is estimated to be 1.67%, with an estimated 313,063 persons of all ages living with HIV and an estimated 19,101 new infections and 15,694 deaths annually (Spectrum 2017). The majority of new HIV infections occur in adults in the general population. 72.3% occur among stable heterosexual couples and persons involved in causal heterosexual relationships with regular partners (MoT, 2014). New annual infections among all age groups increased by 11% from 17,000 in 2010 to 19,101 in 2017 (Spectrum, 2017). In adults, defined as age 15 or older, new infections increased by 27.3% from 11,400 in 2010 to 15,679 in 2017, suggesting a failure of primary prevention (Spectrum, 2017). Meanwhile, new infections in children declined by 39% from 5,600 in 2010 to 3,422 in 2017, which can be attributed to the successful treatment of HIV+ pregnant women at ANC clinics and the focus on PMTCT (Spectrum, 2017). However, the precedent set by recent years of HIV control strategies to focus on key populations--such as FSW and MSM--has driven policy and programmatic attention away from the general population. This has led to a significant breakdown in comprehensive knowledge on HIV and AIDS, an increase in negative attitudes toward HIV, and a decline in preventative practices among the general population, as highlighted below:

Table 1: Ghana Demographic Health Survey HIV Knowledge, Attitudes and Practice Indicators:

Indicator	**Dimensions**			**Baseline**			**Source**
	Target	Disaggregation		National	Ashanti	Year	
Comprehensive knowledge of HIV/AIDS	*General Adult Population, in Ghana*	**Male**		**29.9%**	**22.7%**	2014	GDHS
		Female		**17.7%**	**11.8%**		
Reported condom use at last sexual intercourse among people with 2+ sexual partners		**Male**	15-24	**34.2%**	-		
			15-49	**18.9%**	-		
		Female	15-24	**14.9%**	-		
			15-49	**11.3%**	-		

Percentage of people reported receiving HIV test in the last 12 months and know their status	*(Ages 15-49)*	**Male**	**6.1%**	**5.5%**		
		Female	**12.9%**	**12.4%**		
Percentage of people reported ever testing for HIV		**Male**	**22.4%**	**19%**		
		Female	**48.5%**	**50.5%**		
Percentage of PLHIV who tested and report knowledge of their status.		**Male**	**50%**	**-**		
		Female	**50%**	**-**		
Percentage of people who report acceptable attitudes toward PLHIV		**Male**	**14.1%**	**10.1%**		
		Female	**8%**	**5.5%**		

The data above elucidates the lack of comprehensive knowledge, attitudes and practices around effective HIV and AIDS prevention and treatment, as well as a generalized stigma about the virus and negative attitude towards PLHIV. This indicates that there is a serious problem in the quality and quantity of SBCC and educational interventions targeted towards the general adult population. Currently, the NACP and GHS are targeting the "*Know Your Status*" and "*It Could Be You, It Could Be Me*" campaigns at the general population; yet, the data indicates that the impact of these campaigns has been minimal. Thus, it is important to consider the social and environmental elements that influence the behaviors of the general population, which in return influence the inefficacy of such advocacy campaigns and constitute this uptick in risk behaviors and harmful attitudes.

The Ashanti region has the highest number of HIV positive individuals in Ghana. There are currently a minimum of 124,290 PLHIV in Ashanti region alone (GDHS, 2014), with the most recent estimates reporting a prevalence of 3.2%--double the national average (HSS, 2017). 53% of the Ashanti region population lives in rural areas (Ghana Statistical Service, 2010), which are consistently underserved by health services and workers. HIV services are typically only offered at district clinics and select Community-Based Health Planning and Services (CHPS) compounds. When HIV/AIDS treatment services are not available at CHPS facilities, PLHIV in rural communities must make a longer, more expensive trip to district hospitals. This trip may be financially infeasible, as well as logistically difficult, thus it often deters individuals from seeking care. Moreover, a substantial amount of personal agency and willpower is required to reach this care, which can further delay a PLHIV in accessing treatment.

When a resident of a rural area does reach a clinic, there is often still a question about whether the necessary antiretroviral drugs (ARVs) will be in stock. There are an estimated 289,833 HIV+ people living in Ghana in need of ART (Spectrum, 2017), and there is currently only enough ART to serve 35% of the HIV+ population (NSP, 2016). Inadequate supplies of ARVs prevents follow through on the universal "test-and-treat policy", and builds distrust between the general population and health system. This renders national HTS programs, such as "*Test for All*," unrealistic without further human resources and funding allocated to address such gaps and barriers.

Moreover, HIV remains a highly stigmatized illness, due to its associations with sex, promiscuity and marginal behavior Most stigma reducing efforts, including the strategies delineated in the NSP, are targeted at key populations such as MSM and FSW. However, stigma around HIV is much more widespread. Stigma and discrimination against PLHIV exists on multiple levels, ranging from health care service providers stigma to social stigma to self-stigmatization. The low level of accepting attitudes (*see*

table 1, page 7) is a formidable barrier to HIV prevention and treatment programs because it deters testing, disclosure and seeking treatment. The multifaceted, compounded forms of stigma often leads to additional personal risk factors such as low self-esteem and social isolation, which worsens a PLHIV's chances of receiving necessary treatment and support. Not only does such stigma compound on the other socio-environmental barriers between rural, impoverished inhabitants and HIV services, it has been well demonstrated that stigma itself can cause serious comorbidities (Adewuya, et al., 2009; Arseniou, Arvaniti and Samakouri, 2013; Asante, 2012; Boushab, et al., 2017; Choillier, Earnshaw, et al., 2013; Hatzenbuehler et al, 2013; Rueda et al 2016 Tomkinson and Philibert, 2016; Vance, 2013;).

An Innovative Approach to Community-Level HIV/AIDS Care

One Million Community Health Workers (1mCHW) campaign of **Millennium Promise Alliance (MPA) Ghana**, **National HIV/AIDS/STI Control Programme (NACP),** the **UNAIDS Ghana Country Office** and the **Center for Sustainable Development at the Earth Institute of Columbia University** are working together to integrate HIV interventions into the workload of CHWs in seven pilot districts in Ashanti Region through an innovative new program known as **Locate, Test, Treat and Retain (L2TR).** This partnership builds on years of MPA's collaborative work with NACP and UNAIDS Ghana on HIV and AIDS interventions in the Millennium Villages Project (MVP). One of the main goals of L2TR is to empower CHWs to bring key HIV services, such as testing, to the household level, which will allow a number of the aforementioned social and environmental barriers to be bypassed.

Locate, Test, Treat and Retain (L2TR) presents an innovative community level solution focused on the incorporation of HIV prevention education, social and behavior change communication (SBCC), HIV home testing and counselling services, defaulter tracing and treatment adherence into the routine household visits conducted by CHWs. The CHWs will conduct the initial blood-prick rapid tests in the home, with active referral for those who may have a positive to CHPS compounds or other nearby health facilities. If the rapid test results are negative, the CHW will inform the individual and provide further health promotion and prevention counselling. If the results prove positive, the referral for confirmatory testing and counselling will be made and a 'Model of Hope' counselor and CHO will accompany the CHW at the next household visit to provide in-home counseling and treatment referral. 'Models of Hope' peer counselors will continue to provide ongoing defaulter tracing and adherence counselling for PLHIV identified by the CHWs. There are seven pilot districts in the Ashanti region that have been selected as the demonstration districts where the intervention will first be implemented in late 2018. A comprehensive evaluation will be undertaken, under the supervision of MPA and NACP staff, to generate evidence for national implementation and track against the 90-90-90 targets. The integration of HIV interventions into the work of CHWs will be completed in phases, starting with the seven demonstration districts in Ashanti, with the goal of gradually expanding to other districts and regions nationwide.

The purpose of this proposal is to establish the protocol for a baseline study to assess the current Knowledge, Attitudes and Practices amongst the general adult population (ages 15-49) living in the seven demonstration districts. This will be accomplished through a comprehensive, mixed methods research methodology which will be used as the barometer to measure the effectiveness of the L2TR intervention over the course of twenty four (24) months.

Ghana's Community Health Worker Program – an opportunity for 90-90-90

Ghana's community health workers (CHWs) program, introduced in 2015 by Millennium Promise Alliance, represents one of the most promising, cost-effective solutions to meet the 90-90-90 targets because they are a low-cost cadre substantial enough in size to reach every household in a community.

No other cadre of health workers can match the frequency and comprehensiveness of the in-person household coverage achieved by the CHW. Furthermore, the individual support and attention that CHWs can provide on the household level during their monthly visits allows for a significant amount of trust and rapport to be built, which is essential for destigmatization, normalising and creating demand for HTS, identification of PLHIV, treatment adherence, and the circulation of supplies, such as condoms.

For over one decade, the WHO has cited HIV/AIDS prevention and care as one of the fastest-developing areas for the use of CHWs (WHO, 2007), and, in their latest guidelines for the prevention and treatment of HIV infection, the WHO strongly recommends decentralized task-shifting and sharing of HIV rapid testing and ART dispensal to trained and supervised CHWs (WHO, 2016). The effective use of CHWs as lay counselors and in testing and prevention, support, and care activities has been widely documented (Farmer et al., 2001; Harris, 2013; Johnson & Khanna, 2004; Kipp, Kabagambe and Konde-Lule, 2002; Koenig, Leandre and Farmer, 2004; Lehmann, Friedman and Sanders, 2004; Suthar et al., 2003), and the CHW model of care has proven impactful across the world, including in: Ethiopia; South Africa; China; India; Brazil; Iran; Hati; Malawi; Uganda; and Mali (Hermann et al., 2009; Loeliger et al, 2015).

Under the supervision of Community Health Officers (CHOs) the CHWs across Ghana visit families households on a monthly basis to conduct health surveillance, make referrals and offer social and behavior change communication (SBCC), health promotion and free malaria testing to household members. To enhance and accelerate their work, the CHWs in the seven pilot districts are equipped with smart phones that are installed with the community-based electronic tracker (CeTracker) application. CeTracker has built-in tools to guide the CHWs through a detailed, patient-centred evaluation and assessment, generating data that is transmitted to a central database. Additionally, the platform is integrated with multimedia communication tools to aid in SBCC. Geolocation capabilities enable household location tracing, early detection of danger signs and area mapping of disease outbreaks. Thus, CHOs are able to prioritize the CHWs' activities to the areas of greatest need – in real-time.

The CHWs in the seven pilot districts are well positioned to help with the acceleration towards 90-90-90 by extending the reach of services closer to the doorstep of individuals; particularly in hard-to-reach, rural areas and the more vulnerable segments of the population. Given that the CHWs are already remunerated to provide an integrated package of health services it is an easy and cost-effective solution to bundle HIV services into their routine package of services. This is especially crucial in contexts such as Ghana where stigma and discrimination continue to keep many people from accessing HIV testing and treatment services in traditional health facilities. CHWs also serve as crucial monitoring and evaluation (M&E) agents, as they are digitally equipped in the seven pilot districts with the CeTracker e-health platform, which is now integrated with the GHS DHIS2 software. This will ensure that the quality and quantity of data collection outlined in the NSP's Monitoring and Evaluation Plan 2016-2020 is carried out effectively in the seven pilot districts, which will be crucial to capture the progress made against the 90-90-90 targets over the next two years. Overall, CHWs are catalysts for

community mobilization efforts and provide a sustainable solution to community systems strengthening.

Models of Hope: A Key Component to Successful Implementation of L2TR

The Locate, Test, Treat and Retain (L2TR) intervention is designed to be an integrative approach to community-level HIV/AIDS responses that combines models of care with a proven positive track record, such as Models of Hope, with new additional service delivery from the CHWs. Models of Hope, organized in 2005 by the National Association of Persons Living with HIV and AIDS (NAP+), is a program where HIV+ Ghanaians are trained to act as peer counselors and liaisons for newly diagnosed PLHIV. Services provided to Models of Hope fall under two main categories: **1.)** in-clinic (counselling services that cover ART adherence, nutritional needs, psychosocial concerns, and co-infection or comorbidity risks) and **2.)** client follow-up (defaulter tracing, lost-to-follow-up (LTFU) home visits, ART delivery to bedridden patients, PMTCT referral and adherence services) (NAP+, 2017). A recent qualitative study to evaluate services provided by Models of Hope found that of the 148 PLHIV interviewed in the Greater Accra, Eastern, Ashanti and Western regions, 99.3% of them received counselling services, 23% defaulted and were traced, 18.4% received home-based care, 15.4% were provided with referral services, and 87.5% of ART clients LTFU were followed up Models of Hope counselors instead of other care providers (Tetteh-Kwao Teye, Ayisi Addo, Ohene-Adjei, et al., 2018). Clearly, Models of Hope play a key role in the HIV care cascade and should be included in any program focused on community systems strengthening.

Their upstanding reputation amongst the HIV community will be an asset in the L2TR program because they will help to establish trustworthiness amongst the cadre of CHWs that have an HIV+ patient amongst their caseload. Given that this cadre of volunteer health workers is already trained and subsidized to provide HIV counseling and care, it is a natural match with the L2TR program.

Conclusion: A Hybridized, Integrated Approach to HIV Testing Services

It is an established behavioral problem that people in Ghana, especially in rural communities, delay seeking care due to numerous psychosocial, economic and environmental barriers. Thus in order to break such barriers and follow the UNAIDS framework for integrated community-based care, the L2TR program is designed to move HIV testing services (HTS) away from clinical environments and into the domestic environment, where community members will be able to learn about their HIV status in a discreet and confidential way that will ensure their privacy. The involvement of peer Models of Hope for treatment adherence and counselling is a further step taken by L2TR to provide home-based support for PLHIV. In the report, *Ending AIDS: Progress Towards the 90-90-90 Targets*, UNAIDS states that, "strategies that use peers and trained community health workers generally achieve retention rates and treatment outcomes that are comparable—or even superior—to those reported by mainstream health facilities" (UNAIDS, 2017, p. 11). There is also demonstrative evidence from the Sustainable East Africa Research in Community Health (The SEARCH) and PopART (HPTN071) randomized control trials in Eastern and Southern Africa that community level approaches that employ home-based testing services and interventions involving CHWs lead to significant increases in HIV diagnosis, initiation of ART and the proportion of HIV+ adults who achieve viral suppression (Peterson et al., 2017; Hayes et al., 2017). Ghana will not achieve the 90-90-90 targets by 2020 without a concentrated dedication to community systems strengthening and an intensification of HTS and ART availability on the community level. Community health workers will prove indispensable in these efforts.

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