

## Ghana's HIV epidemic and PEPFAR's contribution towards epidemic control

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### SUMMARY

**Background:** The aim of this review was to summarize the data on HIV/AIDS epidemiology and affected populations in Ghana and to describe the United States President's Emergency Plan for Emergency Relief's (PEPFAR) response to the epidemic.

**Design:** We conducted a literature review focusing on PEPFAR's contribution to the HIV response in Ghana. Additionally, we summarized the epidemiology of HIV. We searched both peer-reviewed and grey literature.

**Setting:** Ghana

**Results:** Overall, HIV prevalence in Ghana is 1.6% with regional variation. Key populations (KPs) are disproportionately affected by HIV in the country. FSW and their clients, and MSM, account for 28% of all new infections. PEPFAR provides technical assistance (TA) to Ghana to maximize the quality, coverage and impact of the national HIV/AIDS response. To ensure adequate supply of antiretrovirals (ARVs), in 2016-2017, PEPFAR invested \$23.7 million as a onetime supplemental funding to support Ghana's ARV treatment program. In addition, the National AIDS Control Programme in collaboration with PEPFAR is implementing a scale up of viral load testing. PEPFAR is also implementing a comprehensive package of prevention services in five regions to help reach MSM and FSW and to expand HIV testing services for KPs.

**Conclusions:** Ghana is making changes at both policy and program level in the fight against HIV/AIDS and is working towards achieving the UNAIDS' 90-90-90 targets. PEPFAR is providing TA to ensure these goals can be achieved.

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**Keywords:** HIV, epidemic, Ghana, PEPFAR

### INTRODUCTION

Ghana has a low-level HIV epidemic with disproportionately high prevalence of HIV in key populations (KPs) such as female sex workers (FSW) and men who have sex with men (MSM). Like many countries, Ghana is striving towards achieving the United Nations Programme on HIV/AIDS' (UNAIDS) 90-90-90 targets (90% of HIV positive people know their status, 90% of those diagnosed are on treatment, and 90% of those on treatment are virally suppressed).<sup>1</sup> In September 2016, the government of Ghana adopted the World Health Organization (WHO) policy of "treat all" – which is the provision of antiretroviral treatment (ART) to all people living with HIV (PLHIV) irrespective of their CD4 count, which was previously used as a cut off to start treatment.<sup>2</sup> With adoption of "treat all", there needs to be a scale up of not just preventive services and HIV

testing, but also of availability of antiretroviral (ARV) treatment (ART) and viral load testing. The United States President's Emergency Plan for AIDS Relief (PEPFAR) is supporting Ghana to maximize the quality, coverage and impact of the national HIV/AIDS response. The aim of this review was to summarize the data on HIV/AIDS epidemiology and affected populations in Ghana and to describe PEPFAR's response to the epidemic in light of the scale-up required to achieve "treat all"

### METHODS

We conducted a literature review focusing on PEPFAR's contribution to the HIV response in Ghana, including PEPFAR's country planning approach to the epidemic, in light of the "treat all" policy. In addition, we summarized the epidemiology of HIV in the country.

We searched both peer-reviewed and grey literature. The main sources of grey literature were non-traditional and included PEPFAR.net and Google's search engine.

A search for peer-reviewed literature was done through Medline and Google Scholar. Following terms were used for the literature search: 'HIV', 'Ghana', and 'PEPFAR'; and the search was restricted to documents and articles between 2011 and 2016. If a report was available for multiple years, we included findings from the latest report. In addition, authors based in Ghana (FA, BD) provided additional documents including a number of reports that are not available online, and PEPFAR country planning documents.

## RESULTS

### HIV epidemic

Ghana is a lower-middle income West African country [Gross domestic product (GDP): \$37.86 billion, GDP growth: 3.9%],<sup>3</sup> with a population of about 28 million people.<sup>4</sup> A summary of HIV epidemiological data are presented in Table 1.

Table 1. HIV epidemiologic indicators, Ghana

HIV epidemiological indicators	Publication Year	Ghana n or %
HIV prevalence <sup>5</sup>	2017	1.7% [1.4 - 2.0]
Women ages <15 years <sup>5</sup>	2017	0.9% [0.4 - 1.4]
Men ages <15 years <sup>5</sup>	2017	0.3% [0.1 - 0.4]
Women aged 15-49 years <sup>5</sup>	2017	2.3% [1.9 - 2.8]
Men aged 15-49 years <sup>5</sup>	2017	1.0% [0.7 - 1.2]
MSM <sup>7</sup>	2017	18.1%*
FSW <sup>8</sup>	2015	6.9%*
Pregnant women <sup>9</sup>	2015	2.4% [2.18 - 2.62]%
Prison inmates <sup>10</sup>	2014	2.3%*
Number of people living with HIV <sup>5</sup>	2017	310,000 [260,000 - 370,000]
<15 years <sup>5</sup>	2017	28,000 [21,000 - 34,000]
≥15 years <sup>5</sup>	2017	280,000 [240,000 - 340,000]
HIV incidence rate <sup>5</sup>	2017	1.05 [0.82 - 1.32]
Number of new infections <sup>5</sup>	2017	19,000 [15,000 - 24,000]
On ART (total population) <sup>5</sup>	2017	125,667*
Pregnant women needing ARVs <sup>5</sup>	2017	18,000 [14,000 - 22,000]
AIDS deaths <sup>5</sup>	2017	16,000 [12,000 - 19,000]
Notified TB cases <sup>11</sup>	2015	14,999*

HIV prevalence in the general population is 1.6%<sup>5</sup> with regional variation – highest prevalence in Eastern (2.8%),

Western (2.7%), and Greater Accra (2.5%) regions, and lowest in the three northern regions (<1%).<sup>6</sup>

There has been a reduction in new HIV infections by 57% between 2000 and 2015 and of AIDS-related deaths by 33% in the same period, as well as the almost doubling of HIV testing among women since 2008.

Ghana included the “treat all” policy in its 2016-2020 National HIV/AIDS Strategic Plan.<sup>12</sup> Adoption of “treat all” requires strengthening the country's health systems to link and track HIV positive clients so they can be immediately put on treatment. However, there is paucity of accurate data on the HIV care cascade i.e. numbers of people tested for HIV, number of people tested positive, number of HIV positive people started on treatment, number of people virally suppressed and number of people who continued care. Hence, the estimates of treatment needs are likely under or over-quantified. Results released by the Ghana National AIDS Control Program, show that for the 100,665 persons on treatment, there are no accurate data on retention rates and number of persons who have attained viral suppression i.e. viral load less than 1000 copies/ml.<sup>13</sup> Although Ghana has viral load testing machines in 9 of the 10 geographical regions, viral load coverage remains low (10-14%).<sup>14</sup>

### HIV in Key Populations (KPs)

KPs are disproportionately affected by HIV in Ghana. There are about 65,000 FSWs in the country<sup>15</sup> and about 55,000 MSM in the country<sup>7</sup>. Prevalence of HIV was 6.9% in FSWs in 2015;<sup>8</sup> and 18.1% in MSM in 2017.<sup>7</sup> FSW and their clients, and MSM, account for 28% of all new infections in the country.<sup>16</sup> The Ghana Demographic and Health Survey – which is one of the main sources of data on HIV in country – does not include data on KPs;<sup>6</sup> and there is no data on number of HIV positive KPs linked to care and treatment. A number of factors hinder KPs' access to HIV testing in Ghana<sup>14</sup> including stigma and discrimination at both community and facility level, shortages of HIV test kits, and gender bias in testing i.e. testing more focused in women than in men. If tested positive, the stigma and discrimination at the facility level prevents KPs regular access to care.<sup>17</sup>

### PEPFAR contribution to the HIV response

PEPFAR provides technical assistance (TA) to Ghana to maximize the quality, coverage and impact of the national HIV/AIDS response.<sup>18</sup> Previously, PEPFAR supported an equitable population-based model of HIV epidemic response in Ghana, supporting 21 districts.

However, to better align resources with needs, the program is currently undergoing major changes in the allocation and distribution of resources. In 2017, it pivoted to provide support to sub-national areas with the

highest estimated number of PLHIV – with a focus on 12 highest HIV burden districts. In addition, traditionally, PEPFAR did not provide treatment funding for PLHIV in Ghana (Global Fund was the only source of ARV procurement in country); rather, the program was focused on providing a model and a catalyst to creating and supporting interventions that could then be replicated or scaled-up by the national HIV control program.

However, with the successful implementation of “treat all”, the need for availability of ARVs is increasing. In May 2016, Ghana Ministry of Health submitted a request to PEPFAR for supplemental funding to scale-up enrollment in treatment (i.e. increasing the number of PLHIV on treatment from 14,000 to 26,000 per year by 2020) countrywide. In response, to ensure adequate supply of ARVs, in 2016-2017, PEPFAR invested \$23.7 million as a onetime supplemental funding to support Ghana’s ARV treatment program. This funding was in addition to the annual \$12.5 million that PEPFAR invested in the fight against HIV in Ghana in 2016 and 2017.

With “treat all”, in addition to the increase in demand for ARVs, the demand for viral load testing will increase significantly as well, as the current national guidelines recommend monitoring of treatment effectiveness and adherence through viral load testing at least once a year.<sup>19</sup> In response, the National AIDS Control Programme in collaboration with PEPFAR is implementing a scale up of viral load testing. PEPFAR is also implementing a comprehensive package of prevention services in five southern regions to help reach 12,500 MSM and 32,000 FSW and to expand HIV testing services for KPs.

## DISCUSSION

Although Ghana is making changes at both policy and program level in the fight against HIV/AIDS and is working towards achieving the 90-90-90 targets, there are issues that need to be addressed before the 90-90-90 goals can be achieved, especially for KPs. There is a lack of data on number of HIV positive KPs that are linked to care and treatment which limits our understanding of the epidemic in KPs.

The current HIV strategy in country aims at reducing new HIV infections in KPs and increase retention in care and adherence to treatment.<sup>13</sup> However, there are major gaps in both policy (lack of a structure to incorporate KP community workers into national programs) and programs for KPs (lack of systems to measure the quality and effectiveness of the available interventions, limited capacity and insufficient numbers of community organizations to provide quality prevention, and inadequate KP civil society organizational capacity to

effectively advocate for changes to address service barriers) to meet these aims.<sup>14</sup>

In addition, unavailability of accurate data on overall retention rates poses a major challenge in determining the level of resources needed to ensure that PLHIV have access to quality care and treatment services. In addition, it hinders accurate estimation of ARV requirements in the country.

With PEPFAR support, the National AIDS Control Programme is identifying additional resources needed to move from a generalized population-based model to a high HIV-burden geographical and KP focus; pivoting to increase efficiency of efforts and raise program goals. To strengthen the HIV/AIDS response, there are a number of interventions that are being, or will soon be, implemented at both national and site level. Interventions that will soon be implemented at the national level include: use of quantitative and qualitative data from the e-Tracker (an e-registry within the District Health Information Management System 2 that collects, manages and analyzes transactional case-based records at the community level) and the Basic Laboratory Information Systems, and an electronic unique identifier code system to track and link KPs through the HIV continuum of care (being piloted at the moment).

In addition, the Ghana AIDS Commission is updating KP social and behavior change communication materials to incorporate the emphasis on stigma and discrimination. A number of KP focused interventions are being implemented at the site-level as well. These include strengthening peer education and community-based KP outreach, increasing demand and use of quality HIV services and the uptake of protective behaviors like condom use, building technical and organizational capacity of existing and new KP community organizations, and strengthening civil society organizations engagement by increasing the number of KP lay counselors to attract more KPs to services and their adherence and retention in the services.

## CONCLUSION

Ghana is making changes at both policy and program level in the fight against HIV/AIDS and is working towards achieving the UNAIDS’ 90-90-90 targets. PEPFAR is supporting Ghana by providing TA to ensure these goals can be achieved.

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