Assessing the scope and effectiveness of key population interventions in the response to the HIV and AIDS Epidemic in Ghana

November 2017

Abbreviations

ADRA	Adventist Development and Relief Agency
AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral therapy
CEPEHRG	Centre for Popular Education and Human Rights, Ghana
DIC	Drop-in centre
FGD	Focus group discussion
FSW	Female sex worker
GAC	Ghana AIDS Commission
GF	The Global Fund to Fight AIDS, TB, and Malaria
GMS	Ghana Men's Study
HIV	Human immunodeficiency virus
HTC	HIV testing and counselling
IDI	In-depth interview
IP	Implementing Partner
JSI	John Snow International
M&E	Monitoring and evaluation
MoT	Modes of Transmission
MSM	Men who have sex with men
NGO	Non-governmental organization
NHIS	National Health Insurance Scheme
NSP	National Strategic Plan
KII	Key informant interview
KP	Key population at higher risk for HIV
PE	Peer educator
PEPFAR	President's Emergency Plan for AIDS Relief
PLHIV	People living with HIV and AIDS
PMSE	Programmatic mapping size estimate or estimation
PR	Principal recipient
SR, SSR	Sub-recipient, sub-sub-recipient
STI	Sexually transmitted infection
USAID	United States Agency for International Development
UIC	Unique identifier code
WAPCAS	West Africa Project to Combat AIDS and STI

Executive Summary

This assessment seeks to understand the efficiency and effectiveness of existing KP interventions (both in prevention and treatment of HIV) in Ghana. The main focus of this report is the performance of Global Fund supported programmes between 2015-2017, with some comparisons to the implementation of services for KP in PEPFAR supported districts. An important component of the assessment is a cost evaluation of service delivery to KP, which will be critical to optimize resources in the next implementation period.

Service availability, accessibility, and utilization

The current package of health sector services available to KP are consistent with global guidance provided by WHO. GF-supported NGOs provide services through a combination of drop-in-centers (DIC), outreach (by peer educators), and referral to public sector and other service providers. In general, DICs are only established in districts with large prevention reach and provide one-stop access to a majority of the service package in a setting designed specifically for KP. However, referrals to other facilities, for clinical services such as HIV testing and STI testing and treatment represent an important mode of service delivery in many places, which may reduce utilization of some services. Currently, all KP PLHIV must initiate treatment at sites open to the general population.

At the aggregate level, GF principal recipients have largely met their service coverage targets (prevention reach and HIV testing) for both FSW and MSM. However, the most recent size estimates appear to strongly underestimate the number of KP in some districts, making it difficult to determine whether coverage is sufficient. In general, performance at the local level is difficult to assess due to the lack of district level targets.

Prioritization of high impact interventions

Current plans to focus GF and PEPFAR support for KP interventions include programming in 12 districts for FSW and 14 districts for MSM. Most of these districts have a history of prevention interventions and have been successful in reaching large numbers, however, the assessment team identified a number of districts NOT slated for programming with higher historical prevention reach of KP compared to districts selected for the next phase of implementation.

Increasing testing yield

Compared to PEPFAR-funded programmes, GF supported districts have had less success in case finding, despite relatively good testing coverage. The next phase of GF implementation may benefit from adapt some PEPFAR tools and approaches to increase testing yield. This includes the use of data dashboards which focus managers and service providers on key indicators of performance and areas for continuous improvement.

Tracking the KP continuum of care

Efforts by GF supported NGOs to track the continuum of care are hampered by heavy social stigma and discrimination against MSM and the reluctance for KP to disclose their HIV status to peer educators and some types of service providers. At a central level, there is a lack of oversight for tracking performance across districts regardless of donor and especially in reviewing coverage and utilization in large metropolitan areas where GF and PEPFAR both fund KP interventions. As cited earlier, lack of district level targets do not allow central managers to identify low performing areas that need more support and supervision. And finally, current systems and tools (e.g. Unique Identifier Codes) being adopted to

improve tracking may not be effective for KP who access testing and/or treatment at general service facilities without disclosing their identity as KP.

Opportunities for Cost efficiency

The cost evaluation identified wide ranging variation in the share of total cost accounted for by personnel, program activities and commodities, as well as with respect to unit costs to reach and test KPs, both across and within the locations examined. Large differences across IPs with respect to the relationship between costs of basic commodities (condoms and test kits) and numbers of KPs reached and tested were also identified, suggesting differences in how commodities are managed. While some of these differences are likely due to differences in the intensity of programming, technical approach and geographic context, overall differences could not be easily explained by reported indicators. Investigating these differences further is likely to help identify cost efficiencies.

Facilitating and inhibiting factors for service utilization

In addition to stigma and discrimination faced at service sites which are accessible to general populations, KP are also concerned about the stigma associated with services exclusively HIV-related. And although afflicted by high prevalence of STIs, many STI treatments are not available free or at low cost to KP served by the programme. Several stakeholders mentioned inadequate supply of condoms, lubricants, HIV test kits, and ART medications at some sites . The assessment also highlighted a number of new approaches being used in Ghana to improve retention in treatment among KP PLHIV. These include special supportive services through peers or other sensitized staff to provide support for adherence and maintaining appointments. Other approaches define a treatment/care protocol which is sensitive to KP specific issues which could affect retention, e.g. stigma, mobility, etc.

Key recommendations

1) Provide DIC services in districts serving at least 500 KP and test out a broader array of non-HIV services which may be more attractive to KP and de-stigmatize the HIV program.
2) Consider expansion of KP services to underserved districts, as defined by high numbers of KP reached through previous KP programming
3) Develop a national perspective on the KP programme performance through donor agnostic calculations of coverage at the district level, including development of district-level targets.
4) Better characterize KP populations who are at highest risk to develop more tailored programming/service delivery strategies for important sub-groups, including male sex workers, non-venue based MSM, and reviewing the risk profile and size of adolescent KP.
5) Adopt approaches used in PEPFAR programming, such as data dashboards, to improve case finding yields in GF supported districts
6) Pilot a KP-specific treatment support model which includes removing requirements of having a treatment monitor, and approaches already tried in Ghana (e.g., Models of Hope)

Table of Contents

Background

Epidemiology of KP-related HIV transmission in Ghana

The HIV epidemic in Ghana is characterized as a mix of low-level generalized epidemic with significant contributions from transmission among female sex workers (FSW) and their clients, as well as men who have sex with men (MSM), many of whom also have female sexual partners. Modes of Transmission (MoT) analysis conducted in 2014 suggests that 12% of new HIV infections occurring among those aged 15-49 years old were among FSW, MSM, and clients of FSW. Goals modelling conducted in 2015 suggests a similar estimate that between 15-17% of new infections among this age group occur in these populations. The MoT study estimated an additional 13% of new infections occur among regular female partners of MSM and clients of sex workers.[1] This suggests that MSM and FSW, together with female partners of MSM and male clients of FSW, account for about 25% of new HIV infections in Ghana.

The 2015 integrated biological and behavioral surveillance surveys (IBBSS) of FSW in 10 regions found a range of HIV prevalence from 2.9% in the Upper East Region to 9.0% in Ashanti and Greater Accra Regions.[2] Prevalence estimates for MSM populations are more limited.[3] The most recent publicly available survey of MSM was the Ghana Men's Study (GMS), conducted in 2011. HIV prevalence estimates from 5 cities ranged from 4.7% to 34%. Rates of Herpes Simplex Virus 2 among these survey samples were very high. Among FSW the lowest prevalence of HSV-2 was 42% and exceeded 80% in Greater Accra. Prevalence estimates of HSV-2 among MSM ranged between 27% to 46% across GMS sites.

Overview of KP programmes in Ghana

Since 2011, the Ghana AIDS Commission has articulated a national strategy for responding to the HIV epidemic among key populations and their sexual partners. However, it is predicted that Ghana will be unable to reach 90-90-90 HIV targets given current KP programmes and the rate at which HIV cases in KPs are diagnosed and linked with care and treatment.

Currently, KP programmes in Ghana focus on FSW and MSM. The package of services spans prevention, HIV testing, and care & treatment. Primary financial support for these programmes comes from the Global Fund for AIDS, TB, and Malaria (GF) as well as the President's Emergency Plan for AIDS Relief (PEPFAR), managed by USAID in country. The current GF project spans the period 2015-2017 and has two primary recipients: ADRA and the Ghana AIDS commission (GAC). ADRA implements FSW services in 21 districts, while GAC oversees FSW programming in 28 districts and MSM programming in 31 districts. GAC contracts out KP services through sub-recipients: WAPCAS for FSW and Maritime, MICDAK, and CEPEHRG for MSM. PEPFAR has two KP projects: the Risk project, managed by WAPCAS for FSW in 7 districts, which was discontinued in 2016; and the Care Continuum project, initiated in 2016, and managed by JSI for FSW in 21 districts and MSM in 16 districts. Under both GF and USAID,

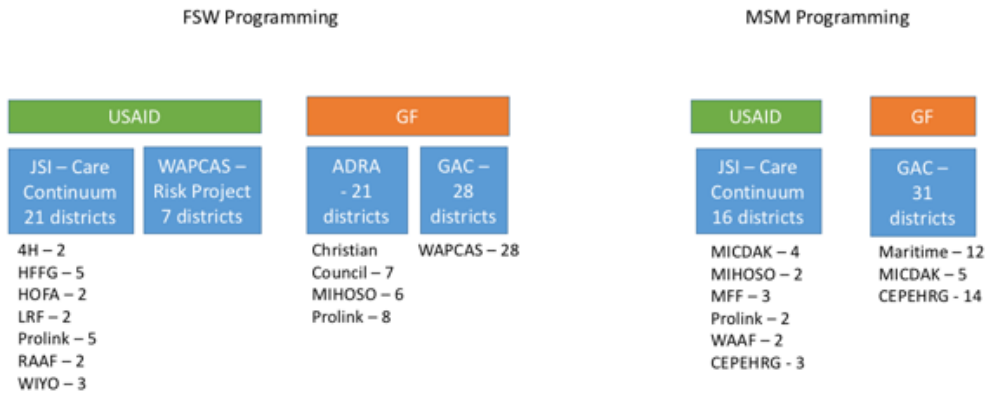
[1] Goals models do not specifically estimate the proportion of new infections among these groups and cannot be compared directly to MoT in this respect.

[2] The design of the IBBSS selected a time-location cluster sample across mapped areas of a region, this means that the sample of FSW does not represent a specific city or district within a region, but covers a larger geographic area. This is in contrast to the surveys conducted among MSM, which utilized respondent-driven sampling methods and are representative of MSM in a more circumscribed geographic community, i.e. in close proximity to the survey office in each area.

[3] A more recent set of MSM surveys is in progress. Results were not available at the time of this assessment.

services at the district/town level are further sub-contracted out to local NGOs (i.e., sub-recipients (SRs) and sub-sub recipients (SSRs)).

Figure 1. Overview of KP programmes in Ghana – 2015-2017



Assessment Objectives & Scope

Impetus for the Assessment

As the current GF project period closes, GAC and the GF country team commissioned this assessment to review the implementation of the GF-supported KP programme in terms of achievements against expected targets and standards, as well as to identify opportunities to strengthen services for the next funding period. To this end, this assessment seeks to understand the efficiency and effectiveness of existing KP interventions (both in prevention and treatment of HIV) as well as in addressing access and service gaps and duplication where they exist. An important area of assessment is in terms of cost-effectiveness of current interventions, and how to improve cost-efficiency, which will be critical to optimize available resources in the context of recent reductions in the 2018-2020 Global Fund allocation for HIV in Ghana. Both GF and PEPFAR have decided to significantly reduce the number of districts where KP services are provided to both FSW and MSM as of October 2017. The intention is that through strategic selection of districts and a greater ability to focus management of programmes, this shift in service provision will result in greater cost-effectiveness of the KP programme in Ghana overall.

Key Assessment Objectives

The findings and recommendations of the assessment are focused around the following key objectives:

A. To determine whether the intervention service packages designed are appropriate to epidemiological context, available, accessible, and effective in HIV prevention for respective KP groups.
B. To recommend priority (including geographical focus) and high impact KP interventions to reach 90-90-90 targets ensuring complimentary and alignment with partner organizations such as USAID and alignment with country context and international standards.
C. To assess and recommend ways of increasing testing yield and targeting KP.
D. To recommend key indicators for GF performance framework for tracking the KP continuum of care that are harmonized across implementing partners.

E. To analyze differences in costs for KP interventions across implementation sites and identify opportunities for cost efficiencies.
F. To examine the facilitating and inhibiting factors for the availability, accessibility and utility of intervention services and service delivery, particularly in efficiency of linkage to care and retention of KP patients being referred.

Scope of the assessment

This assessment focuses on the implementation period of 2015-2017 and looks at implementation and achievements of GF-supported KP programmes managed by GAC. In addition, the assessment also compares GAC managed programmes to the implementation of FSW programmes by ADRA (as funded by GF) and KP programmes implemented under PEPFAR. The site visits included GAC supported GF implementing partners in Greater Accra, Western, Ashanti and Northern regions. Sites supported by USAID JSI Continuum of Care project in Greater Accra, Western and Ashanti regions were also visited. The GF programme achievements are assessed against the mutually agreed upon targets laid out in the GF Performance Framework and as such focus on two core indicators specified for KP programmes: prevention service coverage to (unique) KPs, and HIV testing coverage among KPs. Through the cost evaluation component of this assessment, effectiveness is measured in terms of cost per KP reached with prevention services, cost per KP tested, and cost per HIV case diagnosed (i.e. HIV testing yield) in selected sites.

Methodology

Four main components comprise the design of the assessment. They include: 1) a desk review of reports and guidelines; 2) collation of data on service availability and routine monitoring data; 3) site visits to observe service delivery and interview implementers and beneficiaries; and 4) a cost evaluation of service outputs.

Desk review

The desk review included three main types of documents:

- Epidemiological data including the most recent probability surveys of FSW and MSM communities (i.e. 2015 FSW integrated biological and behavioral surveillance surveys (IBBSS) and Ghana Men's Study I (2012), key population size estimates (i.e. the Programmatic Mapping Size Estimates (2016)), and epidemic modeling (i.e. the 2015 Goals report).
- Previous assessments of KP programmes across funding agencies, including both formal assessment reports (i.e. Key Population Implementation Study (2016), Measure Evaluation of USAID KP prevention services (2014), and the Ghana Stigma Index Report (2014)) as well as findings from recent monitoring missions (i.e. PEPFAR Interagency KP Technical Assistance Visit, June 2017).
- National strategy documents related to KP services, national guidelines for KP service provision, and policy documents related to the protection of KPs and PLHIV rights and protections.

Data collation and analysis

To assess the availability of different components of the package of services for KP, lead implementing agencies (e.g. WAPCAS, CEPEHRG, WAAF, Maritime, MICDAK etc.) were asked to complete a checklist of service components available for FSW and MSM in each district. This includes all GF and PEPFAR supported implementers. In addition, the assessment team collated the routine monitoring data

reported at district/town level for GF supported programmes as well as the national level data used for the KP-related indicators of the GF performance framework. Monitoring data for GAC-managed districts/towns were available on a quarterly basis up to the first 6 months of 2017, whereas ADRA managed districts/towns provided data for 2016 only. Data on prevention coverage and testing coverage were collected from some PEPFAR supported districts/cities as part of the cost evaluation component. These data were used to assess performance at the district level over time and to calculate at efficiency in service delivery, e.g. # of KP individuals reached per peer educator. Average # of KPs reached with prevention services in districts with DICs.

Site visits

To directly observe service delivery as well as to interview service providers and beneficiaries a series of site visits were planned. The assessment team selected four regions to provide geographic diversity of KP services. Greater Accra and Western was selected for the Southern belt whilst Ashanti and Northern were chosen for the middle and northern zone respectively. Table 1 summarizes the selected sites by region, KP type and funder. Though four out of the 10 regions were visited due to assessment resource constraints, these sites include some of the largest interventions for both MSM and FSW programmes.

Table 1. Characteristic of sites selected for field visits

Region	City	FSW implementers partners - Funder	FSW implementers partners - Funder
Ashanti	Kumasi Metro	WAPCAS - GF	MICDAK – GF MICDAK - USAID
Greater Accra	Accra Metro	WAPCAS – GF WAPCAS - USAID	CEPEHRG – GF WAAF - USAID
Northern	Tamale Metro	WAPCAS - GF	
Western	Sekondi-Takoradi	WAPCAS – GF LRF - USAID	Maritime – GF Maritime - USAID

In all cities selected for site visits, both PEPFAR and GF programmes were being implemented, with the exception Tamale. The assessment teams visited both GF and PEPFAR implementation sites to observe services and conduct in-depth interviews and focus groups.

Teams spent 3-8 days in each field site city. In each city, service providers for prevention services as well at treatment facilities serving each relevant KP group were interviewed. The assessment team conducted at least four focus group discussions with each KP group (i.e. FSW and MSM separately), to elicit perspectives from different age groups (18-24 years and 25 and older) and both those who had accessed services and those who had not. In addition, two in-depth interviews were conducted with KP at each site, one with a self-disclosing HIV-positive individual and one who was not HIV-positive. Where available, the assessment teams conducted interviews with local KP community leaders.

Table 2. KP assessment qualitative data collection by site

Region/ City	Type of Interview				# of hotspots visited
	KP In-Depth Interview	Focus Group Discussion	Program Implementer	Health Provider	

Greater Accra/ Accra Metro	19	11	4	5	8
Western/ Sekondi-Takoradi	7	20	4	2	4
Ashanti/ Kumasi Metro	6	14	3	2	8
Northern/ Tamale Metro	5	2	1	2	2

Structured interview instruments and focus group discussion guides were used to elicit information from service providers and beneficiaries on key issues. Service providers were asked to describe their experiences providing services to KP, to define quality services for KP, to list their greatest challenges providing services to KP, and recommendations for strengthening services. Beneficiaries were asked about their perceptions and experience seeking general health services and specific HIV-related services, as well as their perception of peer educators and health professionals.

Cost evaluation

The aim of the costing component of the assessment was to estimate unit costs for program outputs and facilitate comparison of efficiency and cost structures across IPs, locations and funding source. The costing analysis was conducted for the same cities included in field visits and was conducted from the health system perspective. That is, only costs incurring to the programme were considered; other costs, such as those incurred by MSM and FSW in order to utilize HIV-related services, were not considered. Costs were calculated to reflect the *value* of all program inputs (e.g., economic cost), not the price paid for those inputs. Thus, the value of donated or subsidized inputs are taken into account by assigning them their market price.

Cost data were collected for selected sites for all of calendar year 2016 for GF IPs and the period January-June, 2017 for USAID IPs, as limited 2016 data were available for USAID IPs. In order to facilitate comparison, the Jan-Jun cost data for USAID IPs were annualized by multiplying by 2. Costs for GF IPs were converted into 2017 figures by applying an inflation factor of 12.8%, which is equal to the average of the monthly inflation rates from January to June, 2017.[4] All costs were obtained in Ghanaian cedis (GHS) and converted to United States dollars (USD) using the mid-year 2017 exchange rate.

Data from IP field offices were collected from the IPs by trained research assistants; costs incurred by headquarters offices to provide technical assistance to IP field offices were collected from GAC and WAPCAS headquarters offices (similar data were not available from USAID). An ingredients approach to costing was used, in which specific activities are identified, and then inputs or ingredients to those activities are identified, measured in appropriate units, and valued.

Cost Measures and Categories

Recurrent costs included the cost of inputs with a useful life of less than one year, which were further subdivided into the following components:

- Programme cost included those for project activities such as clinical services, outreach events and other meetings. Examples include transport allowances for participants, stipends for peer educators and facilitators, refreshments, rental of venues, chairs, public address systems, communications, fuel, and other operational expenses.

[4] http://www.statsghana.gov.gh/docfiles/new_CPI_pdfs/CPI_2017/June/CPI_Newsletter%20June%202017.pdf

- Commodities included male condoms, female condoms, lubricants and test kits. The annual quantity of each commodity used was obtained from the IPs, while the unit cost of those commodities was obtained from GAC. Income from the sale of condoms to KP clients was not accounted for the analysis.
- Personnel cost included administrative personnel (e.g. directors, finance officers, drivers) and technical personnel (e.g., M&E officers, peer educators, nurses, counsellors). All costs associated with staff who worked solely on the project were allocated to the project. For staff whose time was shared by other projects (e.g. management staff, part-time nurses), total costs associated with those staff were prorated according to their full-time equivalent (FTE).
- Building costs included rental costs of all building spaces used for provision of services for the IP.

Capital costs included costs incurred on items with a useful life of more than one year (e.g. vehicles, equipment such as computers, refrigerators, photocopiers, printers, office furniture, and medical equipment). The list, quantity and model of capital items were obtained from the IPs. The useful life of capital items was obtained from published sources, whereas costs of capital items were obtained from GAC and the Ministry of Health's procurement office.[5] The equivalent annual economic cost of capital items was calculated using a discount rate of three percent and following standard costing practice.

Headquarters technical assistance (HQ TA) costs included personnel (director, finance officer, M&E officer, others directly involved in supervision), equipment (vehicles, other equipment used for TA) and supervision activities conducted by GAC and WAPCAS headquarters offices, which were allocated to IPs. The GAC HQ TA cost was allocated equally to the 16 NGOs that GAC supervises, as suggested by GAC. The WAPCAS HQ TA cost was allocated equally to the 20 IPs that the WAPCAS headquarters supervises. As USAID HQ TA costs were not available, for purposes of comparison, total field costs and costs per unit output were calculated exclusive of HQ TA costs.

Total field cost was calculated as the sum of the previously mentioned cost categories, except HQ TA. For USAID IPs, cost data were collected for the period January to June 2017 (to match with available program data) and annualized by multiplying by 2. For GF IPs, cost data was collected for all of calendar 2016. For comparison, GF 2016 costs were converted to 2017 costs using the average inflation rate for the period January to June 2017, which was 12.8%.[6] Finally, costs were converted from Ghanaian cedis (GHS) to United States dollars (USD) using the mid-year 2017 exchange rate of 4.32.

Cost Analysis

The key programme outputs examined were cost per individual KP reached with prevention services, cost per KP tested, and cost per KP diagnosed as HIV-positive (i.e., "unit costs"). Unit costs for each IP and site were calculated by dividing the total cost for the IP by each of the three key indicators of the assessment: (1) number of KPs reached with interventions; (2) number of KPs tested; and (3) number of HIV positive KPs identified. Unit costs for specific types of components and outputs were also calculated (e.g., commodity cost per KP reached; HIV test kit cost per KP tested). Unit costs for MSM and FSW interventions were calculated separately. For GF, where calendar 2016 cost data were available, indicator data for

[5] Public Procurement Authority: https://www.ppaghana.org/ cui_ search.asp.

[6] http://www.statsghana.gov.gh/docfiles/new_CPI_pdfs/CPI_2017/June/CPI_Newsletter%20June%202017.pdf

calendar 2016 were used as the denominator in the unit cost calculation. For USAID, where Jan-Jun 2017 cost data were available (and annualized by multiplying by 2), indicator data for the same Jan-Jun 2017 period were used as the denominator, and similarly annualized by multiplying by 2.

In this analysis of unit costs, it was not possible to determine whether and how specific inputs (such as personnel, commodities, program activities, or differences in approach by the different funders and implementing partners) led to specific outputs (e.g., KPs reached, tested, and KPs diagnosed as HIV-positive); that is, the analysis was not able to determine attribution of the program inputs to the outputs.

Sensitivity Analysis

The most uncertain inputs to the cost analysis were varied in turn in one-way sensitivity analyses. The discount rate for capital items was varied from 3% to 5%, as recommended by Severens and Milne (2004). The inflation factor for the cost of commodities (condoms, test kits and lubricants) was varied from 12.8% (the average of monthly inflation rates) to 14.3% (the mid-year 2017 health component of the Consumer Price Index). The number of peer educators, where reported to be greater than 20, was varied from the reported number to the average number among IPs of the same funding agency (i.e., GF or USAID, respectively).

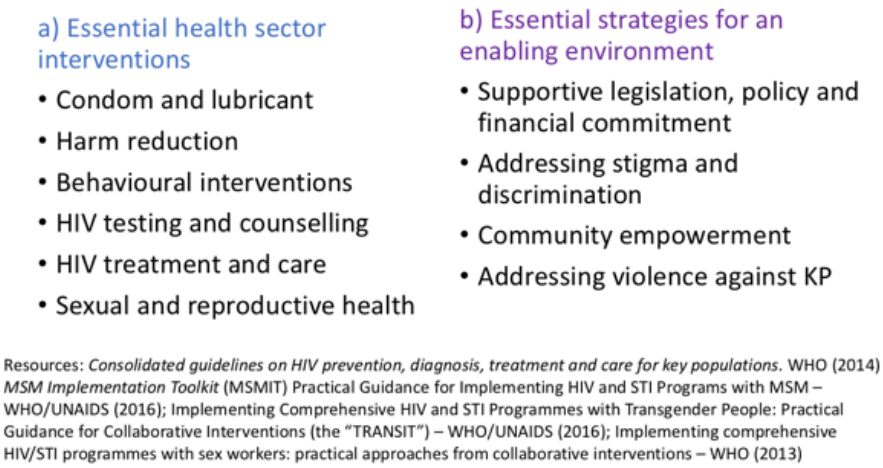
Findings

A. Intervention service packages design, availability, accessibility, and effectiveness in HIV prevention

National Package of Service for KPs

National standards on the package of services for KPs include the following: regular risk assessment and referrals, HIV testing and counselling (HTC), STI screening and treatment, condom and lubricant distribution, sexual and gender-based violence assessment and referrals, and HIV care. Clinical services such as STI screening and treatment through DICs, outreaches services or referral facilities. In intervention areas where no DIC is established, outreach workers refer KP to public sector facilities offering services to the general population. HIV testing and counseling is provided in both facility (at DIC and as referral to general HTC sites) and community settings through outreach. In all districts, HIV care and treatment for KPs are provided through care and treatment facilities accessible to the general population (i.e., in public sector health facilities). This package of services is generally consistent with the 2014 WHO guidelines on the essential health sector interventions for all KP populations shown in Figure 2.

Figure 2. WHO Guidelines on the recommended package of services for all KPs



Strategies to promote an enabling environment appear to be addressed at the GAC level in terms of addressing stigma and discrimination, as evidenced by the recent Stigma Index report and a concurrent assessment on human rights conducted at the time of this KP assessment.

Service Availability at District Level

Overall the services available to FSW in each district and the mode of service delivery is similar across GF-supported sites, regardless of SR or SSR organization (See Annex 1A) Behavior change communication, condoms, and lubricants are delivered through outreach by all implementing organizations. The main differences in service availability relate to whether the district offered DIC services for FSW or not. Of the 48 districts where GF funds FSW services, half (24) report having a DIC. All districts with DICs provided access to HIV testing and STI screening at the DIC. However, only 12 out of 24 districts with DIC provided on-site STI treatment, and 20 out of 24 districts with DIC provided SGBV screening on site. This assessment did not specifically address what type of organizations FSW are referred to for SGBV screening and whether these organizations specialize or have appropriate training in responding to FSW-specific forms of SGBV.

All GF-supported districts reported providing HIV testing through a combination of outreach and referral (as well as through DICs where present).[7] This reflects the practice of districts conducting community-based testing services or "outreaches" up to three times a quarter, and referring FSW to general population testing sites at other times. Many districts have found "outreaches" to be effective in testing large numbers of individuals and in some areas finding a large number of cases. However, implementing partners reported budget constraints do not allow them to conduct more frequent "outreaches."

It is interesting to note that even districts with DIC offer many clinical services through referral as well. This shows that implementing partners recognize the need to work with other facilities to serve the diverse needs of the KP in their catchment area. This may be due to preference of KP due to convenience or desire for confidentiality, etc. Many organizations and sites visited described a practice of escorted referrals, in which an individual accompanies the client from the community to the testing sites. While this strategy can help minimize drop out from the point of referral to the testing site, during

[7] The exception to this practice was in three districts in Ashanti region which only offered FSW referral to other HIV testing sites.

site visits the team observed and heard of instances when this practice was not always applied, resulting in high drop out.

Districts with a DIC consistently had higher numbers of FSW served. The average number of FSW reached in 2016 among districts with a DIC was 856 compared to 438 FSW reached in districts with no DIC.[8] The smallest number of FSW reached among districts with a DIC were, 387 in Ejura Sekyedumasi (in Ashanti Region – WAPCAS), 289 in Bolga (Upper East Region – WAPCAS), and 227 in Pru (Brong Ahafo Region – WAPCAS). Overall the average number of FSW reached in ADRA sites with a DIC was 725, compared to an average of 665 FSW in GAC sites with DIC.

Service availability for MSM follows similar patterns in terms of behavior change communication, condom and lubricant distribution being delivered uniformly via outreach services, and presence of DICs being a determinant of whether MSM-friendly/specific HIV testing sites were available (See Annex 1B). In contrast to the GF-supported FSW intervention areas, only six districts offer DIC services and MSM reach extends to much smaller numbers of individuals per area. Just as was found with FSW, districts offering DIC services tend to reach a larger number of MSM. The average number of MSM reached in 2016 among districts with a DIC was 546 individuals compared to an average of 178 MSM reached in all GF-supported districts. However, three of the districts (Ho Municipal (Volta Region), Effutu Municipal (Central Region), and Sunyani Municipal (Brong Ahafo Region) which report having a DIC for MSM reported reaching less than 150 MSM with prevention services in 2016, which suggests low cost-efficiency of DICs in half of the districts where they are present. Similar to FSW services, some districts with a DIC for MSM do not offer on-site STI treatment or SGBV screening. Given the high levels of STIs among MSM found in the GMS I, the inability to provide STI testing at the DIC seems to be an important missed opportunity.

Service availability data were similarly collected for USAID-supported KP sites. The main differences found between the USAID and GF sites were: 1) more consistent use of social networks and social media to reach MSM, i.e. going beyond outreach at venues; 2) The availability of SGBV screening services at DIC and through outreach in most USAID programmes; 3) lack of any HIV testing services through outreach or DIC in some USAID districts, i.e. only offering referral for HTC;

Coverage of services: Performance against GF Performance Framework Targets

A key measure of access and availability of KP services is service coverage. Targets set for GF programming are defined in terms of the number and percentage of the estimated number of FSW and MSM receiving services among all FSW and MSM in the country. As of 2015, the national size estimates for FSW and MSM used as the denominators were 58,920 FSW and 34,470 MSM.[9] Annual targets for GF prevention coverage for the period 2015-2017 are 34%, 40%, and 46% for FSW and 23%, 30%, and 34% for MSM. Annual GF targets for FSW testing coverage are roughly 75% of the targets set for prevention coverage. This reflects the perceived higher barrier for KP to utilize testing services compared to prevention services. The corresponding figure for MSM is 60%.

[8] In the few metropolitan areas with multiple DICs, the number reached with prevention was divided by the number of DICs in the area, to achieve an average size of reached population per DIC.

[9] Since the performance framework targets were determined, updated size estimates have become available from the programmatic mapping size estimates (PMSE) exercise conducted between 2015-2016. The estimated size of the national FSW population (primarily venue based) from the PMSE was ~63,500.

Table 3. GF Performance Framework coverage targets for KP programmes as a % of the national population size estimate of FSW and MSM

FSW (N=58,920)*	2015	2016	2017
Prevention Coverage	**34%**	**40%**	**46%**
--GAC	19%	22%	26%
--ADRA	15%	18%	20%
Testing Coverage	**25%**	**30%**	**34%**
--GAC	12%	15%	18%
--ADRA	13%	15%	16%
MSM (N=34,470)	**2015**	**2016**	**2017**
Prevention Coverage	**23%**	**30%**	**34%**
Testing Coverage	**15%**	**18%**	**20%**

*Note: There are two GF PRs for FSW programmes: ADRA and GAC.

The GF performance framework targets do not include the coverage achievements expected for USAID-supported KP programmes, which contribute to the overall assessment of whether Ghana will achieve its 90-90-90 targets for KPs. For the most part, GF and PEPFAR implementing agencies work in separate districts. However, several large metropolitan areas have both GF and PEPFAR funding, sometimes to the same organization.[10] In all areas with funding from both GF and PEPFAR, implementing agencies coordinate to avoid duplication of outreach services at the "microsite" level.

Updated PSEs of FSW have recently become available at the district level from a 2015-16 programmatic mapping size estimation (PMSE) exercise. The total estimated number of FSW in GF districts offering programmes (under both GAC and ADRA PRs) is ~24,500 FSW. Compared to the national estimated number of FSW from the same source of data (~63,500) this represents only 38% of all FSW in the country.[11] But because the GF performance framework national target was 46%, in theory the PMSE data suggests that GF districts could not collectively meet the national level targets even if every district reached 100% of the FSW in their area. The inconsistency of GF national targets and the size of the FSW population in GF intervention areas is further exacerbated because GF shares coverage responsibility with PEPFAR funded sites in the largest cities. For example, PEPFAR prevention coverage of FSW in Accra Metro, was 3135 and 2847 FSW in Sekondi-Takoradi in the first half of 2017, which comprises 9-10% of the total FSW in Ghana, and half the coverage target intended in GF-supported areas. This suggests that GF implementing partners catchment areas represent a much smaller percentage of all FSW in the country. Future target setting exercises must ensure consistency between the estimated size of FSW in the areas where programmes are planned and the targets set at the national level.

Size estimates for MSM from the recent PMSE exercise are only available at the national and regional levels. The results from this exercise estimate roughly 83% of all MSM in Ghana are found in two regions: Ashanti and Greater Accra. Because the GF programme includes services in these two regions, it is plausible that national level targets can be accomplished by working in these areas, but this cannot be confirmed without more granular size data at the district level.

[10] Both GF and PEPFAR fund WAPCAS in Accra for FSW; MICDAK in Kumasi for MSM; and Maritime for MSM in Takoradi. For other groups-cities, GF and PEPFAR fund different organizations, e.g. in Accra, GF funds CEPEHRG and PEPFAR funds WAAF; in Takoradi, GF funds WAPCAS, while PEPFAR funds LRF.

[11] If the denominator of 58,920 is used, the fraction of FSW represented by the GF-supported districts among the total estimated FSW in the country is 42%.

National Level Performance against GAC-GF Targets 2015-2017

Despite the gap between the number of FSW estimated in GF-supported districts and the national GF targets, the GF PRs have largely met their targets for providing services to FSW in terms of absolute numbers of FSW reached.[12] At the primary recipient level, GAC underperformed in 2015-2016 with respect to MSM targets. Data from the first 6 months of 2017 suggest that MSM service targets greatly exceed expectations for prevention coverage and are on track with respect to HIV testing coverage. The increased ability for GF MSM service providers to meet their targets may be due in part to the expansion of service availability at the district level. For example, in 2015 only 27 sites reported testing data for MSM compared to 35 sites in 2017.

Table 4. Performance reaching and testing KPs as a percent of GAC-GF programme targets

# received service (% of target)	2015	2016	Jan-Jun 2017
FSW prevention programmes - **GAC**	9,809 (89%)	12,795 (92%)	13,340 (186%)
FSW prevention programmes - **ADRA**		11,705 (110%)	
MSM prevention programmes	2,375 (29%)	7,326 (70%)	8,691 (147%)
FSW HTC and received their result - **GAC**	7,395 (103%)	14,555 (162%)	7,050 (133%)
FSW HTC and received their result – **ADRA**		10,355 (117%)	
MSM HTC and received their result	1,055 (33%)	4,403 (84%)	3,509 (98%)

It is also notable that in 2016, the number of FSW tested exceeded the number receiving combination prevention by nearly 2000 individuals. This suggests that future target setting for testing may not need to be tied to prevention coverage figures or necessarily be lower than prevention coverage targets. Testing targets do need to be tied to the testing strategy for KP which includes the frequency, locations and service contexts (e.g. fixed facility, satellite facility, community-based, etc.) in which KP are offered testing services.

Sub-National Level Performance against Targets 2015-2017

Performance at the sub-national level is more difficult to characterize because the program does not have formal regional or district level targets for the performance framework indicators. Because targets at the national level are defined as a percentage of the estimated size of the population, the lack of district level size estimates for FSW and MSM at the beginning of the GF funding period made target setting challenging initially.

[12] On a percentage basis, the GF programmes performs slightly worse against targets. Using the national estimates from the PMSE, the % of FSW reached with GAC-GF prevention services is 20% (12,795 / 63,500) of the national FSW population. The target for GAC-GF FSW prevention coverage for 2016 was 22% of the national estimate of FSW.

For the purposes of this assessment, sub-national performance for FSW programmes was compared to the recently available 2015-16 PMSE data at the district level to calculate an approximate percentage of KP reached among all KP estimated to be in the area. In 25 out of 48 districts with GF-supported FSW programmes, the prevention reach number exceeded the estimated district FSW size in 2016. This includes 15 out of 21 (72% of) ADRA districts and 10 out of 27 (37% of) GAC districts. In these cases, the number of individuals reached was on average more than 3.8 times the estimated size of the FSW population in the district. This indicates the potential for PMSE data available to have a wide margin of error in many local areas.

In districts where reported reached was less than the estimated size of the population, average prevention coverage by GF supported partners was 55%. The assessment looked specifically at this measure of coverage in large cities which have the longest standing and most experienced service providers and potentially the more reliable PMSE. In large cities, GF reach as a percentage of the estimated size of FSW was 56% in Kumasi and 37% in Accra Metro Areas[13]. The relatively low coverage in Accra is due to the sharing of coverage between GF and USAID service providers. When USAID performance is included, the coverage measure rises to about 80% of the 7324 FSW estimated in Accra Metro.[14] Better performance was found in Cape Coast, the capital of the Central Region receiving only GF support, where the coverage of the FSW population by this measure was 78%.

A review of testing coverage for FSW at the sub-national level found similar results: 11 districts reported testing more FSW than were estimated to be in the area, with the number tested in those districts being on average three times higher than the local size estimate. Among districts with numbers tested below the PMSE, testing coverage was 53%. Testing coverage in large cities by this measure was moderate.

Sub-national analysis of MSM performance was more limited due to the lack of district-level size estimates and the relatively weak data available to extrapolate to smaller regions. GF-supported prevention coverage in Greater Accra (Region) was 3,661 out of roughly 14,800 estimated MSM[15] or 25% coverage. The same calculation estimates 9% coverage in Ashanti region. If USAID reach to MSM were included in this calculation overall prevention coverage of MSM in Greater Accra Region would be 49% and 26% in Ashanti region. In regions outside of Greater Accra and Ashanti, GF-supported prevention coverage estimates range from 31% in Brong Ahafo to 94% in Easter Region against the PMSE estimates of size.

The assessment team notes that although only 17% of the MSM are estimated to live in regions outside of Ashanti and Greater Accra, the number of MSM receiving prevention services in these areas comprise 43% of all MSM reached in 2016 through GF supported programmes.[16] The triangulation of PMSE and programme

[13] This GF-coverage in Accra includes both ADRA and GAC managed implementing partners.

[14] This calculation uses programme reach data for 2016 from the GF-supported programme and data from the USAID/JSI care continuum project in Accra for the period of Jan-June 2017 (which is the only period of operation for this project.). Although the JSI data cover only half a year, GF implementing partners reach the vast majority of individuals in their catchment area during the first quarter of the year, and subsequently provide repeat prevention contacts with the same individuals in the remainder of the year.

[15] This calculation is obtained by multiplying 34,470 the national estimate of MSM used by the GF performance framework by the % of MSM estimated to be in Greater Accra region according to the 2015-16 PMSE report to get the estimated number of MSM in the region.

[16] The 43% does not include the additional reach from USAID programmes in regions outside of Ashanti and Greater Accra, which further demonstrates larger numbers of MSM not included in the regional PMSE estimates for MSM.

data suggest that the PMSE data likely greatly underestimate the size of the MSM populations outside of Ashanti and Greater Accra.

In summary, for MSM services it appears that the regions with greatest epidemic impact (Ashanti and Greater Accra) are underperforming, while other regions are both likely to contribute more to epidemic impact than suggested by recent PMSE data and have been relatively successful in covering the local population.

B. Geographic prioritization and high impact KP interventions to reach 90-90-90

In this assessment, we examined where KP were potentially underserved by the current programme as well as implications for future underserved populations given imminent scale back/concentration of services by USAID and GF in the next implementation period. An underserved area may be characterized as a) places with large numbers of KP and no funded programme or b) places where services are funded but coverage appears low compared to the estimated size of the KP community. The source of data for KP size come from the 2015-16 PMSE exercise, which the assessment team notes may have a tendency to underestimate the size of KP in some areas.

Districts potentially under-served by current programming

At the district level, we compared estimated FSW size to the districts where either GF or USAID programmes were funded and found 25 districts with programmes but where FSW size was small (<300) (See Annex 2). In most of these districts PMSE data underestimated the prevention reach achieved by implementing partners, but in 8 districts both the PMSE data and programme monitoring data suggested small numbers (<300) of FSW in the area: Bole, Paga, Wa, Atebubu, Nkoranza, Pru, Suhum, Konongo. The assessment team also identified 20 districts with PMSE estimates were larger (>300) but no services were funded in the 2015-2017 implementation period.

Because there are no district-level size estimates for MSM, the assessment team was not able to identify underserved areas from the current implementation period. Programme monitoring data identified 6 GF-supported districts with low numbers of MSM served per year, e.g. <100 MSM reached by prevention services in 2016 and 2017: Ga Central, Ga West, Dangbe East, Adenta, Nkawkaw, Suhum.

Underserved districts in future programming

In October 2017, USAID and GF plan to reduce the number of districts where FSW and MSM services are provided. For FSW, only 4 regions will receive support from either funder in 12 districts. While for MSM, 5 regions will receive support across 14 districts. Table 5 shows the districts and regions where ongoing support is provided by each donor and the areas where both donors will support implementing partners.

For FSW, the sum of the PMSE for districts selected for the next phase of programming is 20,141. This represents roughly one third of all FSW estimated for the country in the PMSE exercise. Assuming the PMSE data are reliable, this caps the maximum level of coverage at national level to roughly one third of all FSW in Ghana. It is not possible to estimate the proportion of MSM covered in the districts with ongoing support due to the lack of district-level size estimates.

Table 5 also reviews the historical prevention reach achieved in 2016 for districts selected for ongoing support for both FSW and MSM programming. Three districts selected for ongoing FSW services had low previous prevention reach (<300) by GF and/or PEPFAR programmes: La Dadekotopon, Bekwai, and

Shama. Five districts selected for ongoing MSM services had low previous prevention reach (<300) by GF and/or PEPFAR programmes. These districts include Ga West, Ashaiman, La Dadekotopon, Obuasi, and Techiman.

Table 5. Historical reach for districts selected for ongoing GF and USAID support

Region	District	Ongoing MSM support	MSM reach	Ongoing FSW support	FSW reach
Greater Accra	Accra Metro	GF, USAID	2734+/3235*	GF, USAID	1444+/3135*
	Tema Metro	USAID	97+/245*		
	Ga West	USAID	46+	USAID	1328*
	Ashaiman	GF	277+	USAID	No pgm data (PMSE=422)
	La Dadekotopon	GF	234*	GF	278*
Ashanti	Kumasi Metro	GF, USAID	1018+/1323*	GF, USAID	1860+
	Bekwai	USAID	602*	USAID	249*
	Obuasi	USAID	32*	USAID	842*
Brong Ahafo	Techiman	USAID	169*	GF	1024+/819*
	Jaman North	GF	No pgm data		1293*
	Sunyani	USAID	114+/383*	GF	850+/666*
Western	Sekondi-Takoradi	USAID	1513*	USAID	856+/2847*
	Shama	USAID	557*	USAID	134*
	Prestea-Huni Valley			USAID	429*
Eastern	New Juabeng	GF	752*		2564*

Notes: +GF 2016 data *USAID Jan-Jun 2017 data

Districts where previous prevention reach by GF and/or PEPFAR has been relatively high (>500 FSW or >300 MSM in 2016) but are not included in the districts for ongoing support are summarized in Table 6. These districts may offer the highest yield if resources increased and service areas were expanded by either GF or PEPFAR.

Table 6. Districts which have not selected for ongoing support but with previous high achievements in prevention reach

Region	District	FSW reach (>500)	MSM reach (>300)
Ashanti	Asokore Mampong	1154+	
	Ejurasekyedumase		548*
Brong Ahafo	Berekum	997*	
	Dormaa	523+	
	Jaman North	1293*	
Central	Agona Swedru	764+	
	Cape Coast	811+	481+
Eastern	Asamankese	710+	
	Fanteakwa	697+	

	Lower Manya Krobo	721+/596*	
	New Juabeng	2564*	
	West Akim	676+	
	Yilo Krobo	583+	
Greater Accra	Ledzokuku Krowor		369+
	La Nkwantanang	746+/527*	
	Tema Metro	796*	
Northern	Tamale	793+	
Western	Jomoro		415*
	Tarkwa	1195*	
Volta	Ho Muni	890+	
	Ketu South	1010+	
	Kadjebi	781+	

Notes: +GF 2016 data *USAID Jan-Jun 2017 data

C. Testing yield and the Continuum of Care

The 90-90-90 targets refer to the HIV care cascade and highlight three key measures of the epidemic response: the proportion of HIV-positive individual who know their HIV status, the proportion of (diagnosed) HIV-positive individuals who are linked to care and treatment and the proportion of those on treatment who achieve viral suppression. When this cascade is applied to KPs, meeting targets and accurate measurement become more challenging because of the lack of epidemiologic data on KP and the double stigma and discrimination experienced by individuals who are both HIV-positive and key population members. The latter is especially relevant when clinical services such as testing and care and treatment are provided at sites which are not sensitized or specifically designed for KP, as in Ghana, because when KP do utilize services they may not identify as KP.

A critical limitation to measuring the "first 90" target is the lack of robust estimates for the number of KP PLHIV. Epidemic models used in Ghana such as Goals and MoT provide estimates for new infections among KP, but are a weak basis for estimating prevalent (i.e. alive and current) KP cases. For these reasons, the assessment focuses on measures of testing yield rather than the percentage of KP PLHIV who know their status.

Testing yield measures the number of positive cases diagnosed among those tested for HIV over a period of time. A higher yield suggests that service providers are promoting testing and supporting testing to a segment of the KP population at higher risk. Using testing yield as a measure of programme performance must consider both the historical testing coverage in the area and underlying HIV prevalence of KP in the local area, i.e. meaningful targets for testing yield should not be the same for all areas and populations. Testing yield targets must include both the expected test positivity and the absolute number of cases already diagnosed.[17]

[17] Diagnosing one case out of 20 people tested is the same testing yield as diagnosing 50 cases out of 250 people tested.

In 2016, there were 311 HIV+ FSW diagnosed via HTC in GAC-GF districts,[18] or a yield of 1.9% from the ~16,000 FSW tested. In the first 6 months of 2017, the testing yield (i.e. case finding) appears to be higher, with an overall positivity rate of 2.8% among the ~7000 FSW tested.

In 2016 testing yield was above 5% in four out of 25 GAC-GF districts reporting testing data for FSW, but in two of these districts (Suhum, & Atebubu) less than 50 people had been tested, i.e. low numbers of cases were diagnosed. The highest yields, among areas with larger numbers of FSW tested, were found In Wa district, positivity was 9.3% among 97 FSW tested (i.e. 9 cases diagnosed). And in Sunyani district, positivity was 7.2% among more than 885 FSW tested (i.e. 64 cases diagnosed). However, the absence of specific HIV prevalence estimates for these areas makes it difficult to determine whether yield is similar to local prevalence or much higher. Given the higher HIV prevalence estimates measured in Accra and Ashanti regions, yield was not particularly high in Accra Metro (1.6% in 2016 and 2.5% in 2017) and Kumasi (2.0% in 2016 and 3.5% in 2017), the two metropolitan areas where the largest numbers of FSW are tested among GF-supported programmes. In contrast, USAID-supported programmes showed higher testing yields for FSW: overall testing yield from Jan-June 2017 of 6% among 15,000 FSW tested and 4% positivity among 2250 FSW tested in Accra Metro.

With respect to testing yield among MSM, in 2016, there were 168 HIV + MSM diagnosed via HTC at GF sites this is a 3.2% positivity among the ~5250 MSM tested. In the first 6 months of 2017, the testing yield appears to be higher, with an overall positivity rate of 5.2% among the 3423 MSM tested. This is compared to an overall testing yield in USAID-supported MSM sites of 8% among more than 7700 men tested from January-June 2017. Testing yield was above 5% in 7 out of 29 GF-supported districts reporting testing data for MSM. Among these, 2 districts had very high positivity rates (Akim Oda & Ga South) but tested less than 50 men. In the large metropolitan areas, testing yield in Accra Metro was 5.6% in 2016 and 10.3% in 2017; and in Kumasi testing yield was 3.0% in both 2016 and 2017. The 2017 testing yield in these two cities for USAID-supported MSM programmes was similar in Accra Metro: 11.9%; and much higher in Kumasi: 11.1%.

Table 7 compares the testing yield obtained in GF-supported and USAID-supported programmes working in the same cities. It should be noted that when both GF and USAID funded implementing partners work in the same city, the geographic coverage areas are distinct and presumed to include different segments of the KP community. The available HIV prevalence estimates from the IBBSS do not match the catchment areas of the programmes or reflect different pockets of the epidemic within a metropolitan area. Given that direct comparisons must be undertaken with caution. In general, testing yield appears much lower than the estimated IBBSS HIV prevalence for each area-group. The data also show that in 2017, the JSI Care continuum project has been able to identify a higher prevalence sub-group of KPs in their service areas compared to GF implementing partners, resulting in higher yields and many more newly diagnosed cases.

Table 7. Comparison of testing yield between USAID and GF districts in the same Region

District– KP (HIV Prev from IBBSS)+	NGO(Funder)	Testing Yield			# of cases diagnosed in 2017
		Oct-Dec 2015	Jan-Dec 2016	Jan-Jun 2017	
Accra Metro – FSW (9.0%)	WAPCAS (USAID)	-	-	4.0%	90
	WAPCAS (GF)	2.0%	1.6%	2.5%	14

[18] Testing yield data were not collated from ADRA sites, so this analysis does not include these data.

Sunyani – FSW (6.2%)	(USAID) WAPCAS (GF)	- 3.7%	- 7.2%	7.0* 2.5%	48 12
Takoradi – FSW (5.3%)	LRF(USAID) WAPCAS(GF)	- -	- 1.8%	5.4%* 3.9%	113 16
Techiman – FSW (6.2%)	(USAID) WAPCAS (GF)	- 0%	- 1.7%	3.6% 2.1%	21 8
Accra Metro – MSM (34.3%)	WAAF (USAID) CEPEHRG (GF)	- 2.9%	- 5.6%	11.9% 10.3%	263 47
Kumasi Metro – MSM (13.6%)	MICDAK (USAID) (GF)	- 8.3%	- 3.4%	11.1%* 3.0%	90 25
Sunyani – MSM (NA)	(USAID) (GF)	- -	- 6.8%	16.4% 4.1%	63 9
Takoradi – MSM (4.7%)	MARITIME (USAID) MARITIME(GF)	- -	- 1.2%	3.3%* 5.6%	49 16
Tema – MSM (34.3%)	(USAID) (GF)	- -	- 1.4%	33.9% -	37 -

Notes: + Prevalence estimates for FSW are for the Region, not specific to the district; Prevalence estimates for MSM are only available in selected cities. NA=Not available. *Data cover the period Nov 2016 to June 2017.

Through interviews with service providers and other stakeholders, the assessment team identified several opportunities for GF-supported programmes to improve case finding among KP tested. First, testing is largely conducted at mass testing events at known MSM and FSW hotspots. MSM reachable at hotspots are likely to represent only a small subset of MSM, given high levels of stigma around homosexuality. Some PEPFAR-funded NGOs have begun to introduce innovative strategies to reach MSM beyond venues by tapping social connectivity among close-knit, more hidden social networks (i.e., Ringleader's approach, Tomorrow Today and Man in the Mirror). While data are scarce, sexual partner testing among 45 MSM in Takoradi produced a 42% yield. These services remain at a small scale: testimony from MSM and FSW indicates few have been encouraged to get tested by peers. Community-led and peer-driven approaches have proven effective to reach higher-risk KPs in many settings (UNDP 2015, et al.; Kimbrough, 2009; Broadhead et al., 1995; Kim et al., 2015; Yan et al., 2014).

Second, some NGOs have implemented risk screening assessments to vet individuals prior to testing, however NGOs do not target MSM and FSW based on evidence of which subgroups are at higher risk. Current opinion of in-country experts seems to be that the most important MSM subgroups that need to be reached better are older, professional, married, and bisexual MSM, however there is no evidence that these groups are actually at higher HIV risk, even though they may be difficult to reach. Existing IBBS data could be leveraged to identify characteristics of higher-risk subgroups that are not currently being reached well.

Third, testimony from NGO program managers suggest there are currently no tailored prevention strategies specifically for male sex workers. Yet, between 60% and 70% of MSM engage in transactional sex, according to IBBS data. Notably, international guidance on recommended HIV interventions among MSM highlights past work in Ghana with male sex workers up through 2014 by USAID/FHI-360 (UNDP et al. 2015, p. 107).

With respect to identifying factors associated with increased testing coverage, an important aspect of which districts have DIC services is that this also determines whether there is a FSW-friendly/specific testing site in the district. Districts without DICs routinely refer FSW to testing services at a general population service site which increases the possibility that FSW will not get tested or if they do utilize services will prefer not to disclose their identity as being a FSW and may not be counted as such. This assessment was not able to determine how frequently the latter occurs, in part, because all sites visited as part of the assessment are areas where DIC services offering testing services are available.

The assessment found anecdotal evidence of GF-supported programmes' successful linkage to testing among those contacted by outreach, or from testing to care and treatment. Yet, incomplete referrals are seen as a problem by program managers and KPs interviewed, for a variety of reasons including perception of poor service quality, poor availability of health supplies and medications, stigma, distance-to-facility, and psychosocial barriers.

D. Key indicators and systems tracking the KP continuum of care that are harmonized across implementing partners

Following global guidance from technical partners, countries invest heavily in strategic information systems to track progress and identify areas needing improvement. Through a review of national guidelines, routine monitoring data, and discussion with key stakeholders, the assessment team observed several opportunities to strengthen data use and systems for tracking the KP continuum of care.

Lack of a national perspective on monitoring KP interventions

Although there is some coordination between USAID and GF supported implementers to avoid duplication of service at the micro-site level, there does not appear to be a forum or format for routinely reviewing the joint contribution of coverage in large cities where both USAID and GF are working (e.g. Accra, Kumasi, Sunyani, and Takoradi). Neither does a single agency in the country, that maintains a national overview of KP programmes and performance, identifying strong and weak performance at the sub-national level, independent of monitoring required by donors. The assessment team perceived GAC should play this role as the primary government agency responsible for the national AIDS strategy. But when requested by the assessment team, district-level performance of ADRA sites were not already in the possession of GAC.

Target setting at district level

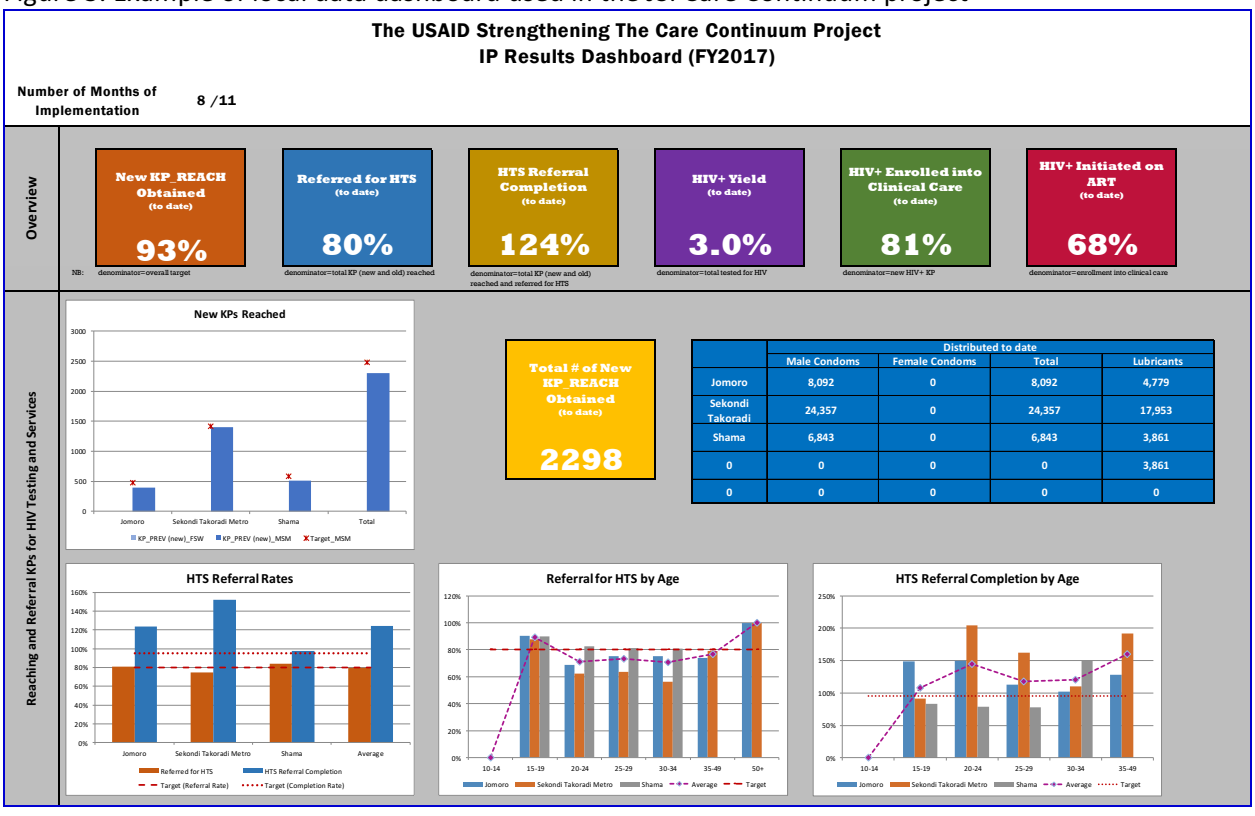
At present, managers of GF KP programmes do not have expectations for coverage, i.e. targets at the district level. However, targets are critical as the basis for rational program placement, funding allocation, and program monitoring. District-level estimates of population size are generally available for FSW, but in comparison to programme monitoring data, the PMSE has been shown to have a large margin of error. The lack of district-level size estimates is particularly problematic for developing district-level targets for MSM programmes. As future programming is planned, target setting at the local level must combine the best available size estimates with historical programme reach data and the availability of resources to conduct outreach or offer facility based services, etc. Finally, national targets have to be cross-checked to ensure local-level achievements can realistically sum up to the national level.

Caution should be used if recent programmatic based size estimates are applied to future target setting for MSM, because these estimates are limited to MSM who come to venues. In an environment in which MSM are heavily stigmatized, estimates of venue based MSM miss an important segment of the community who are also at risk but meet partners through virtual or personal networks. Program allocations and monitoring based entirely on venue-based size estimates is likely to lead to inaccurate assessment of program reach and, more importantly, missed opportunities to intensify programs and reach non-venue-based MSM.

Systems supporting data use for decision making

Through site visits, the assessment team found evidence that both Global Fund- and USAID-supported programs use data at the local level for decision making. The assessment team observed a stronger culture of data use in the USAID supported programs, in particular the heavy use of data dashboards at both district and central level. Figure 3 shows the dashboard being used at the site visit by an JSI-NGO in the Western Region. The dashboard features key indicators measuring progress in increasing the NGOs referral completion rate and yield. At the central level, the Continuum of Care project uses a dashboard to tailor their TA (i.e., to identify where sites are under-performing and doing well). It generates a league table ranking the relative performance of each group, used during the quarterly peer review meeting. Stakeholders interviewed attributed high testing yields and general performance in part to this form of intensive tracking and data use.

Figure 3. Example of local data dashboard used in the JSI Care Continuum project



Tracking linkage to care for newly diagnosed KP

Both ensuring the linkage from testing to care/treatment and measuring successful linkage has been challenging to GF implementing partners. Many KP do not want to disclose their HIV status to peer

educators and resist escorted testing and/or follow up by peer educators. In the interest of providing KP clients privacy, in some locations, the programme formally ends the peer educator's role ends at the point of bringing the client to a testing site. If the client tests positive, the nurse does not communicate the test results to the PE. In this situation, the nurse is responsible for the referral of the client to a treatment site. In other locations, WAPCAS and MIKDAK have developed a case manager system where peer educators who may be HIV-positive or trained as case managers physically escort the client to the treatment facility. Given the multiple approaches to protecting the privacy of KP clients, different systems of tracking referral success are needed. However, the relatively small number of cases diagnosed annually in each area should make tracking of the linkage of testing to treatment manageable by an appropriately trained staff. Tracking systems that allow linkage to treatment to be done anonymously can be effective and will maintain the privacy of KP who fear stigma and discrimination.

Undercounting KP who do not disclose their identity at general population facilities

One challenge faced by many countries is the difficulty of measuring testing coverage and linkage to care when key population members may choose to access services without disclosing their identity as a key population member. This may result in underestimating coverage estimates for HIV testing and an unknown skew in measuring linkage to care/treatment. In this assessment, data were not available to quantify the likely proportion of FSW or MSM who do not disclose their identity when accessing general testing sites or care and treatment facilities. However, future surveys of KP can explicitly measure this practice and such data can be used to adjust measures of coverage and linkage to treatment.

Use of UIC to track HIV care cascade indicators

The Ghana AIDS Commission, in collaboration in close collaboration with partners, has been developing the Ghana Key Population Unique Identifier Concept (GKPUIC). This unique identifier system will allow the tracking of key population as they are offered care and treatment services while minimizing double counting of individuals who access services at multiple service sites in different geographic areas. Some of the technical problems that led to duplicate identification has been resolved. However, a GKPUIC system will not address the challenge of tracking KP who do not feel comfortable disclosing their identity as a KP.

In their debriefing presentation, the recent PEPFAR joint assessment of key population interventions in June 2017, noted some concerns about the feasibility of the GKPUIC system under development.[19] The team cites "late engagement of IPs and other stakeholders in the consideration of UIC elements." The PEPFAR assessment team recommended, "immediate attention of a task force, to ensure that system will function as intended and is harmonized across all partners serving KP clients."

The National AIDS Control Program is also in the process of introducing the e-Tracker, an electronic medical record for all PLHIV, to replace the one currently used in public sector health facilities. The e-Tracker system can accommodate the addition of other unique identifiers such as GKPUIC. This development, if functional will address general challenges of patient tracking. It is however unclear how soon this project will be completed.

[19] File shared with the assessment team titled, "KP TWG KP Visit Ghana (26-29 June 17) Final Final.pptx"

E. Cost evaluation of KP interventions

Sites included in the costing analysis were Accra, Kumasi and Takoradi, as well as Tamale for FSW interventions. The total estimated annual field cost, exclusive of HQ TA, ranged from $68,371 (US Maritime in Takoradi) to $228,538 (GF CEPEHRG in Accra) for MSM programs and from $47,474 (GF WAPCAS in Takoradi) to $159,656 (GF WAPCAS in Kumasi) for FSW programs (see Annex 4 for the costing tables). On average, the cost of MSM IPs ($67,757) was greater than FSW IPs ($51,087), however this was not consistent across locations (e.g., in Kumasi, the cost of the GF MICDAK FSW program was greater than either of the GF and USAID MSM IPs). In absolute terms, the cost of GF-supported IPs was greater than PEPFAR-supported IPs in Accra (for MSM and FSW) and in Takoradi (FSW only), but at other sites PEPFAR spent more than GF.

Main cost variations observed

There were clear differences in the cost profile of MSM and FSW IPs (Figure *4* and Figure *5*). At most MSM IPs (excluding the US-supported IP in Takoradi), personnel (48%-53%) and program activities (28%-52%) accounted for the largest share of total cost (together > 76% of total cost). In contrast, at FSW IPs, program costs were relatively lower (5%-10%) and commodity costs (21%-57%) greater (again excluding the US-supported IP in Takoradi). PEPFAR-supported IPs in Takoradi were the exception in both cases, spending a relatively low 14% on program costs at the MSM program (MARITIME) and a relatively high 38% on program costs (with just 10% on commodities) at the FSW program (LRF).

*There was large variation in the breakdown of commodity costs across IPs, without any clear pattern when comparing GF- vs. US-supported programs (*Figure 6 *and*

Figure 7). Overall, male condoms accounted for the largest expense on commodities, particularly at FSW programs, while LRF's FSW program in Takoradi invested relatively more on female condoms. MSM programs incurred greater costs for HIV test kits compared to FSW programs overall; however, US-WAAF-Accra and GF-MICDAK-Kumasi spent much less than other MSM IPs on test kits; notably, these differences in the number of HIV test kits used are not well explained (i.e., proportional to) by the number of individuals tested during the period (See Table 10 in Annex 4).

Capital items accounted for a relatively small proportion of costs (3-7% at most MSM IPs and < 3-9% at most FSW IPs) overall. CEPEHRG GF in Accra (19%) and LRF USAID in Takoradi (12%) spent comparatively more on capital items than other IPs, largely due to expenditures on vehicles and laptops.

Unit costs per KP reached and tested are shown in Figure 8 and
Figure *9* (with more precise figures in the tables in Annex 4) and are a reflection of the relative numbers of KPs tested and reached across the selected sites. The total cost relative to the number of MSM reached ranged widely from approximately $20 (US-supported MARITIME in Takoradi) to $214 (GF-supported MARITIME, also in Takoradi). The unit cost relative to MSM tested was generally far higher, from $19 to $480 across IPs (with the Takoradi IPs again at the extremes). Yet the general pattern of a much higher cost to test vs. reach MSM was not uniform: at MICDAK-Kumasi the difference was much reduced, suggesting more similar numbers of MSM tested vs. reached; at MARITIME-Takoradi, the pattern was reversed as there were more MSM tested than reached. The unit costs to reach ($40-97) and test ($6-76) KPs were considerably lower for FSW than MSM, and with less of a clear pattern between the cost to reach FSW vs. test FSW. Again, the LRF-Takoradi program was the outlier, having tested and reached about the same numbers of FSW. Within the same locations, PEPFAR-supported

programs generally had lower unit costs than GF-supported programs, yet Accra MSM IPs were an exception: GF-supported CEPEHRG had lower unit costs than PEPFAR-supported WAAF ($76 vs. $105 to reach MSM, $135 vs. $182 to test MSM, respectively).

Commodity costs should be related to the number of KPs reached by a prevention program. Figure 10 and Figure 11 present the cost of condoms distributed (including male and female condoms) per KP reached and HIV test kit costs per KP tested. The condom costs per MSM reached vary from $0.40 to $4.5 (an 11-fold difference). The test kit costs per MSM tested vary from $0.4 (WAAF-Accra) to $5.8 (MARITIME-Takoradi), among IPs that used any test kits. Condom costs per individual reached are higher for FSW relative to MSM, but even among FSW IPs there was a wide range (from $3.9 to $26.2, about a 7-fold difference). HIV test kit costs per KP tested were similar between FSW and MSM IPs. Several IPs did not expend any test kits, presumably because they did not conduct testing; the cost of the test kits used in these cases is not accounted for by this analysis.

Identifying and testing HIV-positive KPs is more challenging than reaching and testing any KPs, as reflected by the much greater unit costs per HIV-positive MSM and FSW who were tested and had a positive result (*Figure 12* and *Figure 13*). On average, the cost to identify HIV-positive individuals is much greater for MSM than for FSW ($8,282 vs. $3,135, respectively) but this is largely due to GF-Maritime-Takoradi's extremely low number of HIV+ MSM tested (3 HIV+ MSM tested, relative to 38-176 at other IPs) and resulting extreme unit cost of $41,268. Excluding this IP, unit costs per HIV+ tested ranged widely from $698 to $3,159 across MSM IPs and from $700 to $5,275 at FSW IPs. GF-supported IPs consistently had higher costs per HIV+ KP tested relative to PEPFAR-supported IPs in the same areas. This comparison is limited for FSW IPs in that there were only two areas where IPs from both funders were operating (Accra and Takoradi).

Figure 4. Cost profile for MSM interventions

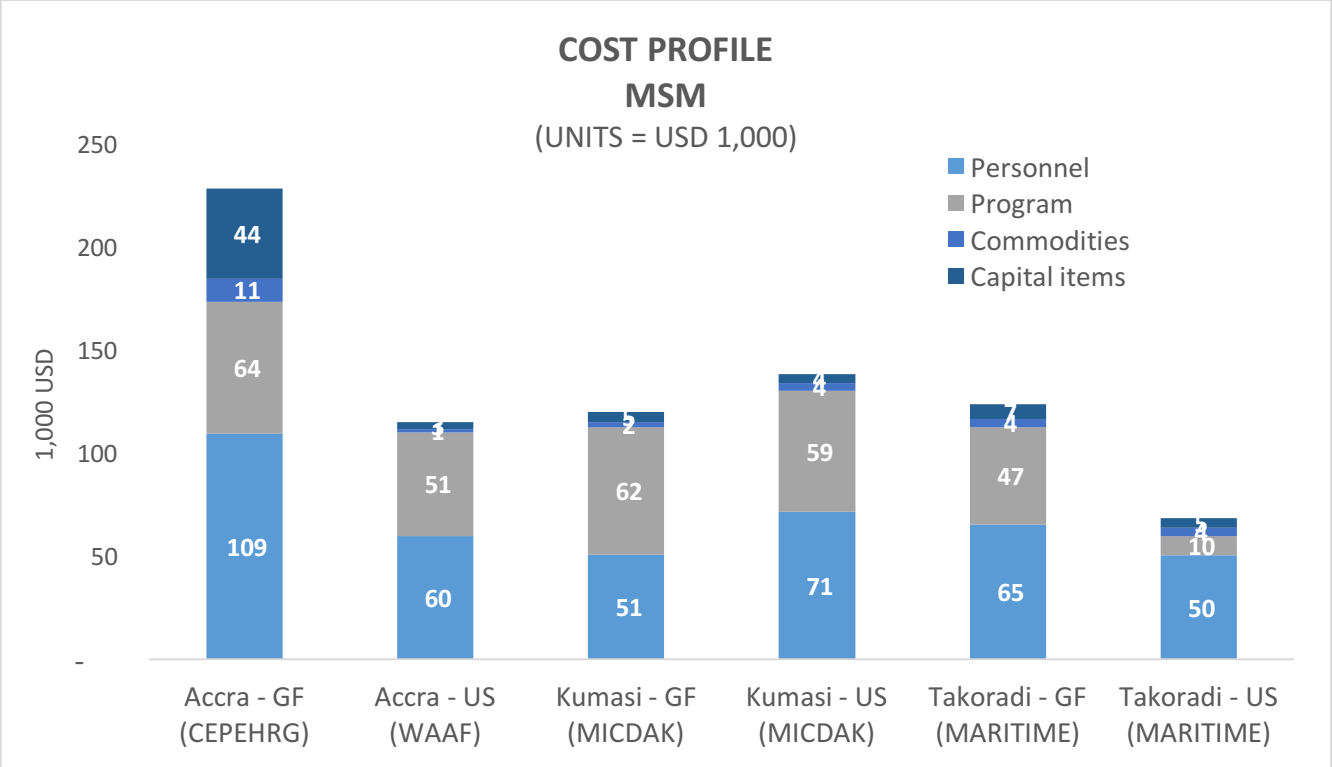


Figure 5. Cost profile for FSW interventions

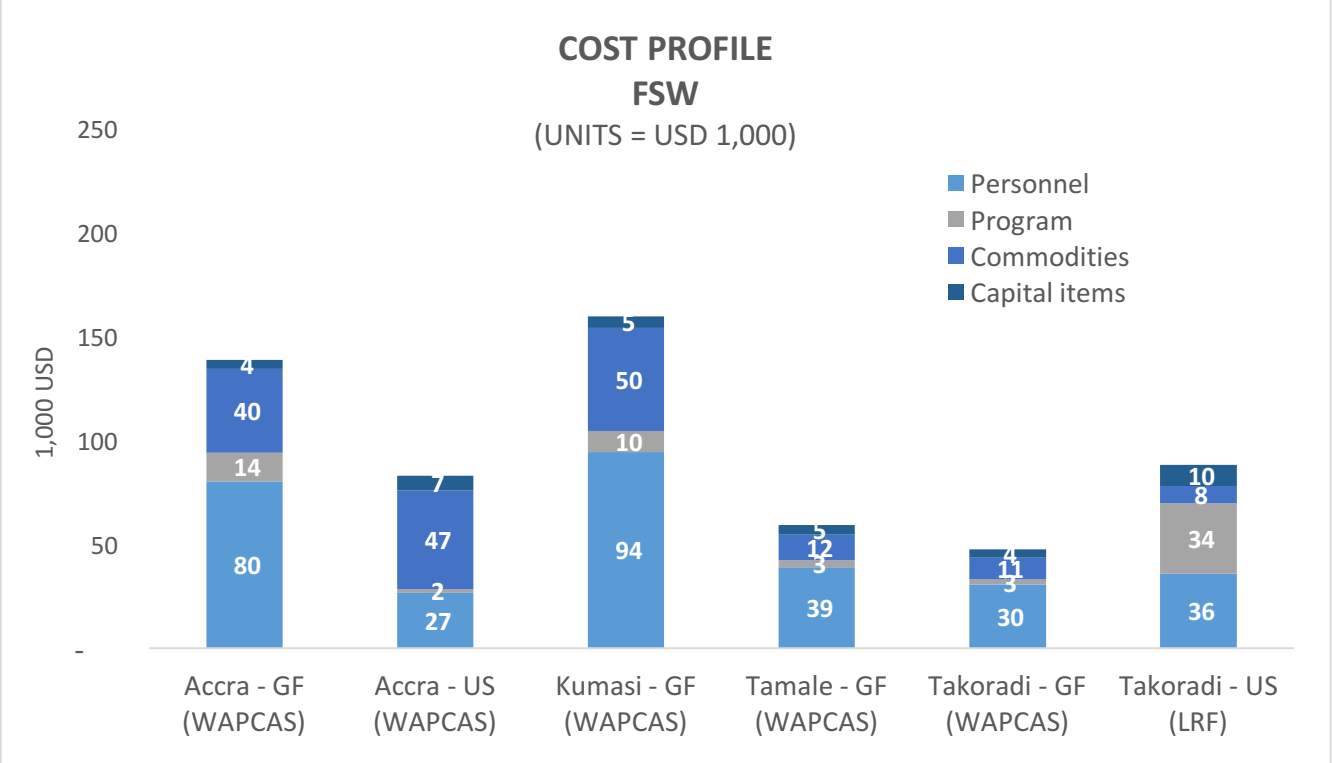


Figure 6. Commodity cost profile for MSM interventions

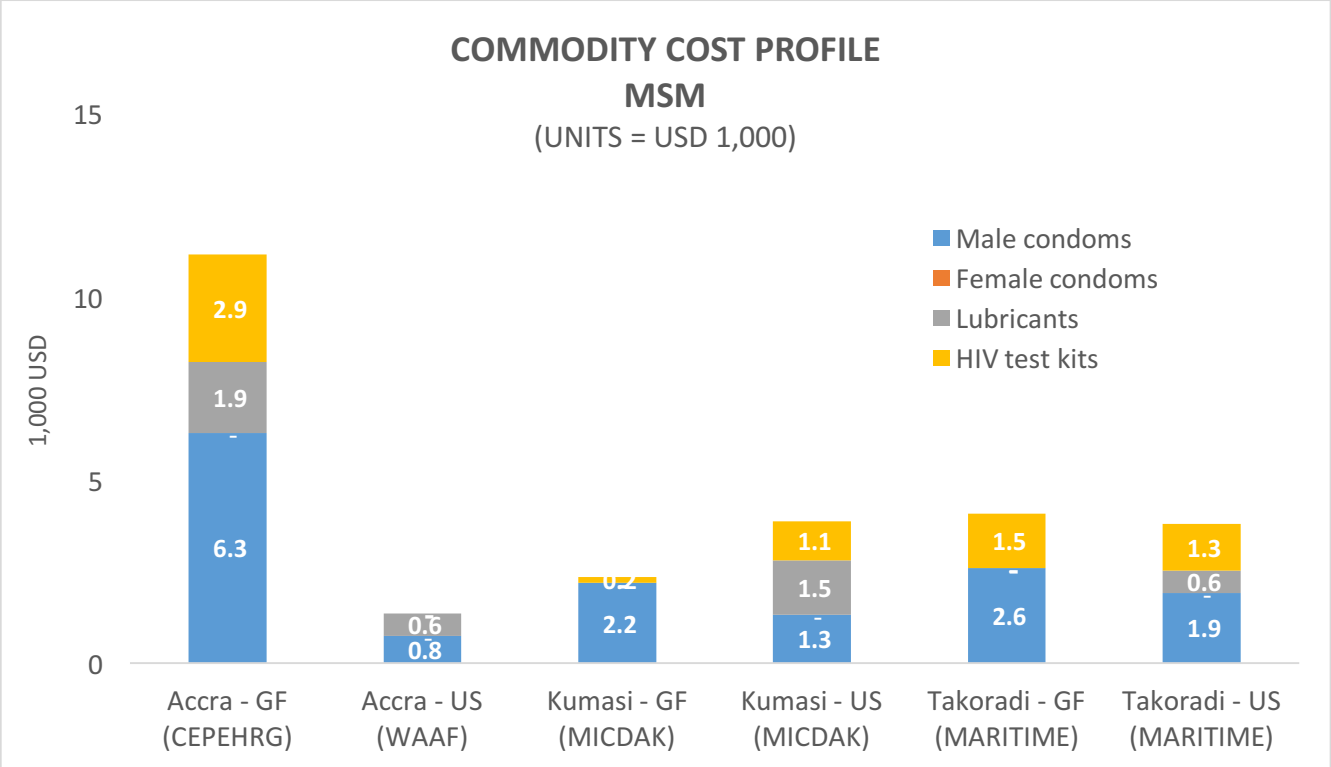


Figure 7. Commodity cost profile for FSW interventions

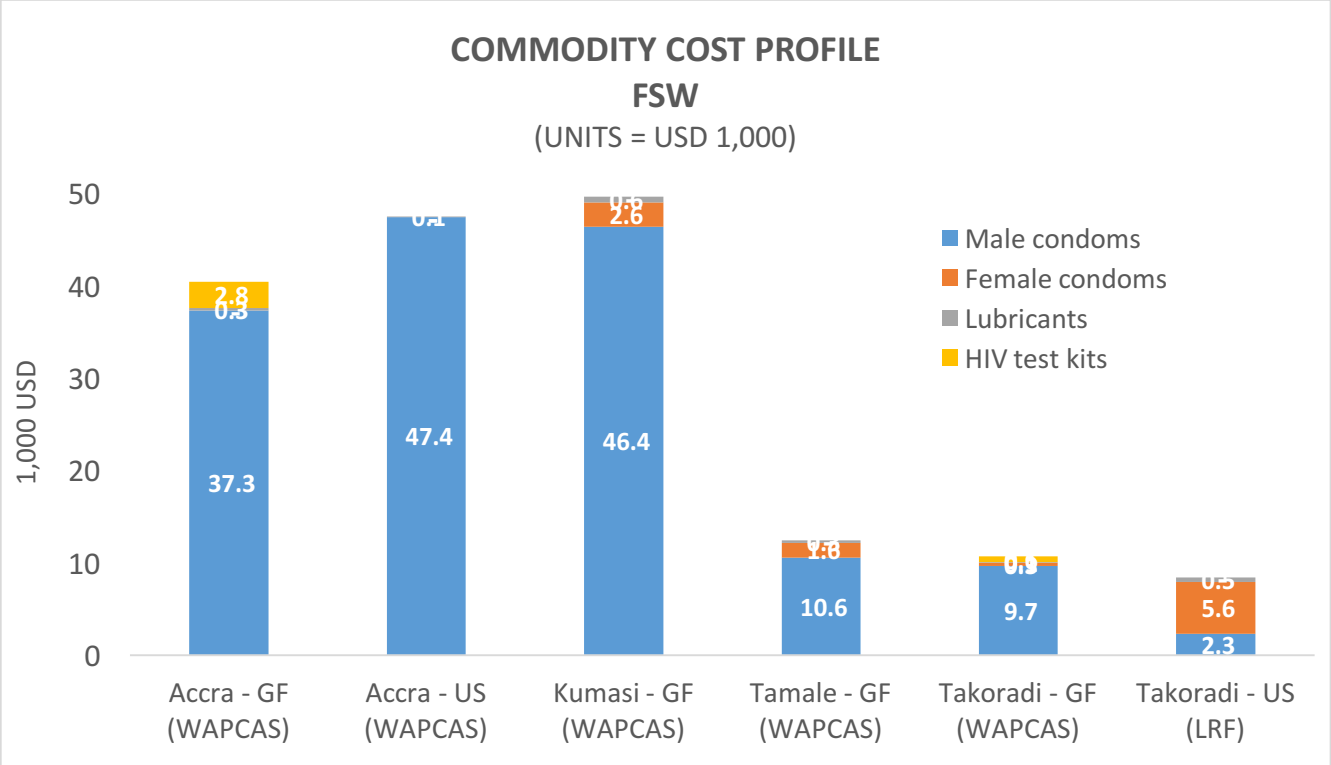


Figure 8. Total cost per output for MSM interventions

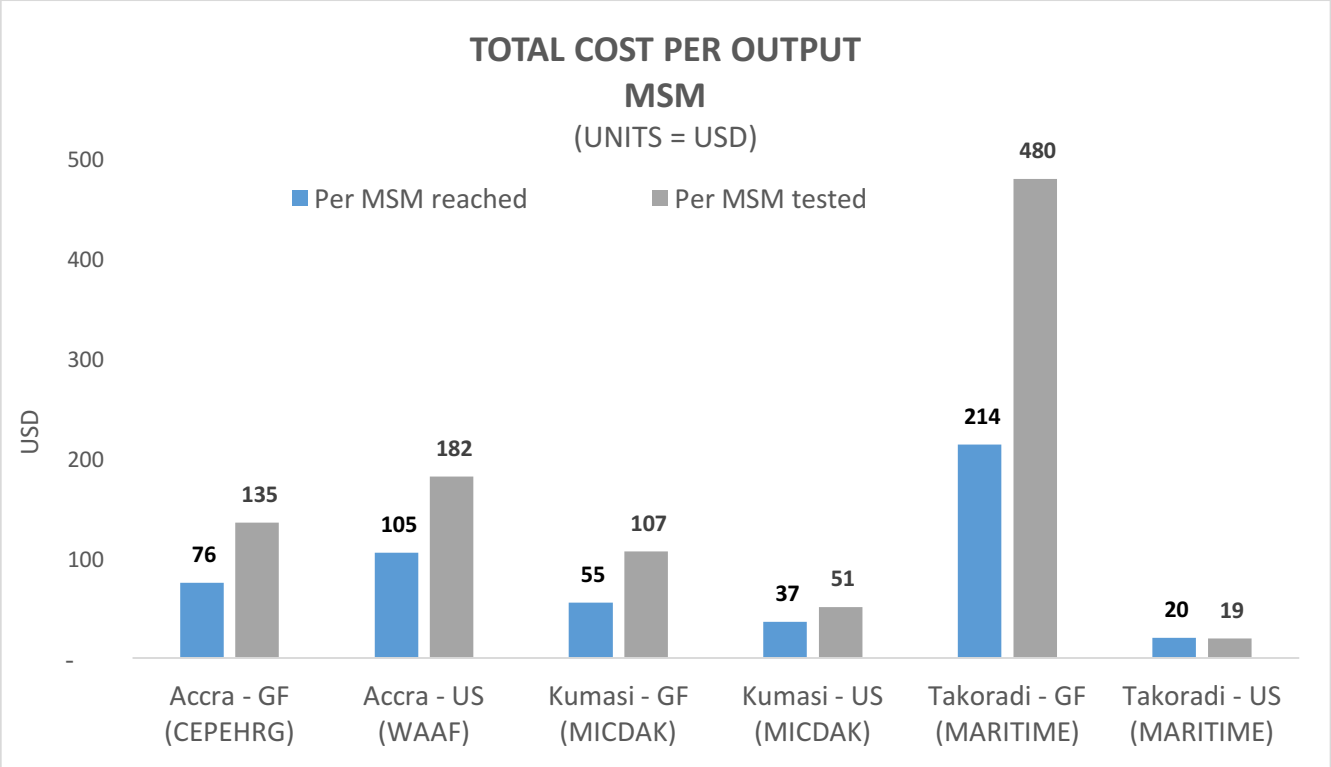


Figure 9. Total cost per output for FSW interventions

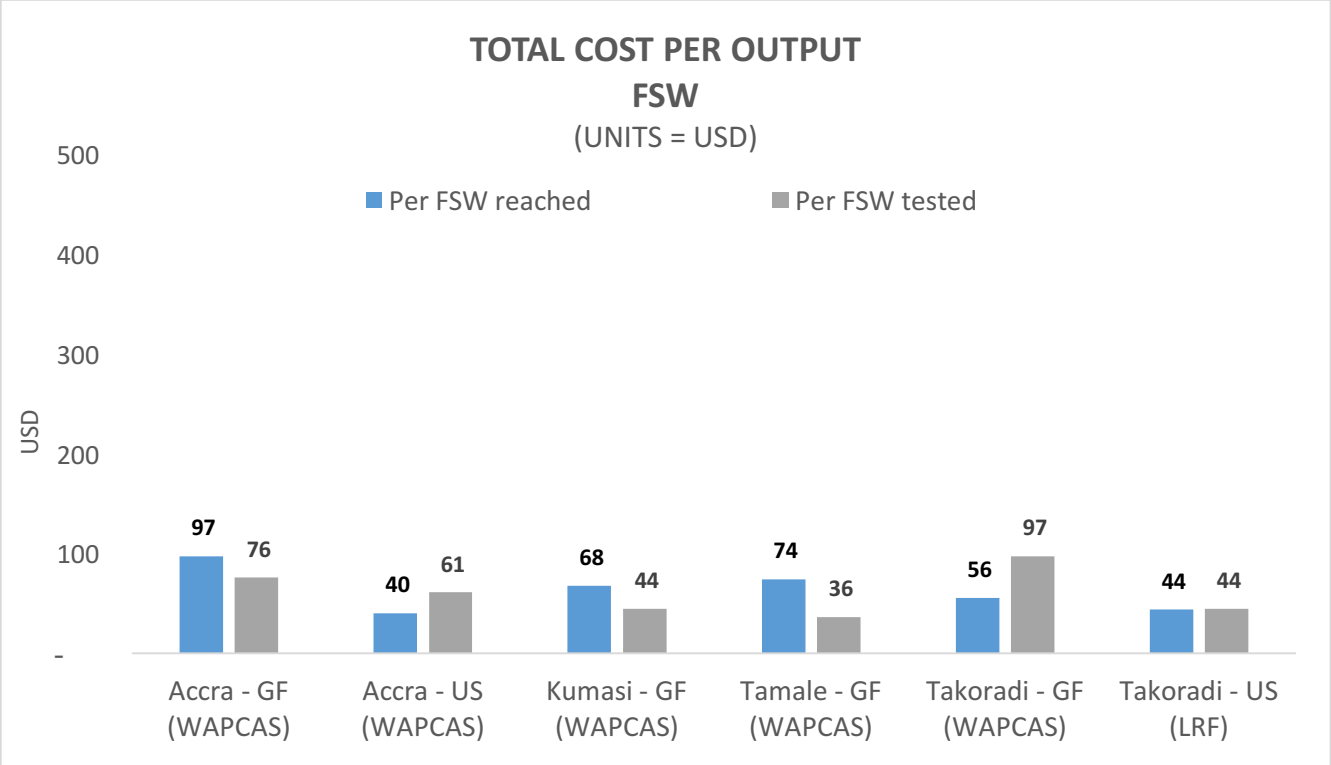


Figure 10. Commodity costs per specific outputs for MSM interventions

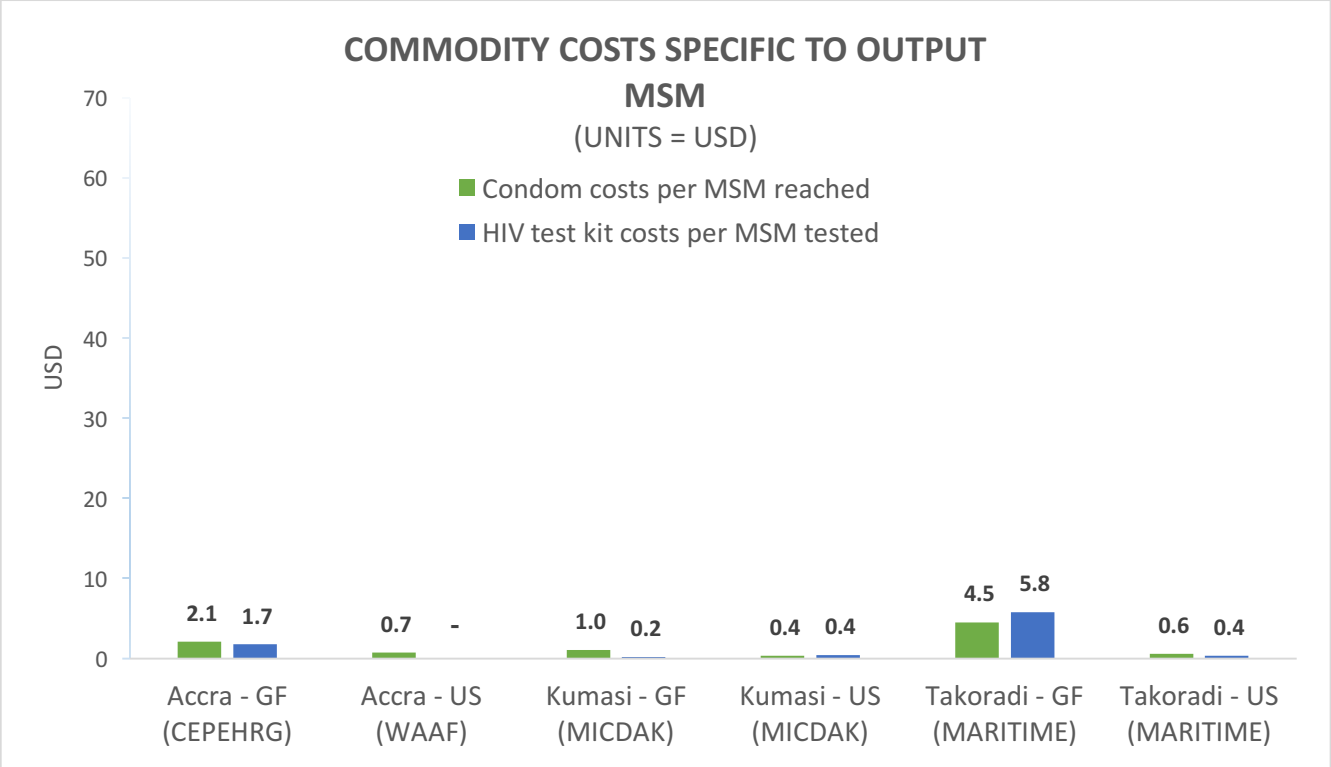


Figure 11. Commodity costs per specific outputs for MSM interventions

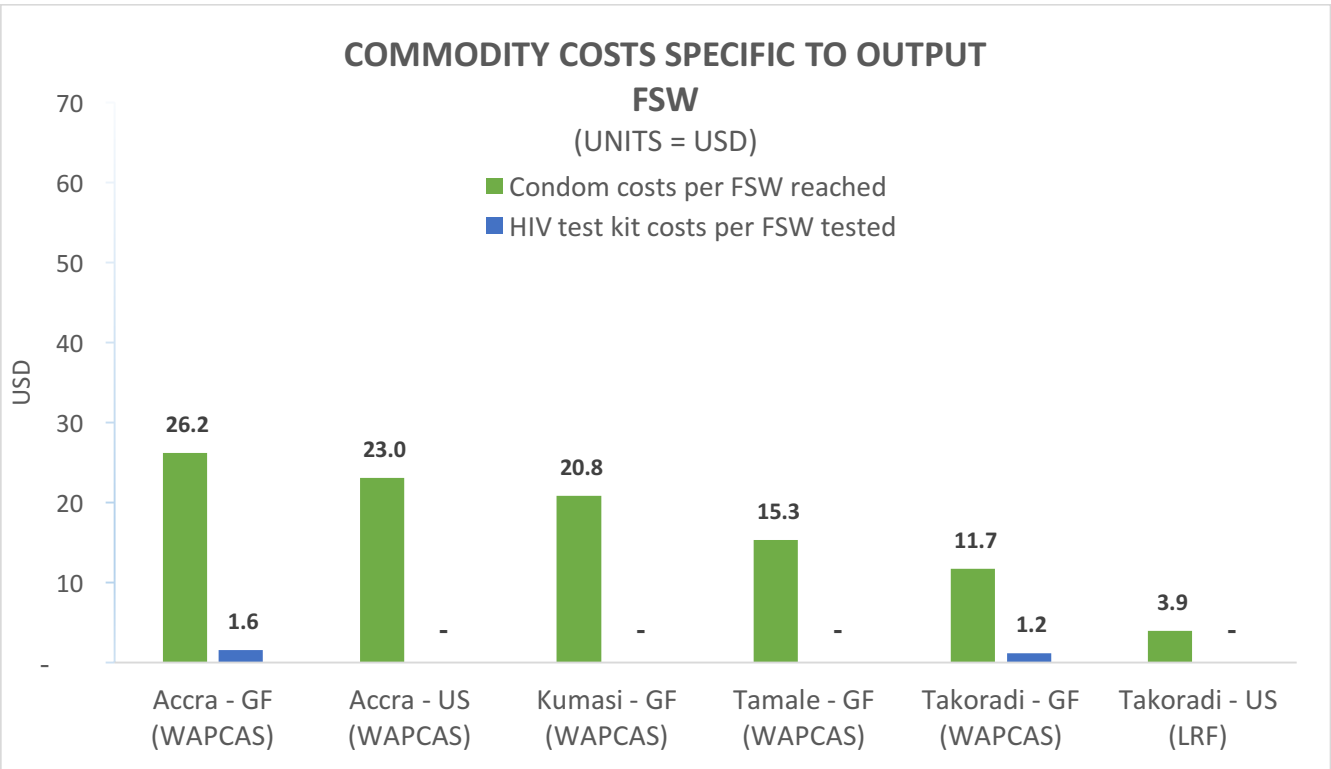


Figure 12. Total field cost per HIV-positive MSM identified

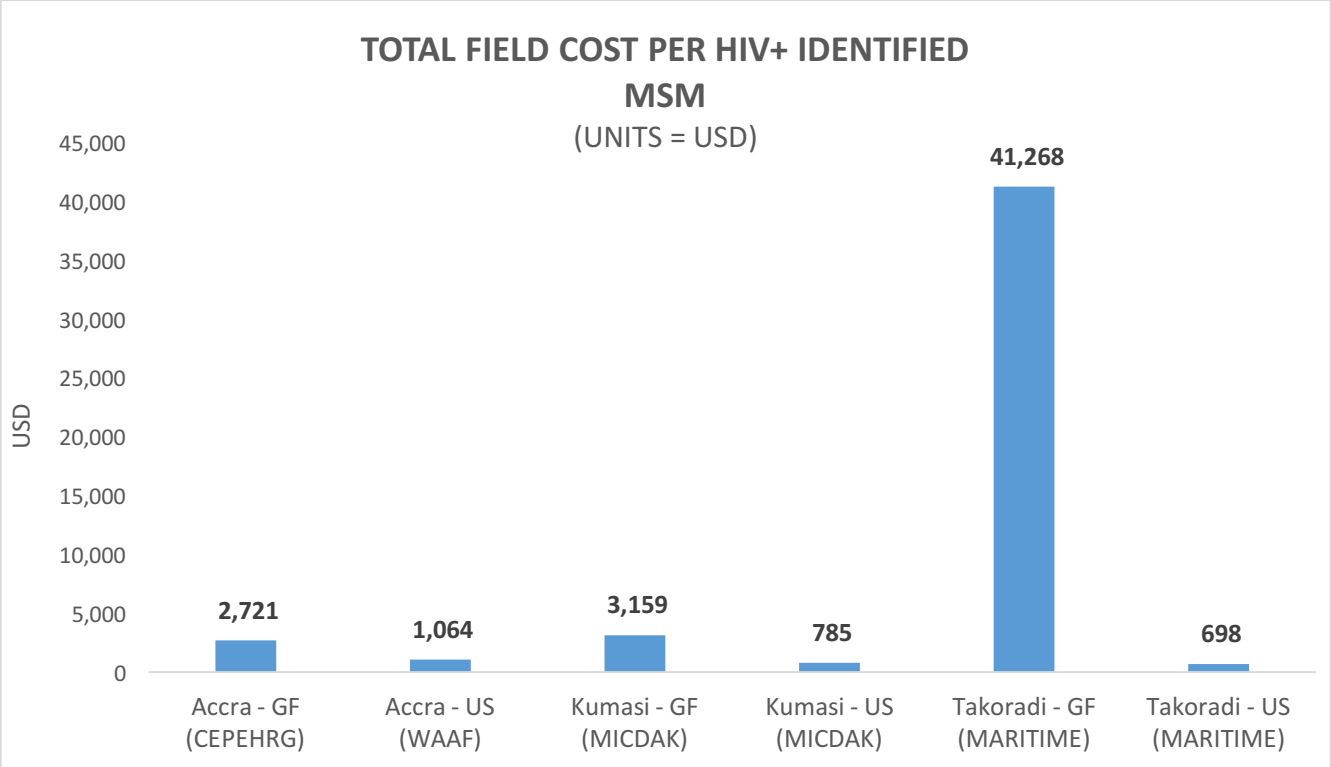
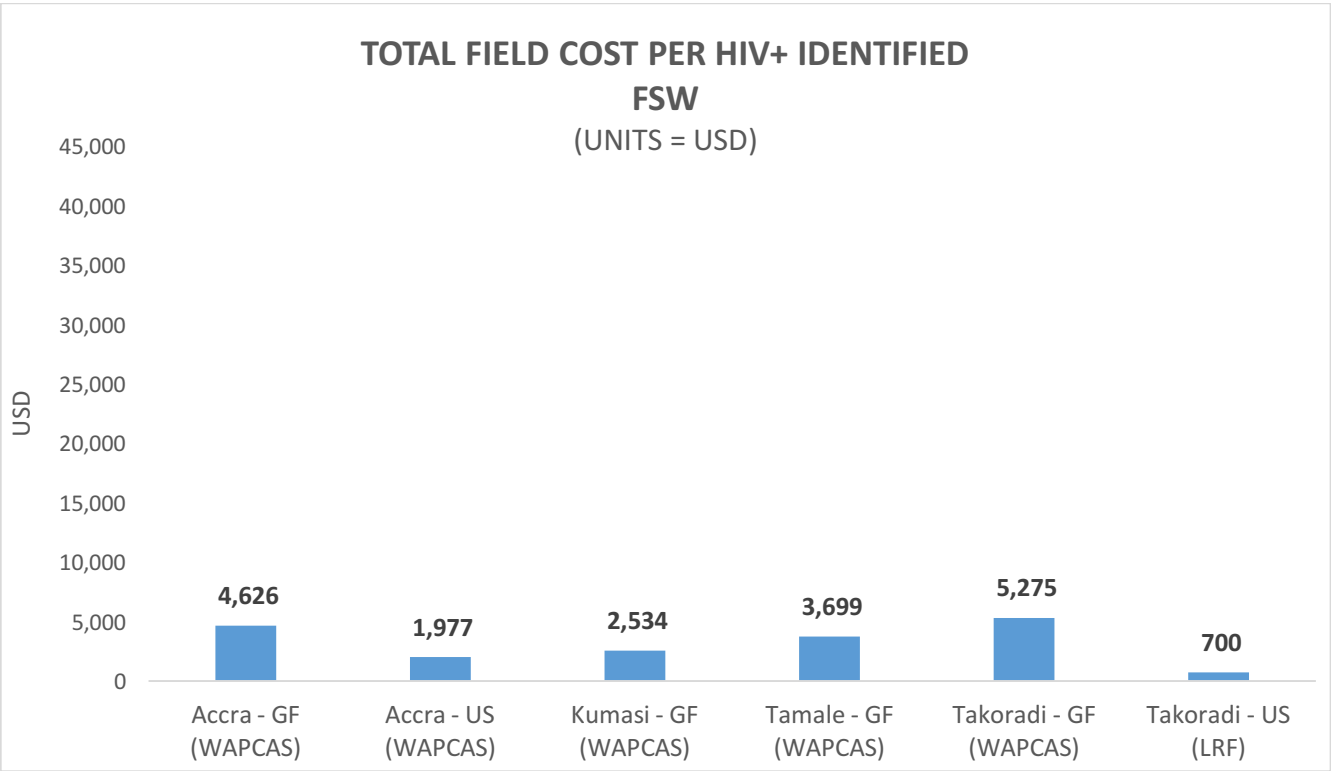


Figure 13. Total field cost per HIV-positive FSW identified



The sensitivity analysis on the more uncertain inputs to this analysis did not lead to meaningful changes in the findings (See Annex 5).

Wide ranging differences across IPs in both cost structure and unit costs relative to key indicators of reach, testing and identifying HIV+ KPs is the main finding of the cost analysis. The cause of these differences should be examined further as this assessment cannot determine the extent to which these differences may be due to differences in context, approach, management or procurement practices or other factors. However, looking into these differences further is likely to yield insight that will enable KP interventions in Ghana to have greater impact.

One consistent finding of the cost analysis is that USAID-funded IPs spend less per HIV-positive individual tested compared to GF-funded IPs within the same regions. We speculate on a number of potential reasons for this. First, the geographical distribution of the USAID and GF supported sites may contribute to differences in positivity or yield among those tested. The GF programme began several years before the USAID program, so relatively more HIV+ KPs in GF areas of operation may have already been reached previously. In addition, with respect to Takoradi IPs, the PEPFAR program works in the Sekondi-Takoradi metropolitan area, which has a large population where it is relatively easier to reach MSM. In contrast, GF operates in more traditional and less densely populated areas such as Ellembele, Huni Valley, Sefwi Wiawso and Wassa Amenfi. Initial identification of peer educators was a challenge because issues of stigma and discrimination. This may explain the small number of HIV-positive MSM identified by the GF-supported program in 2016.

Secondly, some of the USAID program areas are in areas of greater risk activity ("hot spots"). Third, historically the GF's New Funding Model in its initial phase focused on improving the number of KPs reached with prevention services and tested. This focus informed a number of strategies like "Love and Trust" in order to bring together large numbers of MSM for prevention and testing. The yield was generally low. In contrast, the PEPFAR program hinges on the principles of PEPFAR 3.0 and 90-90-90, which drives for efficiency in the identification of HIV positive clients and moved along the cascade toward viral load suppression. The availability of the dashboard for USAID supported partners tracking yield, linkages and viral suppression allows them to rapidly course correct. More recently, from the first quarter of 2017, GF-supported partners began focusing on yield, aligning the approaches of both programs. Fourth, there are differences in technical approach. For example, the use of index testing or sexual network testing appears to have improved testing yield among MSM. Use of strategies such as the ringleader approach may provide greater success at reaching more hidden or closeted MSM. The PEPFAR programme also uses an informal screening method were MSM with increased risk behaviors or reduced testing frequency are targeted for HIV testing, thus reducing the number of low-risk MSM who are tested. Provision of health services such as hypertension screening, breast self-examination, malaria screening, etc., in addition to HIV testing, may improve services uptake.

Similarly, in Takoradi, LRF targets the seater community and offer services. In addition to HIV testing, they teach them breast self-examination, check their blood pressure and malaria testing. They conduct outreach frequently, four to five times per week. The GF programs conduct outreach to both roamers and seaters, leveraging FSW leaders ("queen mothers") to reach out to FSWs in their communities. These differences in technical approach may allow LRF to reach more KPs.

The case of MICDAK (USAID) and MICDAK (GF), both targeting MSMs in Kumasi is informative. The difference in total costs of the two IPs is less than $1,000. However, unit costs across all indicators for

USAID are about three times lower than those of GF, most likely due to higher performance indicators reported by USAID (about three times more). Plausible reasons for this difference in performance include geographical distribution (as described above) and strategy. For instance, the USAID-supported program seems to be characterized by more highly motivated peer educators and an earlier historical focus on yield. Finally, the greater share of expenditure on program activities by the USAID-supported program in Takoradi may reflect a more intensive prevention program.

Limitations to cost evaluation

There are important limitations to the cost evaluation. First, the sites included in the costing are atypical of sites within Ghana: they are in the largest areas where programs have been present the longest. These sites provide insight about the largest programs, and are a useful point of comparison as in some cases USAID and GF-supported programs are in the same area, but these sites are probably not representative of the cost or unit cost elsewhere, limiting our ability to generalize the cost findings as well as other findings in this report. Second, our approach to annualizing Jan-Jun 2017 costs and services statistics for USAID IPs, by doubling them, may introduce bias because reported indicators are greatest at the beginning of each calendar year, as IPs attempt to reach known KPs again for the "first time" that year. We showed this clearly in Section D on indicators. Because reported indicators are greatest early in the year, this approach to annualizing is likely to overestimate the services statistics and thus underestimate unit costs for all USAID IPs.

F. Facilitating and inhibiting factors for the availability, accessibility and utility of intervention services and service delivery

Stigma and discrimination as a deterrent to utilization

The most consistent finding of this assessment, based on testimony of MSM and FSW, service providers, and stakeholders and findings reported by previous assessments, is the dampening effect of stigma on utilization on the full range HIV services. Stigma around HIV and fear of being associated with HIV limit the use of DICs and interactions with PEs by many MSM and FSWs. Stigma around HIV and MSM and FSW status often prevents KPs from presenting to health facilities for HIV testing, initiation of care, and retention in treatment, except where services are perceived to be KP friendly.

Where KP friendly services are in place, MSM and FSW seem to trust these services, attesting to the strength of this aspect of the program. At other facilities, many MSM and FSWs fear mistreatment and abuse at the hands of judgmental health providers and other patients. Some fear that service providers will not respect their confidentiality and will disclose their HIV results to the larger community. Lack of trust in confidentiality is also a barrier to interacting with PEs, as cases of unauthorized disclosure have been reported. It is telling of levels of stigma prevalent in the community that in this study, many KPs living with HIV refused to participate in focus groups together with other HIV-positive, KP peers, for fear of disclosure. Some MSM feel frustration that only seem to be approached about HIV, rather than other pertinent health and human rights issues.

In contexts of high levels of stigma, international guidance recommends that HIV service providers receive KP-friendly training, offer a broad range of services together with HIV services, and aim to make programs appear gender-balanced to avoid unwanted attention (UNFPA et al., 2015; WHO et al., 2013).

Barriers to availability

Even in districts where KP services are provided, three other main factors limit actual availability:

1. **Inadequate availability** of condoms, lubricants, HIV test kits, and ART medications were reported anecdotally by program managers and affect availability of prevention, testing and treatment to an unknown degree. While previous reports have noted supply chain problems, no estimate of shortages is available.
2. **Long travel distance or lack of transport** to health facilities was cited in testimony from MSM and FSW as a barrier to HIV testing, particularly in Western and Greater Accra, but no estimates are available.
3. **Adolescent MSM and FSW** under age 18 are not reached with KP services due to consent related issues and/or not considered a target for programming. Yet, testimony by adult KPs suggests adolescent MSM and FSW exist and under-18 FSW were observed during field visits to hotspots. International standards recommend making HIV prevention, testing and treatment available to adolescents (UNFPA et al., 2015; WHO et al., 2013) (See Text Box 1).

Text Box 1. International guidance on HTC for adolescent MSM

"Accessible and acceptable HTC services must be available to young men who have sex with men in all epidemic settings and provided in ways that do not put them at risk. Countries are encouraged to examine their current consent policies and consider revising them to reduce age-related barriers to access and uptake of HTC and to linkages to prevention, treatment and care following testing. Young people should be able to obtain HTC without parental or guardian consent or presence. HTC with linkages to prevention,
care and treatment is recommended for young people from key populations in all settings (generalized, low and concentrated epidemics). Young people should be counselled about the potential benefits and risks of disclosure of their HIV status and empowered and supported to determine when, how and to whom to disclose."

Source: UNFPA et al., 2015

Mobility as a factor in optimizing service locations for key populations

FSWs (roamers) are highly mobile and may move across different locations. Interviews with some implementing agencies at the national level indicated that within each region, there may be locations that are not reached. For example, Kasoa in the Central Region has a high number of sex workers and currently not supported by implementing partners.

Provision of services in specific location by partners is quite complex and is often an interplay of the population of MSM and FSW and history of HIV yield. The yield analysis in a location is a function of the prevalence and the technical strategy being implemented to identify to high risk individuals likely to be HIV-positive.

Alternative models of service delivery to improve retention in care and treatment

The assessment team highlight several approaches to improve retention of KP in care and treatment. In some treatment facilities, the Model of Hope concept is operational. The Model of Hope utilizes

volunteers who are HIV-positive and are on treatment to follow up clients. The nurses, case managers, Model of Hope volunteers follow up the patients through phones, sms reminders or home visits. This has been a successful model unfortunately that could be expanded in all health facilities, after further exploration of costs.

Another approach to improving retention is the development of 'differentiated models of care' for KP who respond well to treatment. Less frequent appointments is one form of "differentiated service delivery," which are adjustments in service delivery mechanisms, including where, when, and how services are delivered, in order to improve efficiency, reduce waiting times, improve retention, and generally address bottlenecks in the health system. In some HIV facilities visited by the assessment team, any patient (KP or non-KP) who respond well and adhere to treatment after a year or more have reduced frequency of follow-ups, e.g. every three months, primarily to pick up HIV medications. (This is occasionally affected by low stock levels, when providers prescribe fewer medications per visit as a form of rationing.)

There is no differentiated care specifically for key populations despite difficulties in accessing health services described in Sections 3.1 and 3.2. Interviews with MSM, FSW and health care providers show that differentiated care may help address stigma and discrimination, loss to follow up and retention . The KP's believe a form differentiated care for them may address some of the challenges that they face.

During the assessment field work, stakeholders interviewed indicated that the requirement to have an adherence monitor, as required by national ART guidelines, is a barrier to initiating HIV treatment in general, and especially among KP, largely due to confidentiality concerns. There is no requirement in international guidance on ART that individuals initiating HIV treatment have a treatment monitor.

Synthesis of findings and recommendations

A. Improving Availability, Access, and Utilization of Services

Ghana's current strategy for achieving 90-90-90 targets for MSM and FSW relies on local NGO implementers. Together, DICs, outreach and KP-friendly facilities provide a minimum package of services that includes BCC, provision of condoms and lubricants, STI screening and treatment, SGBV screening, HIV testing and HIV treatment. However, most of the testing and treatment services are referred out to providers who may or may not be sensitized or do not specialize in working with KP. This increases the likelihood that utilization will decrease and/or KP will have an unsatisfying service experience.

If GF and USAID funding is scaled back to support services in a smaller number of districts with larger numbers of KP, the cost effectiveness of establishing DIC which can offer a full range of services on a regular basis improves. Special efforts should be made to increase availability of HIV testing services routinely at DIC, which will allow for stronger linkage to care and treatment referrals. Feedback from beneficiaries gathered in this assessment suggested additional measures to further destigmatize HIV-related services offered by GF-supported programmes.

Recommendations

1. **Provide DICs services in districts serving at least 500 KP.** To further justify the cost of DIC, formal standards in terms of number utilizing services can be established to determine which facility based services should be offered on a 'full-time' basis vs. through more limited hours.
2. To de-stigmatize programs, DICs and PEs should **promote and offer a broader range of services**, including those recommended by international guidelines (UNFPA et al., 2015; WHO et al., 2013) (See Text Box 2). In addition, consider introducing other services that have anecdotally led to increased demand among FSWs at PEPFAR programs in Takoradi, including breast self-examination, blood pressure and malaria testing. If these cannot be provided on site, programs should offer referrals to KP-friendly providers.
3. **Improve trust in PEs by introducing a standardized a code of ethics and professional practice**, with regular training. Provide safe mechanisms for KPs to express concerns about PEs and for PEs to regularly rate their performance and challenges.
4. Develop a stronger referral network for KP in **neighborhoods where distance is a barrier** to accessing services. This includes prioritizing areas with significant numbers of KPs are present, and mechanisms to support service utilization, working with referral service providers to be KP-appropriate, as well as follow-up on referrals.

Text Box 2. Services to offer to de-stigmatize HIV programs

For FSW

- Pap smears for cervical cancer screening
- Cervical cancer vaccinations

For MSM

- Prostate cancer screening
- Anal cancer screening
- Psychosocial services
- Partner with women's health organizations to make the programs appear gender-balanced

For both

- Hypertension services and stress counseling

.Source: As recommended in UNFPA et al., 2015 and WHO et al. 2013

B. Addressing underserved KP populations/service needs

Plans by USAID and GF to scale back would reduce this to about one third of all FSW and potentially a similar fraction of MSM in the country. This scale back is the largest limitation to Ghana's achievement of 90-90-90 targets for KP. Recommendations in this section address promising areas for expanded service coverage, as well as how to further meet important needs of KP in already selected service areas.

Recommendations:

1. **Expand KP services to underserved districts.** As additional resources become available to expand KP programming, districts should be prioritized according to high estimated numbers of KPs and/or high prevention reach achieved by previous implementing partners.
2. Help to **register with the National Health Insurance System** to reduce the cost of services to KPs, including STI medications and diagnostics.
3. Develop a strategy **to provide services to adolescent MSM and FSWs** under age 18 without requiring parental consent. Design tailored education and testing interventions for adolescent MSM and FSWs. Consider piloting these services first in districts with the largest numbers of KPs and then expanding elsewhere.

C. Sharpening case finding and targeting prevention to highest-risk subgroups

In a context of limited resources, focus on higher-risk sub groups of KP is important for programme efficiency. Services must focus both geographically as well as on segments of KP who are more likely to be HIV-positive and/or more vulnerable to infection. Service providers also have opportunities to utilize new service delivery strategies to access under-served, high risk populations, especially those who are not venue based.

Recommendations:

1. Determine the characteristics and profiles of higher-risk MSM and FSW based on analysis of IBBS data. Further**, identify the types of MSM and FSW who are at higher risk, yet poorly reached** by current venue-based approaches, then develop strategies to increase demand for testing in these subgroups (See Annex 3 for specific analysis recommendations).
2. **Formally pilot test and scale-up sexual partner testing and social network testing** approaches. As starting points, develop lessons learned to improve Ringleader, Tomorrow Today, Man in the Mirror, and recent experience with partner testing in Takoradi for MSM. Pilot-testing in districts where estimated prevalence is high but testing yield is low
3. As part of hotspot testing, introduce procedures to **regularly review data on yield to prioritize testing at higher-yield hotspots**. GF-implementing partners can adopt the practice of using data dashboards to focus staff on testing yield and linkage to treatment.
4. **Develop outreach and prevention tailored to male sex workers**, building on experience from USAID/FHI-360's past programs.

D. Supporting linkage to care and retention

Field experience from a variety of KP service providers have identified a number of promising practices for improving linkages to care and supporting retention among KP clients. Many of these approaches require adjustment and further piloting to develop feasible and effective service delivery strategies which can be scaled up and routinely adopted as part of the standard of care for KP.

Recommendations:

1. **Active follow-up by phone and physical escort to services** (when agreed to by the client) should be made standard procedure at all KP services. With the clients' permission, their phone number should be verified at the time of referral.
2. **A tracking system should be implemented to track all referrals to testing and HIV care** and treatment. Staff should follow-up with referrals that have not been completed weekly, unless the client requests otherwise. This system should allow anonymous methods (e.g. phone

numbers unlinked to names, unidentified referral forms, use of code names, etc.) for tracking referrals, based on the preference of individual clients.

3. Update treatment guidelines and clearly communicate to all HIV treatment providers that **absence of a treatment monitor should not delay or deny treatment**.
4. Explore developing a **KP-specific treatment support model**, similar to Models of Hope, wherein KPs positively living with HIV would support other KPs to enhance retention. Consider undertaking a rapid formative assessment to identify issues around acceptability, confidentiality, feasibility and sustainability. A **differentiated model of care** for KP may include allowing patients who are clinically well and stable to pick up ART medications at NGOs or DICs and to visit health facilities for clinical monitoring every six months.
5. Develop a process to **allow KPs to rate facilities**, such as exit interviews/surveys, so that implementing NGOs and health facilities know how they are performing with respect to KPs and can take measures to improve.

E. Tracking the care continuum

A number of measures can be taken to strengthen tracking of the care continuum. These measures include ways managers can use data to identify sites which are underperforming, as well as systems to gather more reliable data for assessing progress.

Recommendations:

1. The CCM should **develop district-level targets** for the 4 key indicators of the GF performance framework, drawing on the PSME and program data. Indicator data should be summarized by district and reviewed at the district and national level to identify strengths and challenges regularly (e.g., quarterly).
2. GAC should develop a **comprehensive view of KP programme performance** that includes both USAID and GF supported districts.
3. Future **size estimation studies should account for MSM who do not frequent venues** by using methods such as multipliers linked to RDS surveys (i.e., IBBS) and capture-recapture of MSM social network applications. The proportion of MSM who do not frequent venues should be determined using the IBBS.
4. A rapid qualitative assessment should be carried out to **gauge how common it is for FSW to work exclusively by Internet and phone**, rather than at venues and street locations.
5. **A UIC consistent across NGO providers and health facilities should be formally piloted, vetted and implemented** as soon as possible. Pilot testing should assess the feasibility, acceptability, and reliability of the UIC among the same individuals over time, at different stages along the continuum, among FSW and MSM in different regions and contexts.
6. Programmes should **use dashboards and similar data analytic tools to regularly review losses along the cascade** from prevention, testing, enrolment into treatment, retention and viral load suppression, and offer corrective actions to improve program performance.
7. To provide representative estimates that are not subject to the limitations of program data, **future IBBS should also track completion rates along the cascade** by including questions on HIV testing, enrolling in care, initiating treatment, and retention in treatment.

F. Opportunities for cost efficiency

The cost evaluation identified wide ranging variation in the share of total cost accounted for by personnel, program activities and commodities, as well as with respect to unit costs to reach and test KPs, both across and within the locations examined. Large differences across IPs with respect to the relationship between costs of basic commodities (condoms and test kits) and numbers of KPs reached and tested were also identified, suggesting differences in how commodities are managed. While some of these differences are likely due to differences in the intensity of programming, technical approach and geographic context, overall differences could not be easily explained by reported indicators. Investigating these differences further is likely to help identify cost efficiencies.

Local level targets should generally be based on unit costs and budgets to deliver the standard package of service. Cost analysis should also identify a minimum number expected to reach at the district level. And subsequently, interim sub-national targets based on historical performance, programme experience and new data could have been developed during the project period to aid in programme management.

References

Fleming D, Wasserheit J (1999) From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. British Medical Journal 75: 3.

Gold M, Siegel J, Russell L & Weinstein M (1996) Cost Effectiveness in Health and Medicine. Oxford University Press, New York.

Severens, J. L. and Milne, R. J. (2004), Discounting Health Outcomes in Economic Evaluation: The Ongoing Debate. Value in Health, 7: 397–401. doi:10.1111/j.1524-4733.2004.74002.x

United Nations Population Fund (UNFPA), Global Forum on MSM & HIV, United Nations Development Programme, World Health Organization, United States Agency for International Development, World Bank. Implementing comprehensive HIV and STI programmes with men who have sex with men: practical guidance for collaborative interventions. New York (NY): United Nations Population Fund; 2015.

World Health Organization (WHO), Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations, 2014.

World Health Organization (WHO), United Nations Population Fund, Joint United Nations Programme on HIV/AIDS, Global Network of Sex Work Projects, The World Bank. Implementing comprehensive HIV/STI programmes with sex workers: practical approaches from collaborative interventions. Geneva, World Health Organization, 2013.

Annexes

Annex 1. Detailed service availability for FSW and MSM by GF-supported district

Notes: IN = service is provided on site at DIC; OUT = service is provided during outreach; REF = program provides referrals for this service; NA = service not available in district.
If a district has a DIC, all services are also available through the DIC.

A. Service availability for GF FSW sites

Region	District	# of DICs	# of PEs	# HIV testing sites	# HIV C&T sites	HIV testing	STI screen	STI treat	SGBV screen
Ashanti	Kumasi Metro	2	50	2	0	OUT,REF	REF	REF	IN
	Ejura Sekyedumasi	1	10	1	0	OUT,REF	REF	REF	IN
	Ashanti Akim South	0	2	0	0	OUT	REF	REF	REF
	Ejisu Juaben Municipal	0	4	0	0	OUT	REF	REF	REF
	Asokore Mampong Mun	1	10	1	0	OUT,REF	REF	REF	IN
	Adansi North	0	5	0	0	OUT,REF	REF	REF	REF
	Kwabre East	0	5	0	0	OUT	REF	REF	REF
	Bekwai Municipal	1	6	1	0	OUT,REF	REF	REF	IN
	Atwima Nwabiegya	0	2	0	0	OUT,REF	REF	REF	REF
Upper West	Wa Muni	0	5	0	0	OUT,REF	REF	REF	REF
Upper East	Bolga Muni	1	10	1	0	OUT,REF	REF	IN	IN
	Kassena Nakana	0	4	0	0	OUT,REF	REF	REF	REF
Northern	Tamale Metro	1	23	1	0	OUT,REF	REF	IN	IN
	Bole	0	3	0	0	OUT,REF	REF	REF	REF
Brong Ahafo	Techiman Muni	1	20	1	0	OUT,REF	REF	IN	IN
	Nkoranza South	0	4	0	0	OUT,REF	REF	REF	REF
	Kintampo North	1	11	1	0	OUT,REF	REF	IN	IN
	Pru	1	9	1	0	OUT,REF	REF	IN	IN
	Atebubu Amantin	0	1	0	0	OUT,REF	REF	REF	REF
	Sunyani Muni	1	27	1	0	OUT,REF	REF	IN	IN
	Dormaa Muni	1	11	1	0	OUT,REF	REF	IN	IN
Central	Cape Coast Muni	1	22	1	0	OUT,REF	REF	REF	IN
	Komenda, Edina	0	5	0	0	OUT,REF	REF	REF	REF
	Agona Munici	1	22	1	0	OUT,REF	REF	REF	IN
	Mfantseman Muni	1	12	1	0	OUT,REF	REF	REF	IN
	Assin Central	0	7	0	0	OUT,REF	REF	REF	REF
Eastern	Kwahu West	0	7	0	0	OUT,REF	REF	REF	REF
	Birim Central	1	12	1	0	OUT,REF	REF	IN	IN
	West Akim	1	15	1	0	OUT,REF	REF	IN	IN
	Suhum Muni	0	2	0	0	OUT,REF	REF	REF	REF
	Koforidua Muni	1	10	1	0	OUT,REF	REF	IN	IN
	Lower Manya Krobo	1	10	1	0	OUT,REF	REF	IN	IN
	Upper Manya Krobo	0	5	0	0	OUT,REF	REF	REF	REF
	Yilo Krobo	0	8	0	0	OUT,REF	REF	REF	REF
	Akuapim North	0	7	0	0	OUT,REF	REF	REF	REF

	Asuogyaman	1	6	1	0	OUT,REF	REF	IN	IN
	Fanteakwa	0	10	0	0	OUT,REF	REF	REF	REF
	West Akim Municipal	1	9	1	0	OUT,REF	REF	IN	IN
Greater Accra	Accra Metro	1	36	1	0	OUT,REF	REF	REF	REF
	Accra MA	1	14	1	0	OUT,REF	REF	REF	REF
	Ledzokuku-Krowor M.A.	0	12	0	0	OUT,REF	REF	REF	REF
	GA East	0	1	0	0	OUT,REF	REF	REF	REF
	La Nkwantanang	0	9	0	0	OUT,REF	REF	REF	REF
	LA Dade-Kotopon Municipal	0	4	0	0	OUT,REF	REF	REF	REF
Volta	Ketu South	0	10	0	0	OUT,REF	REF	REF	REF
	Kadjebi	0	10	0	0	OUT,REF	REF	REF	REF
	Ho muni	1	10	1	0	OUT,REF	REF	REF	REF
Western	Sekondi-Takoradi	1	15	1	0	OUT,REF	REF	REF	REF

B. Service availability for GF MSM sites

Region	District	# of DICs	# of PEs	# HIV testing site	# HIV C& T sites	HIV testing	STI screen	STI Treat	SGBV screen
Ashanti	Kumasi Metro	1	12	1	0	OUT, REF	REF	IN	IN
	Ejisu Juabeng	0	1	0	0	OUT, REF	REF	REF	REF
	Twedie	0	4	0	0	OUT, REF	REF	REF	REF
Brong Ahafo	Sunyani Muni	1	3	1	0	OUT, REF	REF	IN	IN
	Berekum Muni	0	1	0	0	OUT, REF	REF	REF	REF
Central	Cape Coast Muni	1	5	1	0	OUT, REF	REF	IN	IN
	Komenda, Edina	0	2	0	0	OUT, REF	REF	REF	REF
	Agona Munici	0	2	0	0	OUT, REF	REF	REF	REF
	Mfantseman Muni	0	2	0	0	OUT, REF	REF	REF	REF
	Assin Central	0	1	0	0	OUT, REF	REF	REF	REF
	Efutu Muni	1	3	1	0	OUT, REF	REF	IN	IN
	Upper Denkyira	0	2	0	0	OUT, REF	REF	REF	REF
	Gomoa West	0	1	0	0	OUT, REF	REF	REF	REF
Eastern	Birim Central	0	2	0	0	OUT,REF	REF	REF	REF
	West Akim	0	1	0	0	OUT,REF	REF	REF	REF
	Nkawkaw	0	1	0	0	OUT,REF	REF	REF	REF
	Suhum Muni	0	1	0	0	OUT,REF	REF	REF	REF
	Koforidua Muni	0	2	0	0	OUT,REF	REF	REF	REF
Greater Accra	Accra Metro	1	25	1	0	OUT, REF	REF	REF	REF
	Ningo Prampram	0	3	0	0	OUT,REF	REF	REF	REF
	Ashaiman Metro	0	4	0	0	OUT,REF	REF	REF	REF
	Tema Metro	0	2	0	0	OUT,REF	REF	REF	REF
	Ledzokuku Krow	0	1	0	0	OUT,REF	REF	REF	REF
	Ga Central	0	1	0	0	OUT,REF	REF	REF	REF

	Ga West	0	1	0	0	OUT,REF	REF	REF	REF
	Ga South	0	2	0	0	OUT,REF	REF	REF	REF
	Ga East	0	1	0	0	OUT,REF	REF	REF	REF
	Dangbe East	0	1	0	0	OUT,REF	REF	REF	REF
	Kpone Katamanso	0	1	0	0	OUT,REF	REF	REF	REF
	La Dadekotopong	0	4	0	0	OUT,REF	REF	REF	REF
	La Nkwantanang	0	1	0	0	OUT,REF	REF	REF	REF
Volta	Ketu South	0	1	0	0	OUT,REF	REF	REF	REF
	North Tongu	0	1	0	0	OUT,REF	REF	REF	REF
	Ho muni	1	2	1	0	OUT, REF	REF	REF	REF
	Hohoe Muni	0	1	0	0	OUT,REF	REF	REF	REF
Western	Wassa East	0	2	0	0	OUT,REF	REF	REF	REF
	Mpohor	0	1	0	0	OUT,REF	REF	REF	REF
	Sefwi Wiawso	0	1	0	0	OUT,REF	REF	REF	REF
	Ellembele	0	1	0	0	OUT,REF	REF	REF	REF
	Tarkwa Muni	0	2	0	0	OUT,REF	REF	REF	REF

C. Service availability in USAID FSW sites

Region	District	# of DICs	# of PEs	# HIV testing site	# HIV C& T sites	HIV testing	STI screen	STI Treat	SGBV screen
Ashanti	Kumasi Metro	0	14	1	1	REF	REF	REF	OUT
Brong Ahafo	Techiman	0	6	2	2	REF	REF	REF	OUT
Greater Accra	Accra Metro	0	18	2	2	REF	REF	REF	OUT
	Ga West	0	8	1	1	REF	REF	REF	OUT
	Tema Metro	1	16	2	2	REF	REF	REF	OUT
Western	Jomoro	0	4	2	1	OUT,REF	REF	REF	OUT
	Sekondi Takoradi	1	8	2	2	OUT,REF	OUT	REF	OUT

D. Service availability in USAID MSM sites

Region	District	# of DICs	# of PEs	# HIV testing site	# HIV C& T sites	HIV testing	STI screen	STI Treat	SGBV screen
Ashanti	Bekwai Munici	1	6	1	1	OUT,REF	OUT,REF	REF	IN
	Ejura Sekyedumase	1	5	2	1	OUT,REF	OUT,REF	REF	IN
	Kumasi Metro	1	17	10	4	OUT,REF	OUT,REF	REF,DIC	IN
Brong Ahafo	Techiman Muni	0	4	1	1	REF	REF	NA	OUT
	Sunyani Muni	0	6	1	1	REF	REF	NA	OUT

Greater Accra	Accra Metro	0	6	3	3	OUT,REF	OUT,REF	OUT,REF	REF
Eastern	New Juabeng	0	7	2	2	OUT, REF	OUT	OUT, REF	REF
Western	Jomoro	0	4	3	2	REF	REF	NA	OUT
	Sekondi Takoradi	1	13	2	2	REF	REF	IN	OUT
	Shama	0	3	1	1	REF	REF	NA	OUT

Annex 2. District Population Size vs. Presence of programming for FSW

	>1000 FSW	500-1000 FSW	300-500 FSW	<300 FSW
Districts with services	**Accra Metro** Ga East Cape Coast Muni Ga East **Ga West,** **Kumasi Metro** **Sekondi-Takoradi** **Sunyani Muni** [7]	Asokore Mampong, Mfantseman Muni, La Nkwantanang, New Juabeng, **Obuasi,** Tamale Metro, **Tema Metro,** [7]	Agona West Muni, Akuapim North, **Ashaiman Muni,** Assin North Muni, Bolgatanga Muni, Dormaa Muni, Ejisu-Juaben Muni, Fanteakwa, Komenda-Edina Eguafo Kpone-Katamanso, **La Dadekotopon,** Ho Muni, Tarkwa-Nsuaem Yilo Krobo Muni [16]	Adansi North, Asuogyaman, Atebubu-Amantin Atwinma Nwabiagya, **Bekwai Muni,** Berekum Dormaa Muni Ejura-Sekyedumase, Ketu South Jomoro Kwabre East, Kwahu-WestKintampo Muni, Nkoranza South Muni, **Prestea Huni Valley** PruBirim Central Muni, **Shama** Suhum Kraboa-Coaltar, Techiman Muni, Upper Manya Krobo, Wa Muni West Akim Muni, [25]
Districts without services	Ashanti: Offinso, GA: Ga South [2]	Brong Ahafo: Asutifi South, Wenchi, Sunyani West, Jaman South GA: Ga Central [5]	Ashanti: Offinso North, Amansie West, Afigya Kwabre, Central: Assin North Muni, Gomoa West, Eastern: Yilo Krobo, GA: Adenta Muni, Northern: Kpandai, Sagnerigu Muni, Upper East: Garu Tempane, Volta: Hohoe, Keta Muni, Western: Sefwi Wiawso [13]	[remaining 141 districts]

Notes: Number of districts in each cell are shown in brackets [ ]. The districts where services will be continued for FSW (effective Oct 1, 2017) are shown in bold font (Districts identified were based on information from Silas Quaye (CDC)).

Annex 3. Recommended analyses of IBBS to improve KP services for MSM & FSW

Key questions emerging from the assessment can be addressed by analysis of IBBS data, including the GSM I and II, and FSW IBBS:

1. To what extent is the program likely to be reaching younger and lower income earning MSM?
2. What is the potential of social networking approaches to reach high-risk MSM?
3. What is the potential of approaches that use web/apps to reach high-risk MSM?
4. How do MSM reachable through these different strategies differ in terms of risk (HIV prevalence, risk behaviors, recent STI) and in terms of their demographic profiles (to help fine-tune messaging and targeting)?

The subsections below outline how the IBBS data can be used to address each of these questions.

To improve targeting of KP programs

1. Estimate the proportion of MSM who:
    a. Frequent hotspots ("venue-based")
    b. Do not frequent hotspots but use web/apps to meet MSM
    c. Do not frequent hotspots or use web/apps (most hidden subgroup)

2. To fine tune outreach strategies, developing profiles of the above three groups using simple proportions or factor analysis, in terms of:
    a. age
    b. education
    c. income
    d. marital status
    e. religion
    f. ethnicity
    g. drug use

3. Compare HIV prevalence of each subgroup: Is there indication of high risk in all groups? Which is likely to lead to highest positivity or "yield"

To assess the potential of social networking interventions

1. Summarize personal network size: do MSM tend to know many other MSM?
2. Estimate homophily by HIV status: are HIV+ MSM likely to lead to other HIV+ MSM?
3. Estimate homophily by age, sex work, drug use to determine how likely high-risk MSM are likely to lead to other high-risk MSM
4. Determine the average age of MSM reached through PEs and outreach at hotspots. How does it compare to the average age of MSM estimated by the IBBS? (may require reviewing age data from NGO registers)

To assess and strengthen size estimates used for target-setting

1. Develop a new size estimate for MSM using the successive sampling (SS) method (a method that relies only on RDS data as in the IBBS). How does this compare to the PMSEs?

2. Using these size estimates and the proportions of each subgroup estimated in point #1, determine the number of MSM who:
    a. are reachable at venues
    b. are reachable only through web apps
    c. are reachable only through social networking

3. How do GAC's current targets for MSM compare to these size estimates? What might new targets be to include MSM potentially reachable through these different strategies?

Annex 4. Costing analysis tables

Table 8. Cost of MSM interventions, 2017 USD

			Personnel		Program		Commodities		Capital		
Location	**Funder**	**Implementer**	**Cost**	**%**	**Cost**	**%**	**Cost**	**%**	**Cost**	**%**	**Total cost (without HQ)**
Accra	GF	CEPEHRG	109,496	48%	64,046	28%	11,164	5%	43,832	19%	228,538
Accra	USAID	WAAF	59,628	52%	50,522	44%	1,369	1%	3,368	3%	114,887
Kumasi	GF	MICDAK	50,549	42%	61,952	52%	2,367	2%	5,163	4%	120,032
Kumasi	USAID	MICDAK	71,391	52%	58,714	42%	3,887	3%	4,168	3%	138,160
Takoradi	GF	MARITIME	65,207	53%	47,359	38%	4,098	3%	7,140	6%	123,804
Takoradi	USAID	MARITIME	50,272	74%	9,521	14%	3,803	6%	4,776	7%	68,371
		Average MSM	67,757		48,686		4,448		11,408		132,299

Notes: USAID costs are from Jan-Jun 2017 annualized to Jan-Dec 2017 by multiplying by 2 and converted to 2017 USD using the 2017 exchange rate. GF costs are actual costs from Jan-Dec 2016 converted to 2017 GHC using a 2016-2017 inflation factor, and converted to 2017 USD using the 2017 exchange rate.

Table 9. Cost of FSW interventions, 2017 USD

			Personnel		Program		Commodities		Capital		
Location	**Funder**	**Implementer**	**Cost**	**%**	**Cost**	**%**	**Cost**	**%**	**Cost**	**%**	**Total cost (without HQ)**
Accra	GF	WAPCAS	80,252	58%	13,751	10%	40,377	29%	4,398	3%	138,779
Accra	USAID	WAPCAS	26,697	32%	1,761	2%	47,437	57%	7,143	9%	83,037
Kumasi	GF	WAPCAS	94,335	59%	10,293	6%	49,569	31%	5,459	3%	159,656
Takoradi	GF	WAPCAS	30,433	64%	2,523	5%	10,646	22%	3,873	8%	47,474
Takoradi	USAID	LRF	35,842	41%	33,748	38%	8,395	10%	10,244	12%	88,230
Tamale	GF	WAPCAS	38,964	66%	3,196	5%	12,439	21%	4,581	8%	59,180
		Average FSW	51,087		10,879		28,144		5,950		96,059

Notes: USAID costs are from Jan-Jun 2017 annualized to Jan-Dec 2017 by multiplying by 2 and converted to 2017 USD using the 2017 exchange rate. GF costs are actual costs from Jan-Dec 2016 converted to 2017 GHC using a 2016-2017 inflation factor, and converted to 2017 USD using the 2017 exchange rate.

Table 10. Service statistics for MSM interventions

Location	Funder	Implementer	MSM reached	MSM tested	HIV+ MSM identified
Accra	GF	CEPEHRG	3,021	1,688	84
Accra	USAID	WAAF	1,092	632	108
Kumasi	GF	MICDAK	2,168	1,126	38
Kumasi	USAID	MICDAK	3,784	2,718	176
Takoradi	GF	MARITIME	579	258	3
Takoradi	USAID	MARITIME	3,436	3,532	98
		Average MSM	2,347	1,659	85

Notes: GF figures are from year 2016. USAID figures are from Jan-Jun 2017 annualized by multiplying by 2.

Table 11. Service statistics for FSW interventions

Location	Funder	Implementer	FSW reached	FSW tested	HIV+ FSW identified
Accra	GF	WAPCAS	1,425	1,829	30
Accra	USAID	WAPCAS	2,056	1,360	42
Kumasi	GF	WAPCAS	2,351	3,590	63
Takoradi	GF	WAPCAS	853	487	9
Takoradi	USAID	LRF	2,006	1,990	126
Tamale	GF	WAPCAS	796	1,628	16
		Average FSW	1,581	1,814	48

Notes: GF figures are from year 2016. USAID figures are from Jan-Jun 2017 annualized by multiplying by 2.

Table 12. Service statistics for USAID as reported during Jan-Jun 2017 without annualization adjustment

Location	Funder	Implementer	KP reached	KP tested	HIV+ KP identified
FSW					
Accra	USAID	WAPCAS	1,028	680	21
Takoradi	USAID	LRF	1,003	995	63
MSM					
Accra	USAID	WAAF	546	316	54
Kumasi	USAID	MICDAK	1,892	1,359	88
Takoradi	USAID	MARITIME	1,718	1,766	49

Table 13. Cost per service statistic for MSM interventions (USD)

Location	Funder	Implementer	MSM reached	MSM tested	HIV+ MSM identified
Accra	GF	CEPEHRG	76	135	2,721
Accra	USAID	WAAF	105	182	1,064
Kumasi	GF	MICDAK	55	107	3,159
Kumasi	USAID	MICDAK	37	51	785
Takoradi	GF	MARITIME	214	480	41,268
Takoradi	USAID	MARITIME	20	19	698
		Average MSM	84	162	8,282

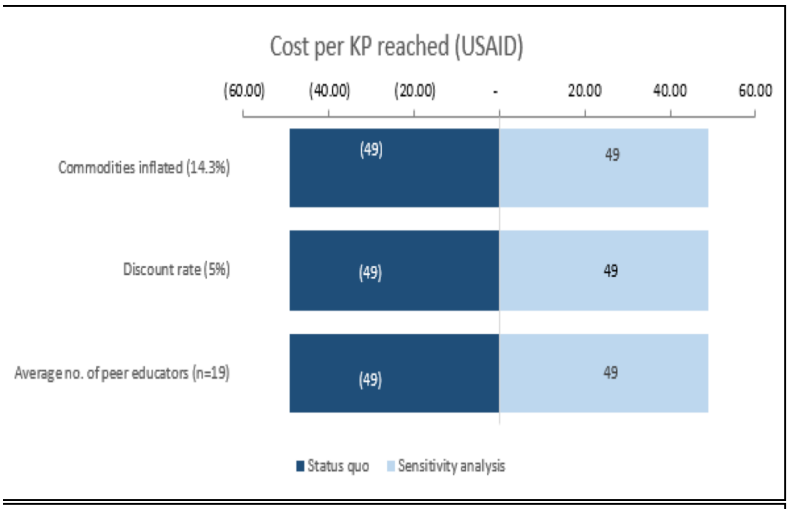
Notes: GF figures are from year 2016. USAID figures are from Jan-Jun 2017 annualized by multiplying by 2.

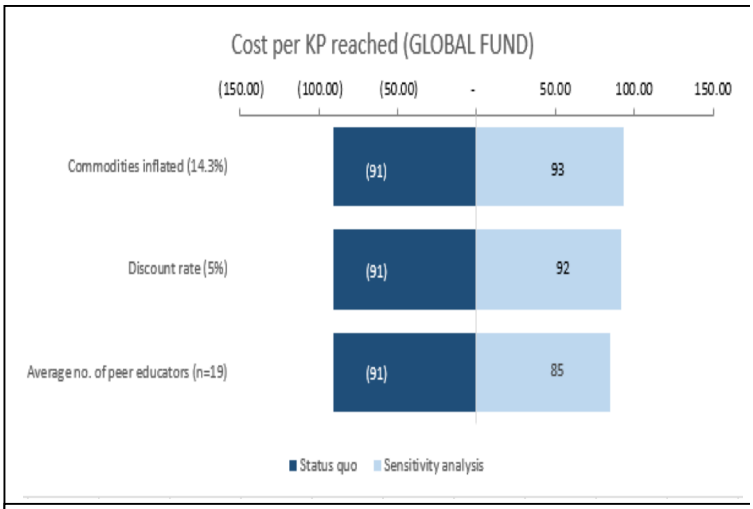
Table 14. Cost per service statistic for FSW interventions (USD)

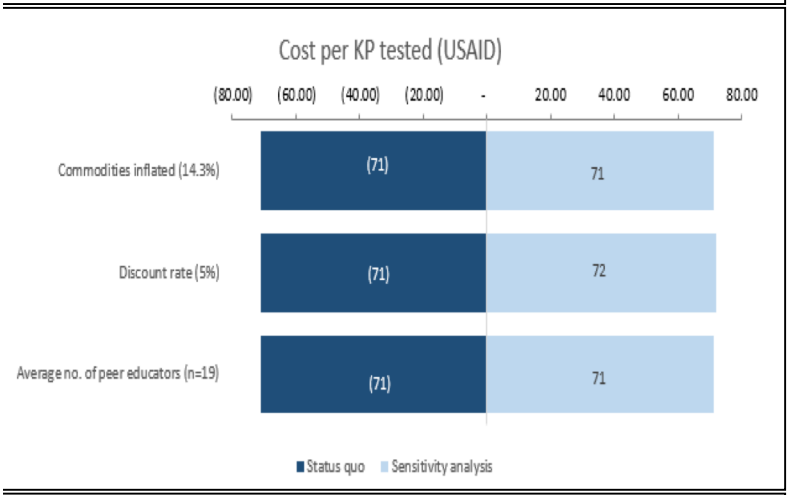
Location	Funder	Implementer	FSW reached	FSW tested	HIV+ FSW identified
Accra	GF	WAPCAS	97	76	4,626
Accra	USAID	WAPCAS	40	61	1,977
Kumasi	GF	WAPCAS	68	44	2,534
Takoradi	GF	WAPCAS	56	97	5,275
Takoradi	USAID	LRF	44	44	700
Tamale	GF	WAPCAS	74	36	3,699
		Average FSW	63	60	3,135

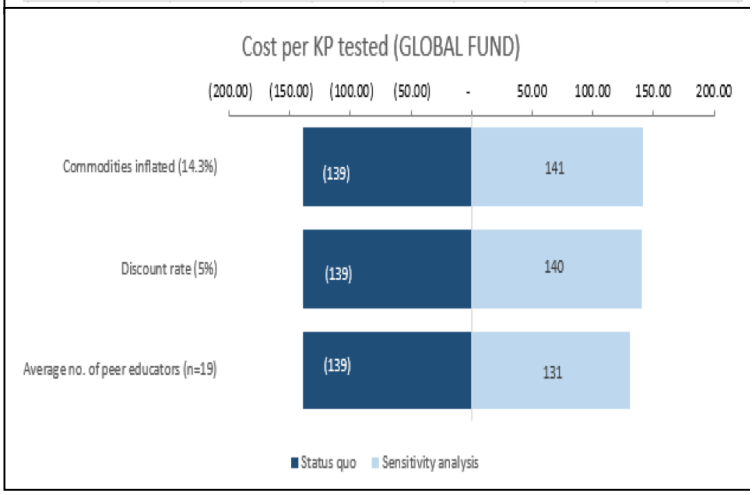
Notes: GF figures are from year 2016. USAID figures are from Jan-Jun 2017 annualized by multiplying by 2.

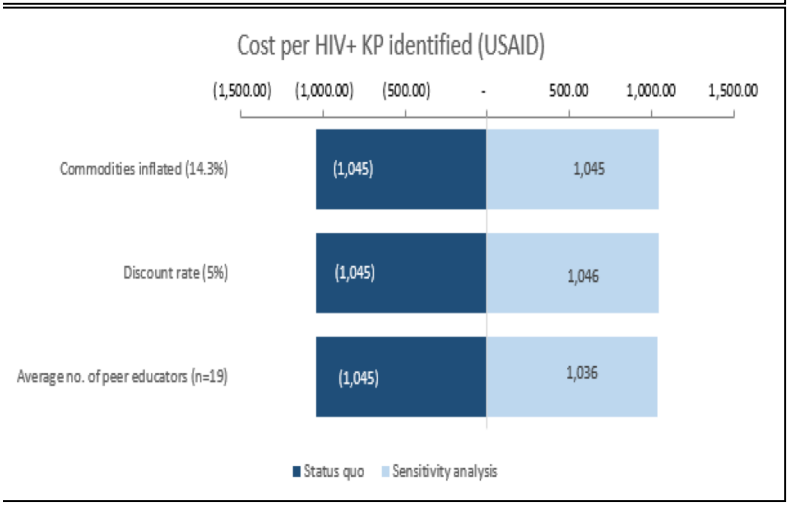
Annex 5. Costing sensitivity analysis

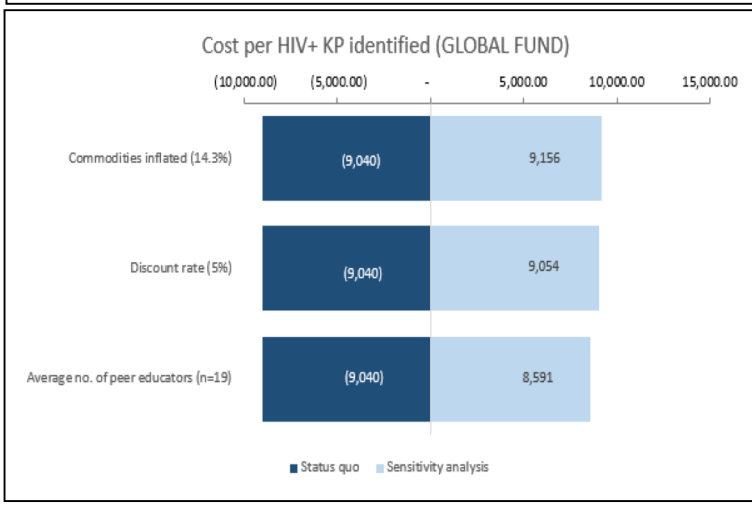












Annex 6. Costing data collection forms

INSTRUCTION: Please all activities undertaken under the KP intervention under Main activities. Then, list each resource (e.g. treatment medicines, condoms, test kits, lubricants, other medical and non-medical supplies, equipment, rental of space, supervision, etc.) used for each of the activities under Column C. Each resource would be listed on separate row. Then, provide the expenditure on each resource for the year 2016.

Region: Organization:

NOTE: Does this organization work solely on the KP Intervention? YES [ ] NO [ ]

Table 1: Cost of items used under activities

S/N	Main Activities	Programs under main activities	Resource/Item	Quantity Distributed	Incurred expenditure	Curr. Of expenditure	Notes
1	**Conduct outreach to KP communities and hotspots**	**HIV Counselling**	*Male Condoms*				
			Female Condoms				
			Test kits				
			Lubricants				
			Others:				
			Activity costs:				
			Supervision				

S/N	Main Activities	Programs under main activities	Resource/Item	Quantity Distributed	Incurred expenditure	Curr. Of expenditure	Notes
			Vehicle operation & maintenance				
			Training				
			Office supplies				
			Rental of space				
			Others:				
		HIV testing	*Male Condoms*				
			Female Condoms				
			Test kits				
			Lubricants				
			Others:				
			Activity costs:				
			Supervision				
			Vehicle operation & maintenance				

S/N	Main Activities	Programs under main activities	Resource/Item	Quantity Distributed	Incurred expenditure	Curr. Of expenditure	Notes
			Training				
			Office supplies				
			Rental of space				
			Others:				
2	**Linkage to care (collaboration with ART nurses tp enroll KP HIV + into care)**	**KP HIV+ referral to ART clinics**	*Communication for nurses*				
			Transportation for Peer educators				
			Transportation for KP HIV+				
			Others:				

S/N	Main Activities	Programs under main activities	Resource/Item	Quantity Distributed	Incurred expenditure	Curr. Of expenditure	Notes
			Activity costs:				
			Supervision				
			Vehicle operation & maintenance				
			Training				
			Office supplies				
			Others:				
3	**Engagement with stakeholders**	**Meeting with Local community representatives, Local municipal/district authorities, community members etc.**	*Office supplies*				
			Rental of space				
			Vehicle operation & maintenance				
			Transport				
			Printing				
			Communication				
			Others:				

S/N	Main Activities	Programs under main activities	Resource/Item	Quantity Distributed	Incurred expenditure	Curr. Of expenditure	Notes
4	**Other activity:**						

Table 2: Human resource - List of staff paid directly by program

S/N	Category of Staff	Number of full-time personnel	Gross monthly salary	Role on intervention	FTE(%) on KP Intervention	Notes
	Nurses (Please specify. Eg. Enrolled nurse, community health nurse, public health nurse, etc….)					
1						
2						

S/N	Category of Staff	Number of full-time personnel	Gross monthly salary	Role on intervention	FTE(%) on KP Intervention	Notes
3						
4						
5						
6						
7						
8	**Doctors**					
9						
10						
11						
12						
13						
14						
15	**Peer Educators**					
16						
17						
18						

S/N	Category of Staff	Number of full-time personnel	Gross monthly salary	Role on intervention	FTE(%) on KP Intervention	Notes
22	**Other 1: (Specify….)**					
23						
24						

Table 3: Human resource - List of staff NOT paid directly by program

S/N	Category of Staff	Number of full-time personnel	Gross monthly Allowance	Role on intervention	FTE(%) on KP Intervention	Notes
	Nurses (Please specify. Eg. Enrolled nurse, community health nurse, public health nurse, etc….)					
1						
2						
3						
4						
5						
6						
7						
8	**Doctors**					
9						

S/N	Category of Staff	Number of full-time personnel	Gross monthly Allowance	Role on intervention	FTE(%) on KP Intervention	Notes
10						
11						
12						
13						
14						

INSTRUCTIONS: Please provide a list of capital items used for the intervention. Note: Capital items are items (e.g. vehicles, motorcycles, building, other equipment) with useful life of more than one year. Useful lives of capital can be obtained from transport officers

Table 4: List of capital items used for the intervention.

S/N	Item	Initial cost	Rental cost	Useful life	Currency	% used for KP activities	Notes (e.g. for Buildings please state the size of room……)
1							
2							
3							
4							
5							
6							
7							

S/N	Item	Initial cost	Rental cost	Useful life	Currency	% used for KP activities	Notes (e.g. for Buildings please state the size of room……)
8							