

Virtual HIV Interventions

A BUDGETING AND PROGRAMMING AID

PREPARED BY:
Benjamin Eveslage

Acknowledgments

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Contact

For questions about the approaches and costs described in this document, please contact GoingOnline@fhi360.org. Specialized technical assistance (TA), the required expertise and skills for which are described in this guide, may be sourced locally or regionally. Programs interested in receiving TA from FHI 360 to plan or implement any of these approaches can contact Hally Mahler, FHI 360's HIV programs director, at HMahler@fhi360.org. To request TA for Global Fund applications or to integrate virtual interventions into national costed plans, the Global HIV Prevention Coalition Secretariat can be contacted at hivpc@unaids.org.

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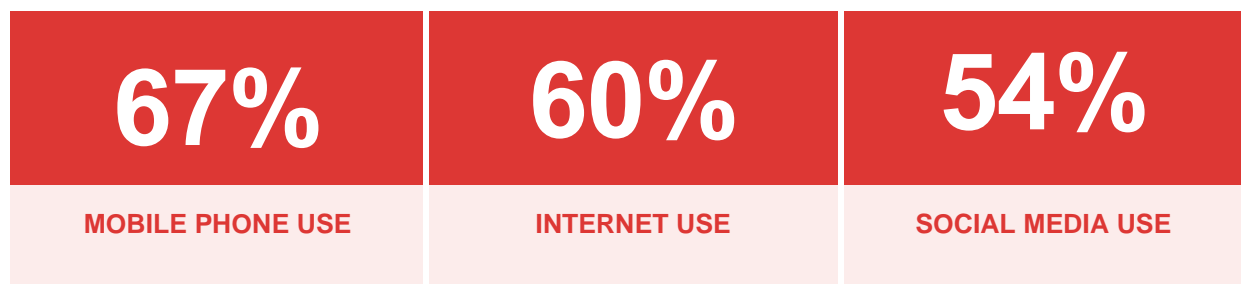
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Acronyms and Abbreviations

AI	Artificial intelligence
API	Application program interface
ARV	Antiretroviral
ART	Antiretroviral therapy
CAG	Community advisory group
CBS	Community-based supporter
CSO	Civil society organization
DDD	Decentralized drug distribution
DHIS2	District Health Information Software 2
EPOA	Enhanced Peer Outreach Approach
ETL	Extract, transform, load
EpiC	Meeting Targets and Maintaining Epidemic Control
HIVST	HIV self-testing
HMIS	Health management information system
KPIF	Key Populations Investment Fund
LGBTI	Lesbian, gay, bisexual, transgender, and intersex
LINKAGES	Linkages across the Continuum of HIV Services for Key Populations Affected by HIV
LOE	Level of effort
NACP	National AIDS Control Program
ORA	Online Reservation and Case Management App
OST	Opioid substitution therapy
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PLHIV	People living with HIV
PrEP	Pre-exposure prophylaxis
RNR	Risk network referral
SBC	Social and behavior change
SMS	Short message service
SOP	Standard operating procedure
SRH	Sexual and reproductive health
STI	Sexually transmitted infection
TA	Technical assistance
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
USG	U.S. Government
VL	Viral load
WHO	World Health Organization

Introduction

Virtual HIV service interventions can address critical bottlenecks in HIV programs today, including mitigating the impact of COVID-19 on traditional in-person outreach and service delivery while also modernizing HIV service delivery for the mobile generation. As of 2021, 67 percent of the global population use a mobile phone, 60 percent are connected online, and 54 percent use social media.¹ With the growing use of digital technologies among key and priority populations over the last 15 years, some HIV programs had already begun pivoting online to help scale their reach and impact.² However, slow adoption of these approaches left many programs without alternative service delivery channels when COVID-19 hit in 2020. Since then, physical distancing and lockdown measures related to COVID-19 have limited in-person HIV outreach and service delivery and threaten to set back progress in the global response to HIV.³ Virtual, decentralized, and differentiated approaches and service delivery solutions will help mitigate the impact of COVID-19 on HIV service delivery, allowing clients to connect to and access services by phone, at home, and in community locations.



Global results of We Are Social (2021) for mobile device, internet, and social media use

FHI 360 developed the [Going Online](#) vision and framework to help HIV programs understand how they can use online and mobile platforms to accelerate progress toward meeting their HIV education, prevention, testing, and treatment objectives.⁴ Published in 2019, the vision document was intended to help programs assist populations facing the greatest HIV risks to make connections to life-affirming and lifesaving services in an increasingly connected world. It also helps other stakeholders in the HIV response, including governments and community organizations seeking to modernize and diversify their approaches, as well as reach and engage people in HIV services in ways that are responsive to their needs and preferences.

¹ Kemp S. We Are Social [Internet]. Digital 2021: the latest insights into the “State of Digital.” 2021 [cited 17 May 2021]. Available from: <https://wearesocial.com/blog/2021/01/digital-2021-the-latest-insights-into-the-state-of-digital>.

² See examples of virtual HIV programming starting on page 39 of Joint United Nations Programme on HIV/AIDS (UNAIDS). Communities at the centre. Global AIDS update 2019. Geneva: UNAIDS; 2019 [cited 17 May 2021]. Available from: https://www.unaids.org/sites/default/files/media_asset/2019-global-AIDS-update_en.pdf.

³ Joint United Nations Programme on HIV/AIDS (UNAIDS). Seizing the moment: tackling entrenched inequalities to end epidemics. Global AIDS update 2020. Geneva: UNAIDS; 2020 [cited 17 May 2021]. Available from: https://www.unaids.org/sites/default/files/media_asset/2020_global-aids-report_en.pdf.

⁴ The Going Online vision was first developed by the Meeting Targets and Maintaining Epidemic Control (EpiC) and Linkages across the Continuum of HIV Services for Key Populations Affected by HIV (LINKAGES) projects funded by the United States Agency for International Development (USAID) and the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR).

The approaches described in the Going Online vision can enable HIV programs to reach previously unreached and underserved audience segments, in addition to opening new channels to support existing beneficiaries remotely. The package includes approaches for online outreach and social media marketing, along with convenient and simple tools to facilitate referrals and track service delivery across a wide range of providers, such as an app to help with online reservations and case management or by using monitoring data in a District Health Information Software 2 (DHIS2) format.⁵ Programs may add differentiated service delivery such as private sector distribution and home delivery to their virtual client support to allow for physical access to services outside of congested clinics and hospitals when and where people need services.

About This Guide

This planning and budgeting aid is largely based on FHI 360's experience and actual costs of implementing virtual interventions in more than 35 countries. It includes approaches important for programming among key populations that remain broadly applicable for a wide range of populations across various country settings. The guide was developed at the request of the Global HIV Prevention Coalition to support countries and programs designing virtual programs for key populations, as well as for countries applying for funding to help mitigate the impact of COVID-19 on HIV programming (called the "COVID-19 Response Mechanism" or C19RM). HIV programs can use this guide to help them consider approaches, budget items, and unit costs for virtual HIV interventions. It includes budget inputs, sample/average or range of costs, and example vendors that can support various virtual HIV interventions. This is only a guidance document, and actual programs costs will vary based on program size, location, target audience and size, and intended scale of the virtual interventions. Technical assistance (TA) can help translate this high-level guidance into program-specific work plans and budgets. It is important to acknowledge that beyond the work that informed this guide, there have been other approaches towards budgeting virtual interventions, which may have applied different assumptions and unit costs. Country-specific and regional learnings will provide important additional insights, including alternative approaches and regarding cost-efficiency.

A key principle of designing effective virtual interventions in support of HIV responses is prioritizing populations in line with available epidemiological evidence while also considering information on how acceptable and accessible online approaches are likely to be with specific populations. At the same time,



Photo 1. Online outreach staff member from the KP-STAR project in Namibia demonstrates to a program beneficiary how to find and book HIV services from a smartphone. Credit: KP-STAR Project Namibia (2021)

⁵ Find examples of such tools and apps in the sections on [ORA](#) and [Standard DHIS2 Tracker](#) in this guide.

virtual interventions should not be designed based on rigid definitions or limited to specific subpopulations, which may inadvertently create stigma. It is important to recognize that people have different needs at different periods in their lives and that they have intersecting identities rather than belonging to a single defined group.

Nevertheless, this does not imply that virtual interventions are equally suitable for all populations and all settings. Past experiences with virtual interventions are not evenly distributed among populations. A larger number of examples are available for virtual interventions engaging people living with HIV, young people, and gay men and other men who have sex with men, in part due to greater demand for virtual interventions from these communities. Fewer examples exist for sex workers and fewer still for people who inject drugs, which relates in part to heightened concerns of confidentiality, safety, and stigma, which may have limited the implementation of virtual interventions for these communities. For some of these audiences, particularly street- and venue-based sex workers, low literacy and limited use of mobile devices have presented challenges for virtual HIV interventions in some regions. This guide describes approaches that can be applied across multiple populations, while recognizing the need for the approaches selected to reflect the preferences and priorities of the specific communities. Interventions themselves will need to be tailored to the local context and the specific subaudiences targeted by the intervention.

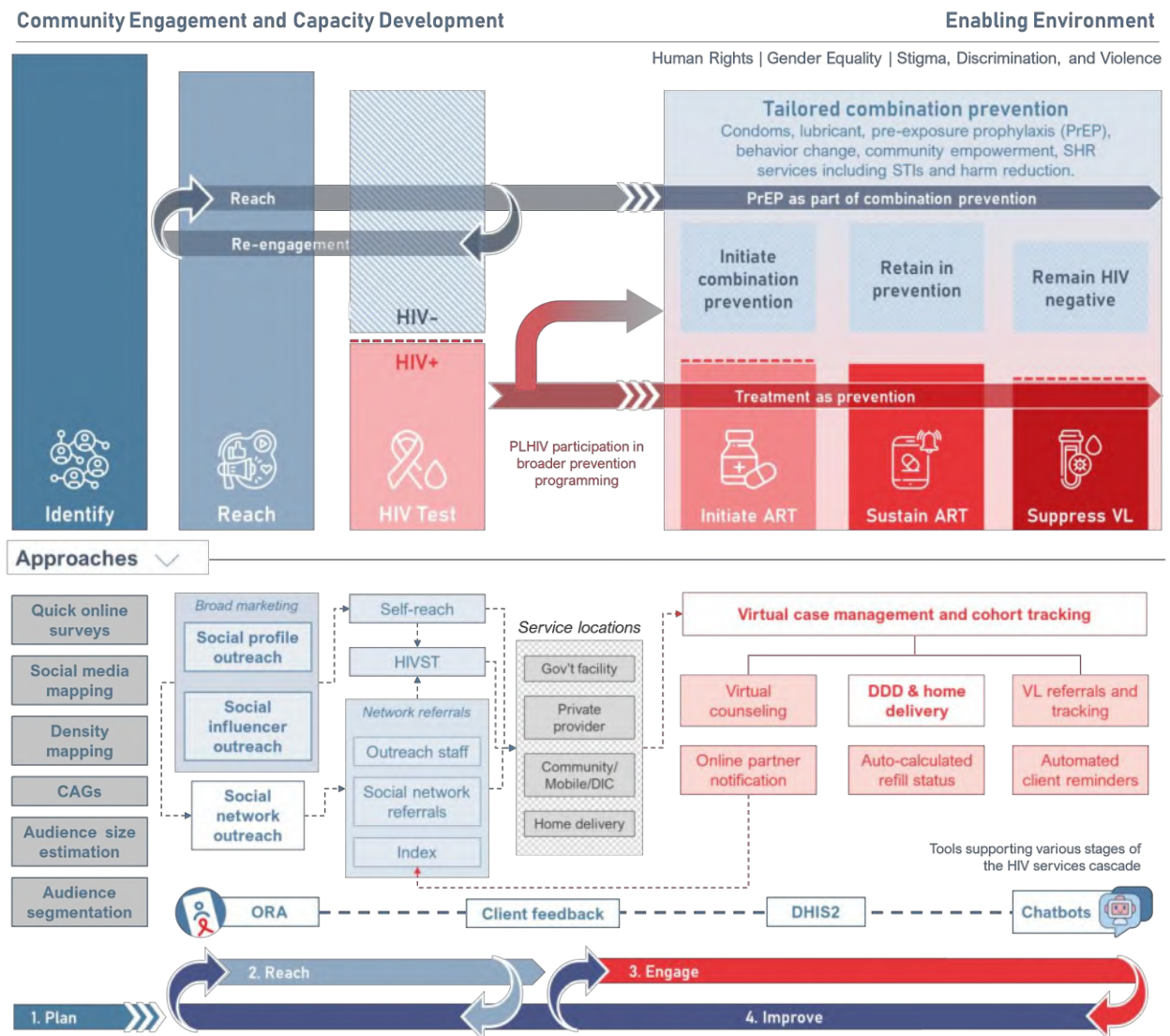
Involving members of prioritized populations in the design of virtual interventions and across the stages of the implementation cycle is critical. Virtual interventions are not an alternative to other community interventions, but rather one additional platform; as such, principles of community-led design and implementation should be applied (see [Plan](#) section in this guide). Budget guidance is provided individually for each virtual HIV approach. These approaches are categorized into four stages that follow a typical program implementation cycle: (1) **plan** virtual HIV interventions, (2) **reach** target audience members online, (3) **engage** them in HIV services over time, and (4) **improve** HIV program performance using data (Table 1).

Table 1. Virtual HIV intervention approaches in the four stages of the HIV program implementation cycle

1. Plan	2. Reach	3. Engage	4. Improve
Evidence-based and community-led design and approaches to learn about the online target audience and plan virtual HIV interventions	Online marketing and outreach approaches to create interest in and demand for specific HIV, structural, and social services	Approaches to support routine engagement of clients in care, including for people on antiretroviral therapy (ART) or routine HIV prevention	Strategies and tools to collect and use data to improve the performance of approaches to reach and engage clients in HIV services

Figure 1 shows the model for virtual interventions across the HIV service cascade. The cascade begins with participatory design and the identification of audiences to reach and test, which provide entry points into routine engagement in HIV prevention and/or treatment, depending on the client's HIV status. The overall aim, shown on the right side of the cascade, is to achieve sustained viral suppression among people living with HIV. Below the cascade are boxes with virtual and online approaches for each stage of the cascade. Boxes with a white background represent approaches described in this guide, while those with a shaded background show supplementary approaches not described in this guide but which help to illustrate clients' journey as they access HIV services. The four-stage HIV program implementation cycle from Table 1 is then presented below the approaches.

Figure 1. Model for virtual intervention approaches across the HIV service cascade



Adapting to Program Context

HIV programs should consider both their current service delivery model and the appropriate scale of virtual interventions to plan their virtual HIV intervention and budget. Several virtual HIV intervention packages are provided in Table 2 as examples of how to combine approaches based on service delivery model and scale of implementation. Use these packages to consider the set of overall approaches that can be planned and budgeted for your program. In addition, programs should consider their capacity (and capacity-building needs) to implement virtual interventions, the connectivity and virtual support preferences of specific target audiences, and the intended vs. possible scale, based on the size of online target audiences and available resources and opportunities to start small and scale later.

Programs should adapt their virtual interventions approach based on their HIV service delivery model. Those delivering services through face-to-face interventions typically use one of the following models ranging from basic to more comprehensive depending on the country context and available resources:

- **Minimum:** Programs that primarily support outreach activities (e.g., HIV prevention commodity distribution and information, demand creation, and linkage to clinical and social services) and linking clients to a range of existing service providers for clinical services
- **Basic:** Programs that primarily support outreach activities, provide basic venue-based support at drop-in centers (or equivalent) with some clinical services (e.g., HIV and sexually transmitted infection [STI] testing), and link clients to a range of other services and providers (e.g., decentralized drug distribution)
- **Full:** Programs that support outreach activities, have drop-in centers, provide population-specific clinical services at dedicated clinics (e.g., HIV and STI testing, viral load testing, pre-exposure prophylaxis [PrEP], tuberculosis treatment), and manage tracking of referrals to a range of services and providers
- **Full + ART:** Programs that support outreach activities, provide clinical services as above, and manage and track clients on ART or PrEP (whether in-house or through other providers)

For more information about these models, see [Considerations in Planning and Budgeting for a Key Population Trusted Access Platform](#). As programs support clients across additional stages of the HIV service cascade and across a wider range of service providers, they should consider employing additional approaches to support these clients online/virtually depending on available resources.

A NOTE ON BUDGET INPUT TABLES IN THIS GUIDE

Budget inputs in this guide build on experiences gained from existing programs implemented by innovators and leading providers in the field of virtual interventions.

The tables are meant to summarize the costs incurred to implement past programs, but do not mean to prescribe costs for future implementation.

Costs, including for staff, technical assistance, and connectivity, vary greatly between countries and local costs should guide actual budgeting.

Programs should adapt their approach based on the proportion of their target audience able to be reached virtually. Check your country's connectivity in the [We Are Social Digital 2021](#) report. Consider that national connectivity may differ from connectivity among your specific target audiences and the locations where you work. Scaling approaches based on connectivity involves:

- **Low connectivity:** Appropriate in settings where mobile access, internet, and social media use are low (such as below 10 percent social media use and 50 percent mobile penetration). Countries with low connectivity may not be able to use the broader online marketing approaches and may support smaller volumes of clients. Phone-based and short message service (SMS)-based interventions are an alternative in settings where internet connectivity is low or expensive but mobile phone use is common.
- **High connectivity:** Appropriate in settings where mobile access, internet, and social media use are high. Countries with high connectivity can use the broader online marketing approaches and may support larger volumes of clients.

Table 2 presents the recommended approaches that would be useful to introduce or scale up as appropriate, according to the program's package of services and connectivity level.



Photo 2. Outreach workers based at iFLEX Jamaica use online and virtual platforms to connect with beneficiaries and create demand for HIV services among previously unreached audiences. Credit: iFLEX JA (2018)

Table 2. Recommended approaches based on program service delivery model and connectivity

Activities		Minimum		Basic		Full		Full + ART	
		Low	High	Low	High	Low	High	Low	High
Plan	Quick online surveys	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	Social media mapping	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	Density mapping	(Optional)							
	Community advisory groups		<div></div>		<div></div>		<div></div>		<div></div>
	Online audience segmentation		<div></div>		<div></div>		<div></div>		<div></div>
	Online audience estimation	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Reach	Social network outreach	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	Social profile outreach		<div></div>		<div></div>		<div></div>		<div></div>
	Social influencer outreach		<div></div>		<div></div>		<div></div>		<div></div>
Engage	Virtual case management					<div></div>	<div></div>	<div></div>	<div></div>
	Decentralized drug distribution (DDD)							<div></div>	<div></div>
	Chatbots	(Optional)							
Improve	Online Reservation and Case Management App (ORA)	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	Electronic client feedback system (LINK)	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	Standard DHIS2 Tracker	(Optional)							
Notes:									
<div><div></div> Full implementation of the approach</div> <div><div></div> Lite implementation of the approach. Lite implementation may entail low-scale rollout or adapted low-effort versions of the methods (such as for density mapping, online audience segmentation, or online audience segmentation). Lite implementation of ORA may involve joining an existing global ORA deployment rather than establishing a country-specific ORA deployment.</div>									

Approaches

1. Plan

This section includes several approaches to help HIV programs plan their online HIV outreach and service delivery. These can be implemented separately or together to help reinforce and triangulate findings to better understand online target audiences and inform service delivery.

Virtual interventions should be planned in the context of the country's wider HIV and public health responses. Where strong HIV programs, scaled community-level programs, networks of key and priority populations, large health promotion programs or other social media platforms reaching relevant populations exist, virtual interventions can be planned in close connection with these programs.

By the design stage, national government thematic leads, community-led organizations, and major implementers should be engaged in initial consultations and their roles in the planning process outlined. Specific roles may include the following:

- **Government thematic leads** play a critical role in convening partners, ensuring government buy-in, placing virtual interventions on governments agendas, and advocating for adequate domestic financing and/or inclusion of virtual interventions in country funding proposals to the Global Fund.
- **Community-led organizations** should be engaged to inform the design of virtual interventions, hold community consultations, ensure that virtual platforms are trusted by communities, establish links to peer-led outreach, and provide specific elements of virtual interventions such as online counseling.
- **Major implementers of HIV and other health programs** should be engaged to maximize synergies between the rollout of services by other major players (including their existing virtual interventions). Agencies developing virtual interventions should ideally not limit these interventions to specific projects, but rather seek to link into other relevant health service delivery projects that are part of the national response.
- **Private sector partners** should be engaged to support the development and deployment of online marketing campaigns to reach target audience members (creative/marketing firms), provide health services (private health providers/network), access discounted technology or advertising costs (social media platforms, mobile network providers, etc.)
- **International partners** with an in-country presence can provide active support to advocate for financing virtual interventions and can provide technical input into the design, especially in the context of Global Fund or other donor funding applications.

Depending on the country context and HIV response architecture, the design of virtual HIV interventions can be discussed in existing coordination fora, or a specific task force can be established. One approach outlined further below uses community advisory groups (CAGs) to inform design and implementation of virtual interventions.

Results of the different approaches employed in the planning phase are typically presented in an inception report, which documents the findings, may compare the results with those of other countries, and presents recommendations for planning online HIV outreach and service delivery. The report is typically followed by the development of an initial plan or standard operating procedure (SOP) for the HIV program to follow to implement and monitor its virtual interventions. (See the [Guyana Going Online Report](#) for an example of an inception report developed by the Meeting Targets and Maintaining Epidemic Control [EpiC] project.)

When to use these approaches

- During HIV program design/rollout or when planning a new online HIV approach to expand outreach to new audiences/subaudiences
- Repeated every two years to update programming to reflect changing mobile/social media use

Using multiple approaches together

- Quick online surveys can provide initial inputs for [social media mapping](#) (e.g., groups/pages or influencers followed by the target audience) or characteristics used in [online audience segmentation](#) (e.g., social media likes and interests).
- Social media mapping can provide inputs for virtual groups/pages where the survey can be administered, and the results of the survey can inform audience size estimation and segmentation.
- Use [online marketing and outreach](#) approaches to advertise a survey to target audiences and assess the effectiveness and accuracy of approaches in reaching the intended audience. These results may also help refine or extrapolate [online audience size estimates](#).
- CAGs comprised of members of the prioritized audiences and communities in the focus of the program can provide qualitative information to help you better understand and use social media mapping and quick online survey results, provide inputs for the design of online HIV marketing communications and materials, and adapt HIV service delivery to meet audience preferences.
- Results of online audience segmentation can provide the criteria for targeting ads to various online target audiences using [social profile outreach](#). They can also inform the topics and social interests to be used in [social influencer outreach](#) promotions, as well as the profile characteristics online outreach workers can use to deduce whether the clients they reach online are likely to be members of their target audience.

1.1 QUICK ONLINE SURVEYS

Short programmatic (non-research) surveys for HIV programs can help you better understand online audiences at risk for HIV. They also help assess HIV risk profile, technology use/social media interests, HIV service access history, and future preferences for HIV services.

Privacy and data security issues

- Use anonymous survey methods and do not collect personally identifying information (e.g., name, address, phone number, IP address, electronic fingerprints).
- Do not limit respondents to stigmatized audiences, such as people living with HIV or key populations. Ask clients about risk behaviors and their affiliation with certain target audiences, but do not use these as inclusion criteria for taking the survey. Such restrictions can unnecessarily exclude clients who do not openly identify with stigmatized audiences and can cause security risks for clients. For example, if respondents are limited to individuals who identify as men who have sex with men and they also provide contact information as part of a delinked lucky draw prize, the winner could be outed as a man who has sex with men.
- If using a lucky draw prize to incentivize online users to respond, delink the form/questions used to collect the necessary data (name and phone) for the prize from the respondents' responses to earlier survey questions.

Country example (Cambodia)

Quick online surveys have been used in more than 17 HIV programs in the Caribbean, Asia, and Africa. The Linkages across the Continuum of HIV Services for Key Populations Affected by HIV (LINKAGES) project in Cambodia implemented this survey in 2018 (see [Online and Now within Reach: Survey Results for Online Populations at Risk for HIV in Cambodia](#)). This approach, typically implemented as a programmatic, non-research activity requiring approximately one to three months to plan and implement and use the results, took about a year in the case of LINKAGES Cambodia and included institutional review board review, translation, and intensive stakeholder engagement and dissemination of results. The survey revealed that a large segment of people at risk for HIV, including key populations, had the potential to be reached most effectively through online and mobile platforms. The national response now includes plans to implement these platforms.

Other related examples

- The EpiC project in Guyana implemented an online survey and other data collection methods in 2019 to guide future online HIV outreach efforts. ([Guyana Going Online Report](#))

RESOURCES

Technical brief:

[Quick Online Surveys – For Planning Online Outreach and Service Delivery](#)

Budget inputs: Quick online surveys

Items	Example Vendors	Cost Estimates (per Survey Effort)
Online/electronic survey software subscription To design surveys for baseline information used for intervention planning and design	Survey Monkey, QuestionPro, TypeForm, Google Forms	US\$800 annual subscription Survey Monkey advanced package with all survey features. Other free tools like Google Forms may be appropriate for smaller-scale HIV programs.
Online advertising To promote the online survey to target audiences	Platforms used by the target audience, e.g., Facebook, Twitter, TikTok	US\$300–US\$2,000 (1 month of ads) US\$300 for all online paid ads may be appropriate for a low-connectivity setting for a smaller key-population-focused HIV program.
Influencer promotion To promote the distribute the online survey to target audiences. Influencer can be identified using the “social media mapping” approach with community members.	Contracts with individual influencers, or may be managed by creative/marketing agency	US\$0–US\$1,000 (1 month of promotions) Free influencer promotions for this survey can be negotiated to engage influencers in potential future paid promotions for online HIV services.
Lucky draw prizes To incentivize participation in the online survey	Local vendors. Items can vary (e.g., power banks, USB drives, gift cards, mobile credit).	US\$200–US\$400 (prizes for 1–10 winners of lucky draw) Cost for all prizes given away to winners of the lucky draw. Amount will depend on the number and types of prizes.
Survey translation	Local translation vendor	2.5 days level of effort (LOE)
Specialized TA For survey adaptation, rollout, and data use to inform HIV program planning	A TA provider specializing in strategic information, data collection methods, marketing, and HIV program planning	10 days LOE May require 15–20 days to plan larger surveys and coordinate with national stakeholders.
Implementing partner To coordinate survey adaptation, stakeholder input and engagement, plan survey distribution/promotion, and review and disseminate results	Staff or consultant of local implementing partner	10 days LOE
Community workshops To plan/pretest and share results	N/A	Variable Two one-day workshops with 15 participants

1.2 SOCIAL MEDIA MAPPING

Social media mapping allows HIV programs to identify and list the online places where people “gather” and the people who can reach audiences at risk for HIV, such as (1) Facebook groups and pages, (2) social media influencers (people popular on a variety of social media platforms), and (3) group chats. This mapping exercise can be completed by community service organizations, HIV program staff, or trained consultants.

Privacy and data security issues

- Engage community members of the target audience to lead social media mapping activities.
- Data collectors may not need to engage directly with the moderators of social media pages and groups while completing the social media mapping exercise. However, if engagement is necessary to collect information on such pages and groups, prepare data collectors with scripted introductions and scripts for engaging with moderators of closed groups to explain the purpose of the mapping and the outcomes of the exercise. (These scripts will also be useful when implementing online outreach among these groups.)
- Prepare SOPs for data collectors that clearly outline what to do if/when they find prohibited activity during the process of social media mapping (e.g., how, when, and to whom they should report child pornography). Data collectors should not engage with site users during development of the SOPs.
- Individuals involved in mapping should respect the privacy and confidentiality of groups who do not want to be engaged, particularly for secret groups and closed groups.
- Use password-protected Excel tools to capture the details of the online sites mapped and use codes or emojis to denote sensitive information (e.g., to indicate if a certain sites or influencer has reach among sex workers).

Country example (Indonesia)

Social media mapping has been implemented in more than 20 HIV programs across the Caribbean, Asia, and Africa. The LINKAGES Indonesia project implemented social media mapping in 2018. To support the effort, a specialist in social media marketing guided a local coordinator on the approach, methods, and tools for social media mapping. The local coordinator then led a series of workshops with each of the key-population-led civil society organizations (CSOs) to train them on the approach and oversee rollout. The actual process of mapping and listing social media pages and influencers took about six hours per CSO. The local coordinator then compiled lists and deduplicated the findings across the results produced from each group. Results showed a high number of Facebook groups and pages and social media influencers with large followings among program target audiences of men who have sex with men, female sex workers, and clients of female sex workers. The same CSO staff involved in the mapping exercise served as online outreach workers so that they could use these lists of groups and pages on social media to access them and reach new members of their target audience. The list of social media influencers was

RESOURCES

Technical brief:

[Social Media Mapping – For Planning Online Outreach and Service Delivery](#) (includes guidance for developing a data collection tool for social media mapping)

shared confidentially with a marketing agency, which helped prioritize the list and then selected a few of the influencers to engage in influencer-based promotions. The local coordinator reflected on this approach: “Using this mapping method, we better understand the size of the population that was difficult to reach physically. It means we can expand our strategy to better engage this population with information and referral to HIV testing facilities.”

Other related examples

- A related approach was used in Vietnam to engage men who have sex with men in focus groups to understand their social media use and guide future HIV program efforts to reach men who have sex with men online. ([An Exploratory Assessment of the Preference for eHealth Interventions to Prevent HIV and Sexually Transmitted Infections among Men Who Have Sex with Men in Hanoi, Vietnam](#))

Budget inputs: Social media mapping

The following table provides costs for implementing social media mapping among two to three target audiences. Results are illustrative and not comprehensive. Variable costs should be scaled to map additional audiences.

Items	Example Vendors	Cost Estimates
Specialized TA To orient local partners on social media mapping process, provide supportive supervision, and help review results and plan next steps	A TA provider specializing in strategic information, data collection methods, social media marketing, and HIV program planning	5 days LOE
Implementing partner To train and oversee local community partners to implement social media mapping exercise	Staff or consultant of local implementing partner	8 days LOE
Community workshops To implement social media mapping. May last a half or full day and can be split into multiple workshops for each population	N/A	Variable One-day workshops with 15 participants. One workshop for each audience targeted.
Marketing agency fee (for influencer identification) (optional) To help programs identify and prioritize social media influencers using manual or artificial intelligence (AI)-powered methods	Marketing or creative agency specializing in social media marketing. For example, FHI 360 contracted AI-Fluence in Kenya and Percolate Galactic in Indonesia to help with this approach.	Variable Cost depends on region and agency. Costs involved in finding and prioritizing influencers will be built into a broader contract with a marketing agency to support other approaches.
Notes: <ul style="list-style-type: none"> • Data collectors will need devices (tablet, smartphone, or laptop) and internet access to complete the social media mapping activity. Costs for procuring devices and mobile data are not budgeted above. • Data collectors should already have a device to use and be familiar with social media platforms. 		

1.3 DENSITY MAPPING

Density mapping is an approach for mapping the density of dating app users within a certain geographical area. It is useful for understanding locations and days/times when dating app use is popular and for providing rough estimates of the overall number of profiles that can be reached by online outreach workers engaging on dating apps. This method works for dating apps that present a grid of nearby users in order of proximity, which is commonly used for dating apps used by gay men, other men who have sex with men, and potentially some transgender audiences (e.g., Grindr, Hornet, Scruff, Blued, Happn). It can be implemented in a less granular way for urban areas with fewer numbers of dating app users.

Privacy and data security issues

- This activity leverages publicly available information.
- The data collected are not individual and only include the number of profiles viewable on dating apps within a certain geographical area.
- Granularity of data is areas within a 1 kilometer or 500-meter radius; therefore, results cannot be used to identify a specific building or location where dating app users can be reached in person.
- Data collectors do not engage with dating app users to complete mapping.

Country example (India)

Density mapping has been implemented in HIV programs in diverse ways, ranging from simple counts of dating app users in some cities in Africa, to systematic city-wide density mapping in populous cities in Asia with higher numbers of dating app users.

In 2018, LINKAGES India implemented a more systematic density-mapping approach in Mumbai (see [Density Mapping of Dating App Users across Time and Space in Mumbai, India](#)). Implementation involved sampling equivalently distanced GPS coordinates about 1 kilometer apart (~150 points) to cover the metro area of Mumbai. They hired a team of data collectors (~six) to log in to Grindr three times per day for seven consecutive days and count the number of online users within 500 meters of each point. Results were logged in

RESOURCES

Conference panel presentation:

[Density Mapping of Dating App Users across Time and Space in Mumbai, India](#)

Guides and tools:

Implementation guide and standard data collection tool in English (available from FHI 360 upon request)

App:

Custom Android app to change data collector's smartphone GPS location to use Grindr for mapping without needing to physically travel to location (available from FHI 360 upon request)

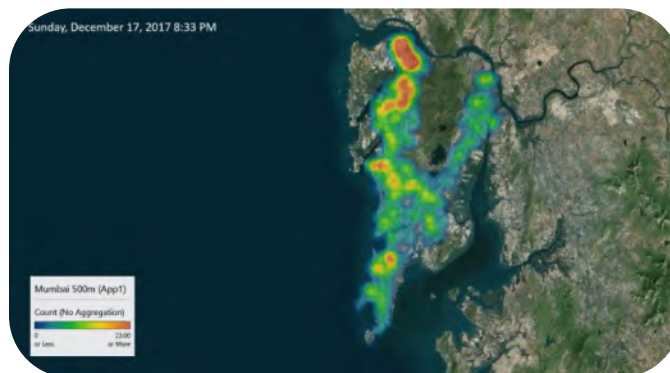


Photo 3. Screenshot of density mapping results from Mumbai, India (2017)

Excel and visualized with the Excel map feature using colors to demonstrate the density of users and animations to show the changing density of users across these points for each time and day sampled. Results helped the program identify physical locations of Grindr use that did not match the hot spots where men who have sex with men were being reached with physical peer outreach and justified the need to invest in online outreach teams and ad-based campaigns to reach these Grindr users and link them to local HIV services.

Other related examples

- A geolocation social networking application was used to calculate the population density of sex-seeking gay men for research and prevention services in Atlanta, Georgia, USA. ([Using a Geolocation Social Networking Application to Calculate the Population Density of Sex-Seeking Gay Men for Research and Prevention Services](#))

Budget inputs: Density mapping

The following table provides the costs to implement density mapping one time for a single metropolitan area on a single dating app. Costs would need to be scaled based on the size and number of geographic areas involved in the mapping, the granularity of the mapping, and the number of dating apps used for mapping. Considerations for a lite density mapping approach that will require fewer resources are also described.

Items	Example Vendors	Cost Estimates
Specialized TA To plan the approach, oversee consultant data collectors, and create data visuals/maps	A TA provider specialized in strategic information geographic information systems (GIS) mapping, data collection methods, marketing, and HIV program planning	3–5 days LOE A lite density-mapping approach may be used in low-connectivity settings and requires less LOE.
Data collection consultant(s) To implement large-scale density mapping	Various data collectors and consultants can be trained on this approach. They should be experienced using Android smartphones and be members of the target audience of the app used for the mapping approach (e.g., men who have sex with men).	7 days LOE (per data collector) Only required for full-density mapping in high-connectivity settings. The number of data collectors will vary based on the granularity and size of mapping. FHI 360 contracted a team of six data collectors for one week to implement density mapping in Mumbai, India.

1.4 COMMUNITY ADVISORY GROUPS

CAGs help HIV programs engage with and learn from new audience segments targeted for online HIV services. Participants representing these audiences may differ from those already engaged in the program as well as existing community representatives. For example, CAG members may represent more discreet audiences or those from other socioeconomic classes who connect with their community mainly online, including specific key population segments, young women, and young adult men. HIV programs may consider partnering with local key population networks, groups, and even marketing agencies when they face challenges identifying individuals representing the intended target audiences.



Photo 4. Community consultation meeting with transgender community leaders to inform future online HIV outreach approaches for the transgender clinic in Mandalay, Myanmar. Credit: EpiC Myanmar Project (2021)

Privacy and data security issues

- Participation is voluntary⁶ and based on mutual respect and confidentiality of other participants. Participants can be asked to sign a nondisclosure agreement or confidentiality statement in order to join the CAG.
- Participation can be made anonymous, if desired, by replacing the CAG with a key informant model where a central coordinator engages with each participant individually.
- Note takers should omit identifying information of participants, and social media use can be banned during meetings to protect participants' identities (this protocol should be determined in consultation with participants).

Country example (Indonesia)

CAGs for planning and advising on online HIV outreach campaigns have been used in several HIV programs, most notably and systematically in Indonesia. In 2018, the LINKAGES Indonesia project was supported to implement this approach with guidance and support from a specialist in community mobilization and social media marketing. The local program identified their priority online target audience for their HIV services campaign: online men who have sex with men of middle-upper socioeconomic

⁶ Remuneration for community members should reflect the type of their contribution and position. Participation in advisory groups would typically not be paid for representatives of community organizations who are participating as part of their duties within a paid, full-time, organizational staff position. However, costs associated with participation will often need to be reimbursed for community members without such positions. More broadly, beyond CAGs, community members can perform critical roles as part of virtual intervention programs such as provision of online services and contributions to microplanning, design, and monitoring, which should be remunerated the same way as would be done for other providers at the same level.

status and not accessible in hot spots. The specialist helped to identify six individuals among this target audience by searching through social media networks. They were offered the opportunity to join a CAG, which would meet quarterly and help advise on a new online HIV campaign by LINKAGES. Given the target audience type and preferences, participation was not reimbursed, but meeting locations were chosen based on their interest, and meals were provided (private meeting spaces at trendy restaurants or meeting venues). During meetings, program staff presented the HIV program objectives and invited a local marketing agency to pitch communication and campaign concepts to the CAG for their input and advisement.

This CAG helped advise on the *Update Status* campaign and helped shape the messaging and design of the brand to better connect with the target audience of men who have sex with men using a broad but inclusive framework. (See examples of the social media content on the *Update Status* [Instagram](#) page and [website](#).) CAG members also led the organization of a private influencer launch event for the campaign by inviting their friends with a large social media presence, which helped kickstart influencer promotions for the *Update Status* campaign.

Other related examples

- A related approach in which focus groups were conducted with gay men and other men who have sex with men and transgender women in Thailand helped demonstrate the value of eHealth HIV interventions. ([A Qualitative Study of Thai HIV-Positive Young Men Who Have Sex with Men and Transgender Women Demonstrates the Need for eHealth Interventions to Optimize the HIV Care Continuum](#))

Budget inputs: CAGs

The following table provides CAG setup and operating costs for one target audience for one year.

Items	Example Vendors	Cost Estimates
Specialized TA To help identify/engage CAG members, facilitate meetings, and use results to inform program design/adaptation	A TA provider specializing in community engagement and HIV program planning	5–10 days LOE If the coordinator will lead the process of identifying and engaging potential CAG members, 5 days LOE may be appropriate.
Implementing partner To organize CAG meetings, including logistics, reservations, and managing membership	Staff or consultant of local implementing partner	15 days LOE
Meeting costs To meet with CAG members in person. Can be replaced by individual or group meetings using virtual channels.	N/A	Variable 4 meetings/year Cost depends on number of participants (5–10), venue, meal/other costs, and number of meetings.
Activity costs (optional) To support demand-creation activities led by CAG members	N/A	Variable Activity costs and budget items vary.

1.5 ONLINE AUDIENCE SIZE ESTIMATION

Estimating the online audience size targeted by HIV programs is important for planning the scale of online HIV outreach and marketing efforts. It helps program planners understand the program's potential reach on online platforms and make important decisions for budgeting online marketing efforts to effectively reach online target audience segments or subsegments.

Several approaches can be used to approximate the number of target audience members who can be reached on Facebook, Google, and other platforms. This approach differs from traditional population size estimates which attempt to estimate individuals who can be met in physical settings. Here, we discuss online audience size estimation, which starts with the audience who may be reached online and is considered a marketing approach and not a research activity. Online audience size estimation produces rough estimates of the number of profiles or users who generally match the program's target audience and can be reached on various platforms. However, the users included in estimates for one platform will likely overlap with the users included on estimates for another platform. Therefore, programs may use the most popular platform (commonly Facebook) to estimate the audience size among most people with internet access, given that estimates of users on other platforms such as Twitter and Grindr will likely already be captured under the estimate produced by Facebook. Where possible, methods for deduplication of users with multiple profiles on the same platform could be applied, or estimates could be triangulated with other data. For example, a survey of target audience members on Facebook can estimate the rate of duplicate profiles and can help refine estimates of the target audience who may be reached through Facebook's ad manager. Because online audience size estimation does not produce definite population size estimates and cannot be simply added to physical population size estimates, programs should avoid building these online estimates into their denominator for program reach.

At the same time, it is important to consider that earlier key population size estimates might be underestimates in some countries, because these populations are often hidden. For example, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) recommend that countries using population size estimates of men who have sex with men representing them as less than 1 percent of the total adult male population should revise their estimates. In such contexts, online audience estimates might exceed earlier population size estimates substantially.⁷ HIV programs can use these estimates flexibly and illustratively to inform the scale of their online outreach and marketing efforts. Some good ways to do this are to compare similar results in other countries, consider the program or organization's capacity to leverage the online marketing approaches that would allow them to reach those audiences, and assess their interest in and practical ability to engage the wider range of audience segments who may be reached online.

RESOURCES

Conference poster:

[Rapid Population Size Estimation of Online MSM Using Facebook Marketing Data in India](#)

⁷ World Health Organization (WHO) and Joint United Nations Programme on HIV/AIDS (UNAIDS). Recommended population size estimates of men who have sex with men. Technical brief. Geneva: WHO and UNAIDS; 2020 [cited 17 May 2021]. Available from: <https://www.unaids.org/en/resources/documents/2020/recommended-population-size-estimates-of-men-who-have-sex-with-men>

Privacy and data security issues

- Leverages publicly available data on Facebook's ad manager
- Does not include any identifying information of clients
- Results of potential audience size can be politically sensitive in some settings, such as for stigmatized and criminalized populations; programs should use and share results with discretion.

Country example (Senegal)

Estimating the size of online target audiences has been implemented in various ways for HIV programs in the Caribbean, Africa, and Asia. While a more systematic approach was used in India (see [Rapid Population Size Estimation of Online MSM Using Facebook Marketing Data in India](#)), a more rapid and comparative approach was taken in Senegal in 2020 through the EpiC project. In this approach, a specialist in social media marketing analyzed publicly available data from Facebook's ad manager to estimate the number of users in specific target audiences who could be reached with ads, and these results were compared to those of other countries in the region. First, national social media use (21 percent) was compared to rates in Dakar (73 percent) to demonstrate the need to focus on online HIV outreach. Then, overall platform use was assessed (3.3 million Facebook users; 660,000 Instagram users; 79,000 Twitter users). This was further refined by specific target audiences who could be reached in Dakar via Facebook's ad manager (Facebook and Instagram), including 37,000 women and 48,000 men ages 13–35 years interested in dating, 8,200 men interested in homosexuality, and 2,300 men interested in Grindr. Similar results were produced for other cities in West Africa to enable the HIV program to compare the relative value of investing in online outreach for these audiences compared to other settings. Recommendations for outreach included a low budget for online ads targeted to these audiences as well as more intensive social network outreach for one-on-one outreach on low bandwidth channels (messaging apps) to help those clients find and access local HIV services.

Other related examples

- [Mapping Virtual Platforms to Estimate the Population Size of MSM Who Use the Internet to Find Sexual Partners: Implications to Enhance HIV Prevention among MSM in Kenya](#)
- [Population Size Estimation of Gay and Bisexual Men and Other Men Who Have Sex with Men Using Social Media-Based Platforms](#) (multiple countries)

Budget inputs: Online audience size estimation

The following table provides budget inputs for rapid online audience segmentation using the “potential reach” estimates on Facebook or other social media or online advertising platforms and may not be suitable for all audiences. More extensive or research-based approaches which may require additional resources may also be used.

Items	Example Vendors	Cost Estimates
Specialized TA To help programs identify the HIV program's online target audiences and use online marketing platforms to estimate their potential reach	A TA provider specialized in social media marketing, strategic information, and HIV program planning	5 days LOE This LOE can support a lite online size estimation of 3–5 audiences or 1 audience using a full approach.
Social media advertising (optional) Useful when implementing a full method of audience size estimation. These ads will send an online survey to the target audience to help refine or extrapolate audience size estimates.	Facebook, Twitter, Google	US\$500–US\$1,000 (for 1 month of online ads to refine online population size estimates) Cost depends on local advertising cost and number of different target audiences to estimate.

1.6 ONLINE AUDIENCE SEGMENTATION

Segmenting online audiences helps HIV programs know (1) how to reach their target audiences online, (2) what to say in their communications, and (3) how to develop messages to meet the aspirations and motivations of subaudiences. The approach involves segmenting audiences into subgroups and hosting focus groups to better understand their social media “likes” and “interests” (which improve ad targeting), their lifestyles, and their aspirations (to help improve ad content and messaging).

Privacy and data security issues

- Privacy and data security issues similar to those for forming and convening [CAG](#) meetings
- Results of online audience segmentation may be potentially sensitive and should not be shared outside the program in settings where knowing the social profile characteristics of sensitive populations can be used to do harm to these populations.

Country example (Thailand)

In 2017, the LINKAGES project in Thailand took a structured approach to social profile segmentation for reaching the target audience of men who have sex with men via online platforms. They identified two subaudiences of men who have sex with men to learn more about using this approach: young men who have sex with men of higher socioeconomic status using online platforms for cruising and relationship building, and men who have sex with men using online platforms to find partners for group sex specifically. They identified members of these audiences from consultations with their existing key-population-led CSO partners. They conducted small focus group discussions and in-depth interviews with these audiences, developed a set of likes, interests, and motivations that would help target ads to these users on social media and dating apps, and developed composite user personas for each audience segment to inform the creation of creative content and messaging. Internal creative and communications staff helped develop the messages and content for online ads tailored to each audience. LINKAGES Thailand ran two test campaigns aimed at young men ages 18–20. The first, which was not successful, overly restricted ad recipients based on “typically gay” cultural interests. For the second campaign, which was more successful, it was determined that age-based targeting of those interested in same-sex relationships and lesbian, gay, bisexual, transgender, and intersex (LGBTI) culture, a highly active Facebook user population of 130,000 people in the Bangkok metropolitan area with 100,000–150,000 monthly active users yielded a larger reach of correctly identified ad recipients than targeting based on other “typically gay” cultural interests. This population estimate of 140,000 was itself independently valuable, since Facebook’s data about users are collected by watching users’ online behavior carefully (e.g., content of posts, syntax, likes, and activity in friends’ networks) and are, therefore, presumed to be more accurate than data volunteered about sexual and relationship preferences. A campaign aimed at this set of interests resulted in 816 “clicks” by users to an online HIV testing reservation platform and also

RESOURCES

Tools:

[Focus group discussion guide to develop audience profiles](#) (available from FHI 360 upon request)

[In-depth interview guide for audience profile motivations and aspirations](#) (available from FHI 360 upon request)

Training:

[Training for implementing audience segmentation](#) (PowerPoint available from FHI 360 upon request)

demonstrated that one creative campaign was much cheaper and more effective at attracting users (US\$0.19 per click for 520 users vs. US\$0.38 per click for 296 users), at a total cost of about US\$200.

Other related examples

- APCOM's tools for audience segmentation in the development of PrEP demand-generation campaigns ([APCOM's PrEP Demand Generation Toolkit](#), pages 11–13)

Budget inputs: Online audience segmentation

The following table provides costs for implementing online audience segmentation among four audiences. Variable costs should be scaled for additional audiences.

Items	Example Vendors	Cost Estimates
Specialized TA To train local HIV program staff on the methods and process of audience segmentation, the use of tools, and the development of audience profiles	A TA provider specializing in community engagement, marketing, and HIV program planning	5 days LOE (for all 4 audiences)
Implementing partner To learn about the approach, organize and host focus group discussions/interviews with four subaudiences, and compile results	Staff or consultant of local implementing partner	10 days LOE (for all 4 audiences)
Focus group meetings (workshop costs) To implement focus group discussions	N/A	Variable Cost depends on number of participants (5–10), venue, meal/other costs, and total number of separate meetings.
Incentives/stipends For participation in individual in-depth interviews	N/A	Variable Cost depends on the incentive type and value chosen and the number of interviews to be conducted.

2. Reach

Online marketing and outreach approaches help generate awareness and demand for available HIV services and help link clients reached online with offline HIV services. These can be categorized into three outreach methods — social influencer outreach, social profile outreach, and social network outreach — as described below. Ideally, these approaches should be used in combination with varying levels of intensity based on the relative value of each approach and its impact on reaching program targets. Programs should aim to implement a “surround-sound” approach by using a combination of several of these methods to target different aspects of behavior change and support conversion to uptake of HIV services.

These methods to reach target audiences online can help link clients to the HIV services cascade, and programs can use tracking tools such as [ORA](#), [DHIS2](#), or other custom trackers to define the point at which clients reached online or virtually can be counted toward standard program indicators of “reach.” Based on the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) definition of reach (KP_PREV), clients may be reached when they are provided referral for HIV testing services and offered another service within the HIV prevention package (such as risk assessment and tailored service recommendation). These can be offered virtually through individual client support from an outreach worker or when clients use ORA to book HIV services online. HIV programs should also collect a unique identifier code for the clients they reach online in order to de-duplicate clients reached physically or reached multiple times online.



Photo 5. Online outreach staff member at iFLEX Jamaica supports clients to access HIV services. Credit: iFLEX JA (2018)

When to use

- To broaden outreach to previously unreached and hard-to-reach online audiences
- When the HIV program and service providers feel safe to openly advertise their service to broader audiences online (important to consider for key population programs and where HIV services are highly stigmatized)
- When a sizeable portion of the general public and/or target audiences uses social media apps, programs can benefit from broader online marketing approaches such as social profile outreach and influencer outreach, whereas social network outreach may still be useful in settings with lower social media and internet use (see reports of mobile and social media use for each country at [We Are Social](#)).

Using multiple approaches together

- Combine with [quick online surveys](#), [online audience size estimation](#), [online audience segmentation](#), and [CAGs](#) to better target online ads to the correct audiences and with appropriate messaging.
- Use social media mapping to identify and prioritize influencers for [social influencer outreach](#) and list the pages and groups to target [social network outreach](#).
- Use social profile outreach with other online marketing and outreach approaches that help address other client barriers to service uptake (i.e., [social influencer outreach](#) for building trust and [social network outreach](#) for individual support and conversion).
- Combine with an online appointment booking system such as [ORA](#), which provides a simple way for clients reached online to find and request services and tracks the results of these marketing/outreach approaches.

2.1 SOCIAL NETWORK OUTREACH

This approach involves reaching and engaging populations at risk for HIV through one-on-one chats on virtual or online platforms, including through online prevention counseling. It can be implemented by training existing or new outreach staff to contact their peers and additional networks online or through untrained community members who can mobilize their online contacts to encourage uptake of HIV testing with incentives (such as the online enhanced peer outreach approach).

Privacy and data security issues

- Outreach in online spaces that are specific to certain communities should only be implemented by a member of that community to avoid being intrusive and to help develop trust with the target audience.
- Outreach workers should not mislead clients they reach online about who they are or their purpose for interacting with clients online.
- Outreach workers should be trained on client confidentiality and develop a set of rules to maintain both staff and beneficiary safety and privacy.
- Use password protection with all electronic outreach trackers and avoid paper documentation of online outreach efforts and results.

Country example (Mali)

Social network outreach is a common method for key-population-led CSOs to reach and link online audiences to local HIV services. The LINKAGES and EpiC projects in Mali have been implementing this approach since 2018. First, they hired a social and behavior change specialist to develop and deliver a training curriculum to prepare community-based peer educators to use online and virtual platforms to find members of their target audience and link them to HIV services. This rollout focused on men who have sex with men and transgender people. The training guided outreach staff on how to create profiles for various apps and provided them with strategies for online networking and communications that protected both staff and client privacy and comfort. New tools were created to track online communications, and revision of clinic forms helped track when clients who had been

RESOURCES

Technical brief:

[Social Network Outreach – For HIV Programs Reaching At-Risk Populations Online](#)

Training:

Five-part training for online outreach workers (PowerPoint available from FHI 360 upon request)

Guide:

[Secure Use of Mobile Devices and Apps: A Guide for HIV Programs Providing Virtual Client Support](#)



Photo 6. FHI 360 staff lead a training of online outreach workers in Mali. Credit: EpiC Mali Project (2020)

reached online arrived for services. Additional remote TA was provided to support routine implementation challenges and review performance. Because social media use is relatively low in Mali compared to other countries (9 percent nationally), only three outreach workers were hired to implement this approach and they were managed by a new local coordinator. During the COVID-19 outbreak in March 2020, they launched ORA (available at lbadon.com) to facilitate all online service referrals and service uptake tracking for the audience reached online. They expanded to five full-time online outreach workers and trained all 200+ peer educators on how to use ORA to help beneficiaries book appointments online if peer educators were not able to meet them during their standard in-person outreach activities. Since using ORA (March–December 2020), they found that 80 percent of the clients who booked an appointment had been newly reached by the program, and 47 percent had never been tested for HIV. A total of 740 people had booked online appointments, 357 of whom were tested for HIV and 56 were diagnosed with HIV. The online outreach approach with ORA resulted in much higher case finding than the overall HIV testing program (15.7 percent online vs. 10 percent for the overall testing program). During scale-up of the virtual approaches, it was noted that most of the results were due to the small team of five dedicated online outreach workers, while the cohort of 200+ in-person peer educators had not used ORA for service referrals to a high degree.

Other related examples

- [A Comprehensive Approach to Reaching MSM Online in Resource-Limited Settings: How to Utilize Existing Information and Communications Technology platforms to generate demands for Services \(Kenya\)](#)
- A social network outreach approach called weCare was used to reach men who have sex with men and transgender women in the United States using cyber-educators. ([Supporting Health among Young Men Who Have Sex with Men and Transgender Women with HIV: Lessons Learned from Implementing the weCare Intervention](#))
- Online outreach workers and social media campaigns were used to create demand for HIV self-testing among female sex workers in Indonesia. ([Web-Based Multifaceted Approach for Community-Based HIV Self-Testing among Female Sex Workers in Indonesia: Protocol for a Randomized Community Trial](#))

Budget inputs: Social network outreach

The following table provides costs for implementing social network outreach for a year. Variable costs should be scaled based on program size. Special attention should be given to the ratio between client load, online outreach workers, and supervisors. For HIV programs in low-connectivity settings, FHI 360 estimates that each full-time online outreach worker can refer approximately 25 people per month to HIV services. In high-connectivity settings, this may increase to 35 clients per month. Based on program targets and pilot/scale-up plans, the program can properly budget for an appropriate number of online outreach workers to meet their volume of expected clients. FHI 360 recommends one supervisor to manage a team of five online outreach workers in a low-connectivity setting and up to 10 in a high-connectivity setting.

Items	Example Vendors	Cost Estimates
Specialized TA To train local trainers on method of online HIV outreach and communication skills building for online outreach workers and provide supportive supervision for rollout and performance management	A TA provider specializing in online client support, social and behavior change, marketing, and HIV program implementation	15 days LOE (annual)
One-week trip (optional) For TA provider to visit project site and assist with training of online outreach workers	N/A	7 days LOE 1 roundtrip airfare 6 nights hotel and per diem
Implementing partner To roll out training and provide weekly review and performance management support to teams of online outreach workers and their supervisors	Staff or consultant of local implementing partner	20 days LOE (annual) Assumes training and oversight of 5–10 online outreach workers and a supervisor in one location. Additional LOE can be added to support teams in multiple locations.
Online outreach worker supervisor Daily supervision of online outreach workers, including communication support and coordination with program coordinator	Staff or consultant of local implementing partner or CSO including community-led organizations	260 days LOE (100 percent) (annual full-time staff position) The number of supervisors and amount of LOE required depend on the number of online outreach workers. One full-time supervisor may be required for a team of 5–10 full-time online outreach workers.
Outreach worker compensation To compensate outreach staff time to implement virtual approach. This may not need to be budgeted separately if engaging existing outreach staff. Additional costs may be budgeted for incentive payments/prizes for informal peer mobilizers.	Local implementing partner/CSO including community-led organizations	Variable (ongoing) Cost varies based on number of outreach workers and their intended scope of work and LOE to implement online outreach (full time or part time).
Smartphones/tablets and cases For outreach workers to connect with clients virtually and use e-tracker tools	See Android device specifications here , compatible with DHIS2 and ORA . For use with ORA, tablets with a screen size larger than 8 inches is recommended.	Variable One smartphone/tablet and case should be procured for each online outreach worker and supervisor.

Mobile data/airtime	Local mobile network operators	Variable (monthly)
For outreach workers to connect virtually with clients		~US\$5–US\$50 per 2GB monthly mobile data bundle per outreach worker. Find cost on local mobile network operator websites or here .
Specialized training on motivational interviewing or online coaching skills (optional)	Specialist in online client support, communication strategies, or motivational interviewing	Variable
This builds on the standard online outreach worker training, to strengthen capacity of outreach staff to provide more tailored and professional client support, particularly for programs intending to reach broader target audiences online.		Cost varies by vendor but may include added international TA, travel, and coordinator LOE or a contract with a private-sector specialist or vendor to implement a training.
Training workshop costs	N/A	Variable
		Cost varies based on number of outreach workers to train and number and location of trainings.
Note: This budget does not include costs that may be paid by clients to engage with online/virtual client support staff, such as the client's own device (phone) and mobile data cost.		

2.2 SOCIAL PROFILE OUTREACH

Use online advertising across social media, dating apps, websites, and search engines to reach populations at risk for HIV with increasing precision based on their demographics and interests, and the content of their online activity. Use the built-in analytics of social media platforms to track how specific subgroups respond to different targeted messages and how frequently they act by getting tested and entering treatment. Monitoring uptake of services from online ads requires use of an online reservation tool such as [ORA](#) or modification of clinic-level reporting forms or tools to determine upon client arrival whether they had learned about the service from an online ad.

Privacy and data security issues

- Use a campaign and creative content that are broad but inclusive. Do not use ad content that assumes the viewers' identity or practices (e.g., gender, sexuality, HIV status). Confirm creative content and messaging with members of the target audience to ensure they do no harm.
- Link online ads to a resource or page that is broad but inclusive, such as a helpline or Facebook page whose staff can support a broad range of clients or an [ORA](#) platform which does not inadvertently disclose key population or HIV status (such as only offering key-population-specific service sites).

Country example (Eswatini)

In 2019, the LINKAGES project in Eswatini used ads on Facebook and Instagram to reach men who have sex with men and young women at risk for HIV to support their access to newly available HIV self-testing kits offered by the program. While the program used ORA (available at [TrueEswatini.com](#)), the social media ads directed clients to open a chat in Facebook Messenger with a program-supported HIV counselor who chatted with them to answer their questions about HIV self-testing and linked them to a nearby facility or pick-up point to access the test kits. Ad content was prepared with the support of a social media marketing specialist and reviewed by a local coordinator and key population representatives. Ads were posted using Facebook's ad manager with a budget of US\$200 and resulted in reaching 16,536 users and 472 unique messages sent to the counselor. In 2020, the follow-on EpiC project

RESOURCES

Webinar recording:

[Marketing HIV Services Online](#)

Guides:

Advertising guides for HIV programs to leverage Google for nonprofits, Grindr 4 Equality, and Facebook (available from FHI 360 upon request)

[Building Healthy Online Communities \(BHOC\)](#)
[Recommendations for Improving Effectiveness of Online Ads to Promote Sexual Health](#)



Photo 7. A content developer at TABS Jamaica creates content for HIV service promotions on social media. Credit: TABS Project Jamaica (2018)

in Eswatini used a similar social media ad approach to advertise easy access to ART and PrEP refills during the COVID-19 lockdown. An expenditure of US\$150 on ads resulted in 560 unique messages sent to a counselor, who helped clients use ORA to book appointments for refills distributed in convenient community locations or via home delivery.

Other related examples

- Online and social media campaigns by [LoveYourself](#) promote sexual health for men who have sex with men and transgender women in the Philippines with a variety of online outreach approaches, including online advertisements.

Budget inputs: Social profile outreach

Items	Example Vendors	Cost Estimates
Online advertising costs Costs to post ads on various online platforms and apps	Facebook, Twitter, TikTok, Google, dating apps Costs to post ads may also be paid by a marketing agency, if included in their contract and budget.	US\$500–US\$5,000 (annual) US\$300 may be appropriate for a low-connectivity setting for a smaller key-population-focused HIV program.
Creative/marketing support To develop a client-facing social media campaign, create design assets for online ads, and manage and track the results of online ads. Recurring years may have reduced scope and cost after initial online campaign and brand are developed.	Marketing or creative specialist or agency with experience in social media and other online advertising, graphic design for online advertising, and use of social media analytics. FHI 360 has contracted with Percolate Galactic in Indonesia, Verge in Kenya, Leo Burnett in India, and the FHI 360 Design Lab and Social and Behavior Change (SBC) team .	US\$8,000–US\$60,000 (annual) US\$8,000 may be appropriate for a low-connectivity setting for a smaller key-population-focused HIV program. Costs vary by country, the number and size of target audiences, and the agency's scope of work.
Specialized TA To orient creative agencies to program goals, coordinate local input, review campaign plans/communication, and support monitoring and oversight of online ad campaigns	A TA provider specializing in SBC, marketing, and HIV program implementation	10 days LOE (annual)
Implementing partner To coordinate between TA provider, marketing agency, and broader program on the design and rollout of online advertising campaigns	Staff or consultant of local implementing partner	20 days LOE (annual) Coordinator LOE may be reduced in low-connectivity settings, for smaller key-population-focused HIV programs, or when implementing short one-off campaigns.
Notes: <ul style="list-style-type: none"> • Programs may assign responsibility to one or more online outreach workers or case managers to respond to client queries and messages resulting from online ads. This may entail additional costs. • Programs implementing large and consistent online ad campaigns will benefit from hiring or assigning a social media coordinator who can manage social media promotions and monitor social media content while coordinating with other team members to ensure the high quality and results of the program's online brand and demand-generation approaches. This may entail additional costs. • Professional creative and marketing support can be reduced or removed for lower-connectivity settings implementing short one-off campaigns, in which case the TA provider and coordinator may assume this role. 		

2.3 SOCIAL INFLUENCER OUTREACH

Engage influential, credible, and well-connected individuals as important partners in online outreach and marketing and extend program reach into new online networks. Influencers can range from macro influencers (celebrities) to nano influencers with smaller reach, each of which may be engaged by the program in different ways. Influencers have the capacity to use audience-specific communication strategies and existing networks of trust to support demand creation and conversion to service uptake among target audiences.

Privacy and data security issues

- Use a campaign and creative content with influencers that are broad but inclusive. Avoid content that assumes the viewers' identity or practices (e.g., gender, sexuality, HIV status). Confirm creative content and messages with target audience members to ensure they do no harm.
- Include mechanisms to review influencer content before posting but remain flexible to allow them to use their own messages, as appropriate.
- For formal arrangements with influencers where the influencer helps represent the public brand of the HIV program, include clauses in their contract that guide their communication, outline expectations, and clarify that contracts can be terminated if the public image of the influencer significantly diverges from the program's interest and brand.
- Include influencers with HIV program staff in a group chat (e.g., WhatsApp) for real-time support for their communication and to ensure they have accurate information to provide to their followers about HIV and how to encourage uptake of services.
- Engage influencers with a significant following among the target audiences to avoid disseminating messages to unintended audiences who may do harm to the influencer, program, or beneficiary.
- Ensure that the HIV program, its online HIV campaign, and referral service sites are aligned with and relevant to the types of audiences influencers may reach online.

Country example (Kenya)

The LINKAGES and EPIC projects in Kenya have used an ORA platform since March 2019 to support online HIV outreach and referrals and promotion by social media influencers (alongside online ads and online outreach-worker-based approaches). Ads and influencers were used in the first three months of implementation to generate awareness and establish the brand of their online HIV services campaign. They hired a creative agency (Verge) to establish the campaign concept and materials under the name [#iam1in3](#), representing the fact that one in three Kenyans know their HIV status. They also provided the design assets for ORA (available at [Step1.co.ke](#)). The creative agency also helped identify and engage three influencers to support the campaign, including a young male comedian [Seth Gor](#) with 225,000

RESOURCES

Technical brief:

[Social Influencer Outreach – For HIV Programs Reaching At-Risk Populations Online](#)

Example contract:

[Contract to formalize engagement with social media influencer \(available from FHI 360 upon request\)](#)

followers, female rapper [Femi One](#) with 734,000 followers, and LGBT and sex worker activist [Denis Nzioka](#) with 11,000 followers. To better align with the online target audiences of middle-upper socioeconomic class men who have sex with men using online platforms and other sexually active young men and women, they chose a broad and inclusive brand and promoted it through a diverse set of youth-focused influencers (not only focused on key populations). ORA linked clients to several key-population-led CSO clinics, as well as a new network of seven private providers, which helped neutralize the brand to be more acceptable for general audiences or individuals who do not wish to openly identify as key population members by accessing services only from known key-population-friendly sites. While influencers and ads were only used for the first three months, online HIV outreach workers of the key-population-led CSOs continue to implement HIV outreach to date. The social media influencers formed a WhatsApp group that included a local coordinator, the creative agency, and local and HIV technical advisors. Through this channel, influencers were provided with key messages, content to share, and weekly feedback based on performance, which helped motivate them to achieve results from their promotions. Influencers also engaged with each other and the technical experts to properly respond to their followers' questions and interests related to HIV and accessing services. After the first three months of the campaign (March–May 2019), influencers led more than 2,000 people to complete an HIV risk assessment on ORA, while 1,700 were completed as a result of online ads and 320 from online outreach workers. However, more clients booked appointments if they were reached by an online outreach worker, and the conversion rate from booking to arrival at a clinic was much higher for bookings supported by an online outreach worker (compared to ad or influencer approaches). The program found that influencers were an ideal way to generate awareness and trigger initial interest among people who could later be reached by an online outreach worker to support them to avail services. As of May 2021, about 1,500 bookings had been made on ORA in Kenya, primarily as a result of online outreach workers but also benefiting from the original set of ad- and influencer-based promotions that helped establish the brand online. Those broader promotions led many clients to remember the ORA site and make direct bookings later. Other clients who had already been exposed to the campaign through an ad or influencer were later contacted by an online outreach worker, who helped them achieve their results for bookings, arrivals, and HIV tests.

Other related examples

- PATH and several local men who have sex with men community organizations in Vietnam partnered with social media influencers to help create demand for PrEP and HIV testing among gay men and other men who have sex with men. ([Digital Innovations Are Promoting HIV Testing and Prevention to MSM in Asia](#))
- Social media influencers promoted HIV services provided by key-population-led organizations to men who have sex with men in Thailand under the LINKAGES project. ([Social Media Influencers May Be the Key to Reaching Men Who Have Sex with Men with HIV Interventions](#))
- APCOM, in coordination with several local community organizations across four countries in Southeast Asia, implemented the TestXXX campaign to promote HIV services among MSM. TestXXX leveraged a range of marketing and online outreach channels including online advertising and influencer-based promotions. ([Thumb Stopping and 15 Other Case Studies on HIV-related Behaviour Change Communication](#))

Budget inputs: Social influencer outreach

Items	Example Vendors	Cost Estimates
Creative/marketing support To identify, engage, and run influencer promotions including influencer management and monitoring	Marketing or creative specialist or agency, such as AI-Fluence (Kenya), Percolate Galactic (Indonesia), Verge (Kenya), Leo Burnett (India), and the FHI 360 Design Lab and SBC team Various local vendors or consultants can be contracted for this support.	~US\$8,000–US\$50,000 (annual) Costs vary by country, vendor, vendor scope, the number and type of influencers engaged, and the duration of engagement.
Specialized TA To orient the HIV program to influencer campaigns and help manage relationships between the agency, program, and influencers	A TA provider specializing in influencer marketing, SBC, and HIV program implementation	10 days LOE (annual) Additional LOE may be required for large-scale influencer campaigns and if a TA provider will be required to provide more intensive monitoring and messaging support to influencers.
Implementing partner To support coordination among TA provider, program, agency, and influencers, and provide messaging support to influencers	Staff or consultant of local implementing partner	10 days LOE (annual)
Influencer launch event workshop costs (optional) A useful way to engage influencers in the program, set expectations, and kickstart campaigns May be included under the creative/marketing agency contract	N/A May be included under the creative/marketing agency contract	Variable Cost varies by event type and number of influencers engaged.
Influencer fees (optional) Costs to post ads on various online platforms and apps May be included under the creative/marketing agency contract	Paid directly to influencer via contract	~US\$1,000–US\$10,000 (annual) Cost varies depending on country and program/audience size and the number and cost of each individual influencer. Influencers may be paid based on the influencer's own cost sheets, a negotiated rate per post, or performance (e.g., the number of clients reached leading to service uptake).
Note: Professional creative and marketing support can be reduced or removed for lower-connectivity settings implementing short one-off campaigns where the TA provider and coordinator may assume this role.		

3. Engage

People-centered and tailored approaches can help engage people in HIV services and support their fluid movement into care and treatment or continuous prevention based on their needs and preferences. These approaches will be particularly useful to support people's adherence to ART and PrEP to help them achieve their clinical goals of viral suppression or HIV prevention. Several of these same approaches may also be adapted to retain people in comprehensive HIV prevention services including access to condoms, lubricant, needles/syringes, regular STI screening and treatment, and opioid substitution therapy (for HIV-positive and -negative people). Routinely engaging people should be differentiated so that people capable of and preferring self-care can manage and direct their own care, while clients requiring additional assistance may access enhanced support.



Photo 8. Community-based supporters use virtual platforms to support clients on ART. Photo credit: Yayasan Inter Medika (YIM), Jakarta, Indonesia

When to use

- When programs engage and support people in routine care, such as people living with HIV or people taking PrEP, or to help young key population individuals or people at particularly high risk engage in tailored combination prevention
- When seeking to track and follow a cohort of people as they access services across a range of service providers

Using multiple approaches together

- A digital case management tool or software will greatly facilitate the work of virtual case management, such as the [DHIS2 Tracker](#) or [ORA](#).
- Virtual case management can be automated when combined with [ORA](#), which sends automated appointment reminders by SMS.
- Chatbots integrated into client-facing platforms such as [ORA](#) or the program's social media page or WhatsApp account can help people stay engaged in the HIV program, promote learning, and facilitate service referrals.

3.1 VIRTUAL CASE MANAGEMENT

HIV case management is an individual relationship between case managers and clients where the case manager helps people achieve goals along the HIV service cascade. In the context of FHI 360 programs, HIV testing services are typically an entry point into virtual case management, and case managers focus on supporting people assigned to their cohort to initiate and sustain ART or use PrEP as needed, offer and facilitate partner notification and index testing (for people living with HIV), and assist and track people as they access services across a range of providers to reach their clinical goals (including viral load suppression for people living with HIV and remaining HIV negative for people on PrEP). While virtual case management has typically been used to support people taking HIV treatment or prophylaxis, principles and tools used for this approach can be adopted to support beneficiaries, for example, in routine prevention programming for regular HIV and STI testing, condom and lubricant access, and video-observed opioid substitution therapy.

Privacy and data security issues

- Ensure a clear program description and client awareness of the types of staff implementing virtual case management (e.g., clinic staff, community/non-community members).
- Ensure the ability of people to choose the level of support, modality, and channels for communication.
- Automated reminders sent to people should not disclose the person's HIV status or specific health services they accessed or are being recommended to access.
- Individuals have consented to be added to a case manager cohort and client management database and are aware of what data are collected, who accesses the data, and how they are used.
- Case managers use a password-protected database/cohort management app.
- Client management databases hide sensitive information from open view.
- Case managers have a protocol to follow when contacting people virtually to confirm a person's identity before discussing any health-related matters.
- Additional privacy and data security issues to consider are covered in more detail in the FHI 360 guidance, [Secure Use of Mobile Devices and Apps: A Guide for HIV Programs Providing Virtual Client Support](#).

RESOURCES

Webinar recording:

[Virtual Case Management](#)

Guides:

[Virtual case management \(draft available from FHI 360 upon request\)](#)

[Secure Use of Mobile Devices and Apps: A Guide for HIV Programs Providing Virtual Client Support](#)

Country example (Indonesia)

In the wake of lockdowns in Jakarta due to COVID-19 mitigation, face-to-face case management interventions became increasingly untenable. LINKAGES Indonesia and its six community implementing partners pivoted to virtual case management service delivery in March 2020 to support continuity of care for people living with HIV as movement was curtailed and direct HIV service access grew more limited. LINKAGES quickly established technical guidance and SOPs for delivering virtual case management services to people living with HIV at different stages of ART. Google Forms was used to transfer case management data from 53 community-based supporters (CBS) to their respective community service organization monitoring and evaluation personnel. Training and mentoring were provided virtually each month, and biweekly online coordination meetings provided opportunities to further adapt people-centered programming within the dynamic COVID-19 context.

These CBS provided monthly case management assistance to key population individuals living with HIV, including service navigation/referrals, adherence and motivational counseling, social support, linkages to home-based antiretroviral (ARV) delivery services through the LINKAGES Indonesia *Jak Anter* system, and financial assistance for health service utilization through the LINKAGES Indonesia *Jak Support* initiative.

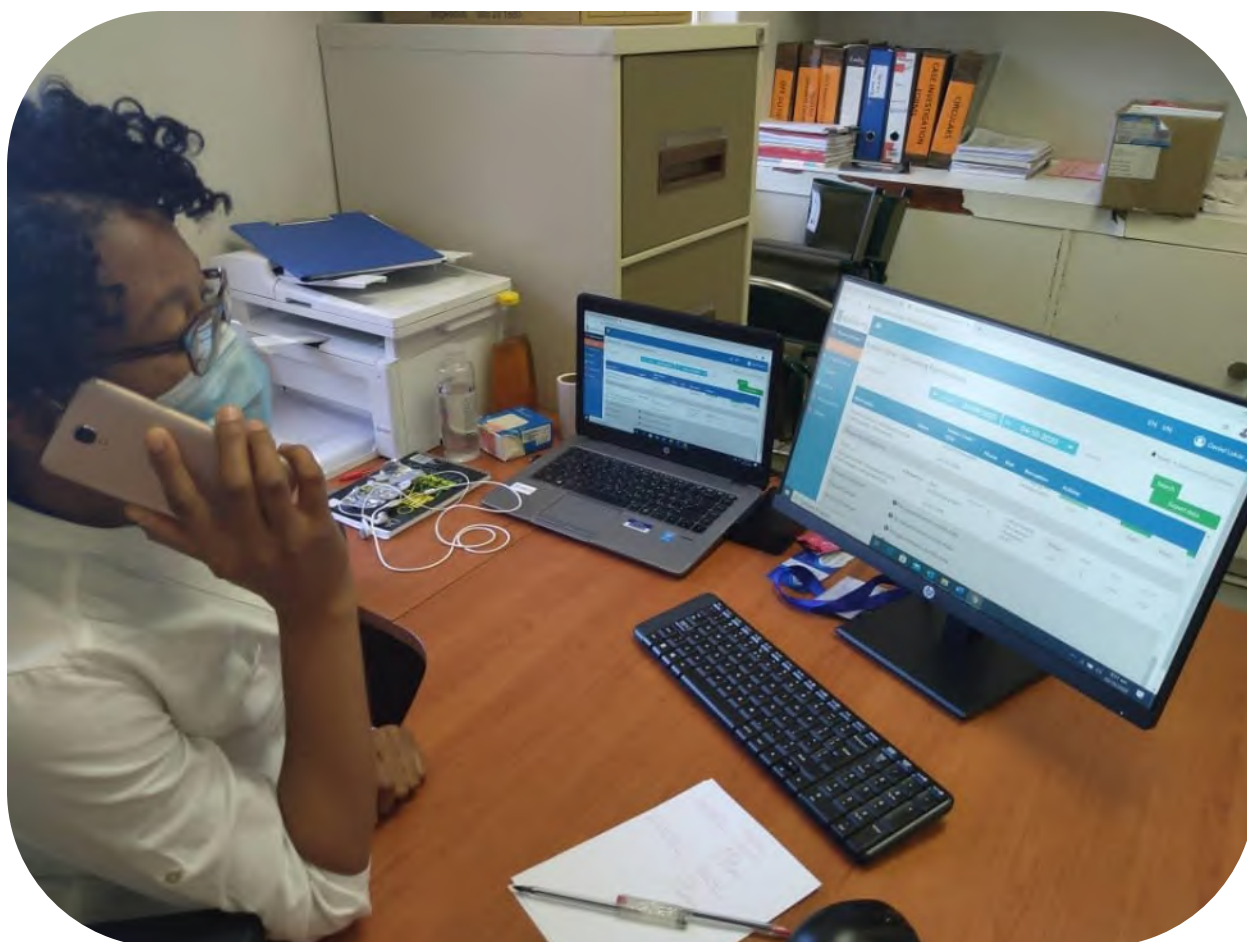


Photo 9. A case manager of the KP-STAR project in Namibia uses QuickRes.org (a deployment of ORA) to manage and track their cohort of clients on ART and PrEP. Credit: KP-STAR Project Namibia (2021)

The Indonesia team spent one month making the transition to virtual case management, which involved developing SOPs, creating Google Forms to transfer case management data from the CBS to the CSOs' monitoring and evaluation personnel, and training CSO staff on the SOPs and Google Forms. After that, the CSOs took the lead in providing the virtual case management services to their clients. In addition, they provided navigation assistance to people living with HIV as needed. The CBS documented their activities using the Google Forms, and the CSO continued to supervise, monitor performance, and coordinate activities as the pandemic unfolded and services were modified in response. The FHI 360 and CSO teams held biweekly meetings to ensure that any problems were identified and addressed so that people living with HIV did not lose access to needed services. The average cost per month per person supported with virtual case management services from March through September 2020 was US\$6. The bulk of this expense (84 percent) was labor from the CSOs, followed by 13 percent for communication and transportation expenses. From March through September 2020, the coverage of clients supported by virtual case management services rose by 48 percent, from 2,564 key population individuals living with HIV supported at the end of March 2020 to 3,801 receiving assistance by September 2020. Approximately 43.5 percent of total key population clients living with HIV at 60 PEPFAR-supported facilities received virtual case management assistance from the project. Continuity in care remained high at 99 percent across quarters, and viral suppression rates averaged 92 percent.

Other related examples

- An approach for virtual PrEP initiation and case management (including teleconsultations) was deployed in Brazil in response to the limitations on in-person service delivery due to COVID-19. ([Telemedicine as a Tool for PrEP Delivery during the COVID-19 Pandemic in a Large HIV Prevention Service in Rio de Janeiro-Brazil](#))
- The CHARISMA project funded by PEPFAR and the United States Agency for International Development (USAID) will launch CHARISMA Mobile in partnership with Digital Square to deliver mobile empowerment counseling and gender-based violence screening and referrals with the aim to support PrEP adherence among women in South Africa. ([CHARISMA Mobile: Developing a Digital Resource for Empowerment Counseling](#))
- Virtual interventions are also being developed in support of opioid substitution therapy (OST). In the early stages of OST (and in some contexts for longer periods of time), the requirement of daily clinic visits presents a considerable burden for clients. Take-home dosages of OST are an alternative which, in early phases of OST, can be supported through video-observed therapy or electronic pill-dispensing devices. Evidence for the effectiveness of these approaches is still emerging, and budgeting would need to be done locally. ([Video Directly Observed Therapy Intervention Using a Mobile Health Application among Opioid Use Disorder Patients Receiving Office-based Buprenorphine Treatment: Protocol for a Pilot Randomized Controlled Trial](#))

Budget inputs: Virtual case management

Items	Example Vendors	Cost Estimates
Specialized TA To implement a training of trainers on virtual case management for case managers and provide supportive supervision for rollout and performance management	A TA provider specializing in online client support, SBC, marketing, and HIV program implementation	15 days LOE (annual)
One-week trip (optional) For TA provider to visit project site and assist with training of case managers	N/A	7 days LOE 1 roundtrip airfare 6 nights hotel and per diem
Implementing partner To roll out training and coordinate team of case managers	Staff or consultant of local implementing partner	20 days LOE (annual) Assumes training and oversight of 5–10 online outreach workers and a supervisor in one location. Add LOE to support teams in multiple locations.
Virtual case manager supervisor Daily supervision of case managers, including communication support and coordination with program coordinator	Staff or consultant of local implementing partner or CSO	260 days LOE (100%) (annual full-time staff position) The number of supervisors and amount of LOE required depends on the number of case managers. One full-time supervisor may be required for a team of 5–10 full-time case managers.
Tablets and cases For case managers to connect with clients virtually and use e-tracker tools	See Android device specifications here , compatible with DHIS2 and ORA . For use with ORA, tablets with a screen size larger than 8 inches is recommended.	Variable One tablet and case should be procured for each case manager and supervisor.
Mobile data/airtime For case managers to connect virtually with clients	Local mobile network providers	Variable (monthly) ~US\$5–US\$50 per 2GB monthly mobile data bundle per case manager. Find costs on local mobile network operator websites or here .
Case manager compensation To pay for the time case managers spend to implement virtual approach. May not be budgeted separately if engaging existing case manager staff.	N/A	Variable (ongoing) Cost varies based on number of case managers and LOE required.
Training workshop costs	N/A	Variable Cost varies based on number of case managers to train and number and location of trainings.
Notes: <ul style="list-style-type: none"> This budget does not include costs that may be paid by clients to engage with online/virtual client support staff, such as the client's own device (phone) and mobile data cost. This budget does not include the cost of home delivery of ART, PrEP, or other services for clients supported by a virtual case manager. See more in Decentralized Drug Distribution section. This budget does not include the cost to set up and roll out an electronic cohort management software such as ORA or the DHIS2 Tracker. 		

3.2 DECENTRALIZED DRUG DISTRIBUTION

HIV programs can add several modalities to their virtual case management approach to expand service access and delivery, including referrals to decentralized drug distribution (DDD) pick-up points (e.g., private pharmacies, home delivery, or alternative pick-up locations). These approaches may entail additional cost to the program and/or client. Use this guide to consider these benefits and costs.

Note: There may be national policy or procurement procedures that affect whether DDD can be implemented. HIV programs should check on their legal and policy context before planning a DDD approach.

Privacy and data security issues

- Establish memoranda of understanding with all pick-up points, including pharmacies, post offices, other community locations, and couriers, to outline their data access, reporting responsibilities, costs paid by clients and reimbursements from the program (if any), and client confidentiality/data security procedures.
- Use referral and tracking systems with pick-up points that safeguard client data (for guidance, see notes in [ORA](#) section).
- Programs may consider using new commodity packaging to maintain client privacy when receiving commodities through third-party distributors (e.g., ride-share apps, courier services).

Country example (Liberia)

In Liberia, people living with HIV experience challenges with accessing ART, including long wait times, long travel times, and the high cost of transport. To ease the burden on both ART clinics and address some of the barriers people living with HIV face in accessing treatment at these sites, the National AIDS Control Program (NACP) welcomed DDD when introduced by the EpiC project. The NACP selected Redemption Hospital, an intra-urban, high-volume ART clinic with an average of 80 people living with HIV seen each day, to pilot DDD of ART through community pharmacies. The community pharmacy model devolves stable ART clients from public facilities to pick up their medicine at a community pharmacy of their choice, and these clients only return to the health facility for clinical review and viral load testing or if they have a medical condition. With TA from EpiC, a joint team of the NACP, the Liberia Pharmacy Board, and the Liberia Network of People Living with HIV assessed 198 community pharmacies in Montserrado to understand their readiness and willingness to dispense ARVs using standardized tools. Of those assessed, the majority (97 percent) were willing to dispense ARVs, 75 percent were open after work hours and on weekends, and all were located in suburbs with high population density, making community pharmacies a feasible option. Forty-one met the criteria — capacity for commodity security and space to

RESOURCES

Guides:

[DDD of ART through the Private Sector: A Strategic Guide for Scale-Up](#)

[Modifying Models for DDD of ART through the Private Sector to Address Disruptions Related to COVID-19](#)

Presentations:

[DDD Learning Collaborative](#) (includes links to webinar recordings and presentations)

Tools:

[EpiC DDD Assessment Tools](#)

Blog:

[Indonesia Delivers: How the Country Is Ensuring access to Antiretroviral Medications during the COVID-19 Pandemic](#)

assure ART dispensing in a confidential setting — for DDD, 15 of which were strategically located near the area where ART clients resided and were selected for initial rollout. Some pharmacies declined to participate for fear of being associated with people living with HIV, which speaks to the high level of stigma in Liberia. Together with the facility ART team, pharmacists and other staff from selected community pharmacies were trained on basic HIV and ART management, including processes for ART dispensing in the community, ensuring uninterrupted supply chain, client reminders and adherence counseling, and referrals. A referral directory and the electronic DDD Application (DDD App) were adapted to provide a seamless interface for information on devolved clients between hub facilities and pharmacies. The DDD App allows for easy communication between the health facility and pharmacies to ensure fast data exchange and can also be configured to send text reminders to clients. To affirm the partnership of the government (represented by the NACP), the regulatory body (pharmacy board), respective pharmacies, and the respective health facilities, the parties signed a memorandum of understanding stipulating roles and responsibilities. During the two weeks of implementation, the hospital successfully transferred 33 people living with HIV to 10 community pharmacies for their next refill. Both the health care workers and Liberia Network of People Living with HIV have expressed satisfaction at the prospect of ART clients receiving their ARVs within walking distance from their residence. This initial success of the community pharmacy model adds to the list of countries that have scaled up this model, including Nigeria, Mozambique, the Democratic Republic of Congo, Côte d'Ivoire, Uganda, Zambia, and Lesotho, and calls for further scale-up at a global level to reduce the burden on health systems and improve access to ARVs, as well as potentially other commodities and medicines.

Other related examples

- PATH assessed transgender women and men who have sex with men in Vietnam to determine their preferences for receiving PrEP through additional decentralized distribution channels. ([Prepped for PrEP! Accelerating HIV Elimination in Vietnam with Oral Pre-exposure Prophylaxis \(PrEP\)](#))

Budget inputs: DDD

Items	Example Vendors	Cost Estimates
Specialized TA To support the project in choosing a DDD model, planning local adaption, and monitoring performance	A TA provider specializing in private sector provider engagement and HIV program implementation	15 days LOE (annual)
One-week scoping visit (optional) To meet and engage with local stakeholders involved in the proposed DDD model and support implementation plan and design	N/A	7 days LOE 1 roundtrip airfare 6 nights hotel and per diem
Implementing partner To coordinate local inputs on the DDD plan, engage local stakeholders, support adaptation of existing DDD tools to local context, and oversee implementation of DDD	Staff or consultant of local implementing partner including community-led organizations	20 days LOE (annual)

Devices and cases For DDD sites to use program tools to report distribution of commodities to clients (e.g., using the DDD App or ORA)	Tablet recommendation for providers and case managers: Samsung Tab A 10" WiFi+LTE .	Variable Cost is based on program scale and number of new pick-up points or distributors requiring devices and mobile data. Unit costs: tablet ~US\$300; smartphone ~US\$250; protective case ~US\$35.
Mobile data/airtime For DDD sites to sync data collected on program reporting tools or access online reporting systems	Local mobile network operator	Variable (monthly) ~US\$5–US\$50 per 2GB monthly mobile data bundle Find costs on local mobile network operator websites or here .
Courier/delivery costs To pay delivery costs for commodities to client homes or other locations. These may be covered by the project or clients.	Uber, Grab, GoJek, or other local courier services or ride-share apps Also consider leveraging community outreach staff to deliver and provide travel reimbursement.	Variable (ongoing) Cost varies based on courier/ride-share app selected and volume of clients expected to receive delivered commodities.
Commodity packaging Depending on DDD model chosen, some commodities may require special packaging to be designed and manufactured so that client confidentiality can be assured throughout the distribution process.	Various local vendors	Variable (ongoing) In Botswana, FHI 360 paid US\$5 per ART delivery, which includes packaging.
Commodity storage/distribution equipment Depending on the DDD model chosen, programs may consider procuring lockers, vending machines, or other equipment to manage clients' safe access to commodities at pick-up points.	Various local or regional vendors can be contracted. Under EpiC, FHI 360 worked with Right to Care and Right ePharmacy to establish and scale up automated dispensing.	Variable
Meeting/workshop costs To engage private sector pick-up points/distributors	N/A	Variable Cost varies based on number of participants and meetings required.
Note: For more information on DDD models and budget costs, contact Moses Bateganya, Director of HIV Programs Technical Support at FHI 360, at mbateganya@fhi360.org .		

3.3 CHATBOTS AND AUTOMATED CLIENT MESSAGING AND REMINDERS

A chatbot — or bot — is a computer program that simulates a natural human conversation. Users communicate with a chatbot via the chat interface or by voice, as if they were talking to a real person. Chatbots interpret and process users' words and phrases and give an instant pre-set answer. They are integrated into platforms such as Facebook Messenger, WhatsApp, Skype, Slack, Line, Kik, WeChat, and even websites. Chatbots have an application layer, a database, application program interfaces (APIs), and Conversational User Interface. HIV programs can use these to support several program objectives including education, demand creation, and even referral to services. They may also be integrated with other systems such as the [ORA](#) to mediate the process of completing a risk assessment, booking services, and administering client feedback surveys, and then sharing those responses back to ORA to register service requests with service sites. This will improve clients' access to and use of ORA for clients with feature phones or limited mobile data who cannot access the ORA web app itself. It allows for meeting clients on a platform they already know how to use and which they like and trust.

RESOURCES

Websites with resources for chatbots to support health care:

<https://www.nivi.io/>

<https://www.turn.io/>

Privacy and data security issues

- AI-assisted chatbots need to be fed large amounts of data to recognize specific patterns and optimize the interactions, which raises privacy concerns.
- AI algorithms can reproduce existing, unknown prejudices. User-centered design, extensive user testing, and client feedback channels will help uncover and address these issues during design and rollout.
- Chatbots should obtain consent from the client before the engagement ensues.
- Chatbot messages remain in the phone unless deleted by the user, which is a consideration for markets where shared mobile ownership is more common.
- Chatbots have re-engagement functionality, for example, when a client instigates a chatbot conversation and disappears midway through the interaction, or if the chatbot is pre-programmed to message 48 hours later to ask if the client was able to attend their nearest clinic as recommended by the chatbot. Caution should be exercised with this function, as clients may be averse to notifications popping up on their phone that could disclose their reasons for messaging a chatbot in the first place. As a result, these features may either not be appropriate or, when consent is obtained, the client could be offered the choice to opt in or opt out of future reminders/notifications.

Country example (Indonesia)

Our online behavior may at times be freewheeling, but it can still be difficult to discuss intimate issues with other people, even in cyberspace. Tanya Marlo (Ask Marlo) is a chatbot developed by UNAIDS to answer the HIV-related questions of young people. About half of new HIV infections in Indonesia are among young people (ages 15–24 years), yet their knowledge of HIV is poor. Only 14 percent of young men and

15 percent of young women have comprehensive knowledge about HIV.⁸ Chatbots are virtual characters that can simulate conversations by using AI technology. Well-designed chatbots are responsive, flexible, and easy to use. Developed in partnership with two Indonesian firms, the Tanya Marlo chatbot was designed for young Jakarta residents who are dating or sexually active but are not being reached through traditional HIV outreach programs. Integrated into the popular chat app LINE, the chatbot can initiate conversations with users and push messages to spark their interest and desire to learn more about HIV. Tanya Marlo uses slang and cultural references that are familiar to young people. “I am so pleased that there is a chatbot like this,” one user remarked. “People my age don’t know much about HIV and are ashamed to ask. With Marlo, it is so easy to be informed about HIV.” The chatbot has four main features: HIV Info, Quiz, Counselling, and HIV Test. HIV Info is the most frequently accessed feature. It allows users to access snappy online content including short videos, infographics, and factoids which is grouped by themes such as “myths and facts about HIV.” Its content is constantly being updated and combined with marketing campaigns. The important Counselling feature offers users the option to connect to an actual counselor from Jaringan Indonesia Positif (the Indonesia Positive Network), who can offer the emotional support and detailed information people may need to take an HIV test or seek further assistance.

Other related examples

- In a study in San Francisco, California, USA on SMS-based HIV care for young people living with HIV, the majority of participants said the intervention added value to their lives, improved adherence, and reduced their viral load. ([Digital HIV Care Navigation for Young People Living with HIV in San Francisco, California: Feasibility and Acceptability Study](#))
- In the United States, HIV.gov has launched an AI tool to provide accessible answers to questions about HIV. ([HIV.gov Launches New Chatbot Tool](#))
- A two-way mobile messaging platform called HamRaah was deployed in Iran to support ART adherence for people living with HIV. ([Tailored mHealth Intervention for Improving Treatment Adherence for People Living with HIV in Iran \[HamRaah\]: Protocol for a Feasibility Study and Randomised Pilot Trial with a Nested Realist Evaluation](#))
- An automated system of phone call reminders for appointments was used in Burkina Faso to support ART adherence for women, children, and people living with HIV. ([Promoting Access Equity and Improving Health Care for Women, Children and People Living with HIV/AIDS in Burkina Faso through mHealth](#))
- Automated mobile messaging was used to support engagement and information sharing with female sex workers in Kenya. ([A Mobile Phone-Based Sexual and Reproductive Health Intervention for Female Sex Workers in Kenya: Development and Qualitative Study](#))

⁸ Joint United Nations Programme on HIV/AIDS (UNAIDS). Communities at the centre. Global AIDS update 2019. Geneva: UNAIDS; 2019 [cited 17 May 2021]. Available from: https://www.unaids.org/sites/default/files/media_asset/2019-global-AIDS-update_en.pdf.

Budget inputs: Chatbots

Items	Example Vendors	Cost Estimates
Specialized TA To support design and rollout of chatbots and engagement between coordinator and tech vendors	A TA provider specializing in SBC, social media marketing, online client support	15 days LOE LOE is dependent on scale of rollout and whether service referrals are integrated into the chatbot.
One-week scoping visit (optional) To engage HIV programs, other health programs, and target audience members on chatbot design	N/A	7 days LOE 1 roundtrip airfare 6 nights hotel and per diem
Implementing partner To coordinate local inputs and stakeholder engagement for chatbot contents, testing, and rollout	Staff or consultant of local implementing partner including community-led organizations	20 days LOE
License/app user fees Includes use of platform to design chatbot and training on use and rollout. Some vendors include premade chatbot modules and content for specific health areas.	Turn.io and other vendors	Variable Cost varies based on the number of monthly active users. Turn.io costs US\$750 per month for 10,000–25,000 monthly active users.
Added messaging costs For chatbots operating on WhatsApp, there are added costs for sending messages to clients more than 24 hours after the last message.	WhatsApp and potentially other messenger apps	Variable See cost per message here .
Developer fees (optional) A developer can be hired to create a custom chatbot instead of using a chatbot tech vendor (see “license/app user fees” above).	TBD	Variable Cost varies by vendor, country, and scope of the chatbot functions. FHI 360 paid a developer in India US\$50,000 to create a chatbot.
Service design Includes support for designing the user flow, design assets, and messaging on chatbots	A user-centered design or SBC vendor or specialist such as Praekelt, GRID Impact, or ButterflyWorks	Variable Cost varies by vendor, country, and scope of the chatbot functions.
Note: This budget does not include costs that may be paid by clients to engage with the chatbot, such as the client’s own device (phone) and mobile data cost.		

4. Improve

To enable HIV programs to track, monitor, and manage online outreach and virtual case management services, including service access, several approaches are available. These include the use of [ORA](#), as well as an electronic survey to collect and use client feedback, complaints, and adverse events via an electronic client feedback system such as [LINK](#). HIV programs that require assistance with monitoring online HIV outreach or service delivery but do not use [ORA](#) may require additional TA (not described here) and may make use of a variety of other tools.

When to use these approaches

- Should be implemented before online HIV outreach and virtual case management rollout, or can be added afterwards to enhance tracking, client management, and data use
- When programs want live and actionable data on HIV service uptake resulting from online marketing and outreach approaches and cohort management
- When programs want to understand more about client satisfaction, feedback, and complaints to inform quality improvement across service delivery and client support
- When engaging private sector providers to report HIV service provision using a simple and intuitive interface available on [ORA](#)

Using multiple approaches together

- [ORA](#) can facilitate the implementation of electronic client feedback systems (such as [LINK](#)) by automatically sending each client an SMS message after every appointment with a link to a survey to provide feedback on their service access.
- Online outreach workers ([social network outreach](#)) can use [ORA](#) to manage and track client referrals.
- [Virtual case managers](#) can use [ORA](#) to manage and track their cohort of clients on ART or PrEP.
- Online outreach workers ([social network outreach](#)) or [virtual case managers](#) can be trained to also follow up with their clients and offer and facilitate collection of client feedback using [LINK](#).
- [ORA](#) can help track referrals and service access within networks of drug distribution points or for people responsible for delivering commodities to clients ([DDD and home delivery](#)).
- Data integration can be built to connect online service requests on [ORA](#) with other program tracking and reporting tools or national-level systems such as electronic medical record systems to reduce duplication of data reporting and streamline data use.
- [ORA](#) can be deployed alongside the [DHIS2 Tracker](#) to help monitor different aspects of the program (see examples below for such deployments).

Examples of how HIV programs can use [ORA](#) with other program reporting tools

- **[ORA](#) to facilitate online outreach and referrals:** ORA can be used to granularly track results of online outreach and marketing campaigns. HIV service appointments booked on ORA may result in clients walking into HIV service sites. Providers at these service sites may use ORA to report the clients who arrived for their appointment as well as services provided. However, because all clients need to be entered in the existing health management information system (HMIS), whether DHIS2 or another system, using ORA can lead to some duplication. As such, the existing HMIS and processes should be fully understood before rolling out ORA. Once it is well understood how ORA can work with existing systems at all levels of service delivery, programs can explore whether automatic transfer of information can be established to reduce data entry burden and distinguish clients reached and referred through ORA from those reached and referred through other channels.
- **[ORA](#) for client-led booking (self-care):** Programs can allow clients to use ORA's client-facing interface to book HIV services on their own. A data transfer can be established between ORA and the existing HMIS to link client records and avoid duplicate reporting. Appointments booked in ORA can be sent to the existing HMIS where providers can view appts and continue to report service delivery.
- **[ORA](#) for private sector booking:** Private providers and distributors can use ORA to report service delivery to program beneficiaries, whereas standard government and community providers may use standard HMIS such as the [DHIS2 Tracker](#). ORA is well suited to support private sector engagement because it requires less training to understand/use and can be accessed via a web browser (no app download required). Results captured in ORA can be aggregated and reported manually into aggregate reporting systems of the HIV program or national government. Alternatively, data transfer can be set up between ORA and the existing HMIS so that results captured on ORA from private providers are included in the overall HIV program results.

4.1 ONLINE RESERVATION AND CASE MANAGEMENT APP

ORA is a web application that allows any member of the public to easily make reservations for health services using a smartphone, tablet, or laptop. It also provides clinic and program staff with functions for clinic appointment management and reporting, and case management for HIV-related care. ORA allows HIV programs to facilitate and track online or virtual outreach, case management, and clinic service delivery. ORA can be deployed as a program or country-specific app, or countries/programs can join the existing global ORA called QuickRes, which can be done faster and with a lower maintenance cost but is less customizable compared to a country-specific deployment. Programs can selectively choose to use certain functions on ORA that best meet their needs and gaps, such as to facilitate private provider reporting, manage online HIV outreach/marketing and client-led service booking, or conduct virtual case management. Programs will need to review existing individual client management systems and reporting tools and decide how ORA can be introduced to add value to the program and avoid duplication of reporting.

Privacy and data security issues

- Clients' nickname and mobile number are collected. Phone numbers are hidden (revealed on individual basis on back end and hashed into an anonymous code upon data export).
- Risk assessment responses are not accessible by program staff, but the aggregated HIV risk score is shown to the assigned outreach worker and case manager.
- Avoid using brand and service providers that inadvertently disclose HIV or key population status of clients (use a broad but inclusive brand and range of service providers).
- SMS messages sent to clients by QuickRes do not disclose the types of HIV services accessed, key population status, HIV status, or clinical results.
- The ORA back end is accessed through a secure login portal that allows users to only see data relevant to them and their intended scope of work for using ORA.
- System security measures include SQL encryption of communications from server to client device, routine updates and patches to site components and security by the developer, and military grade encryption of backed up database files.

RESOURCES

Technical Guide:

[Online Reservation and Case Management App \(ORA\)](#)

Video:

[QuickRes client explainer video](#)

Webinar recording:

[Setting Up and Using QuickRes](#)

Other guidance:

[QuickRes SOPs](#) (available upon request from FHI 360)

[EpiC Strategic Information Data Security Guidance](#) (available from FHI 360 upon request)

[Checklist for Planning Safe and Confidential Access to Online HIV Services](#) (in *Going Online* vision, pages 37–45)

- Clients accept the data use and privacy policy before using ORA. The policy is adapted to the country context depending on their use case of ORA, types of users, and permissions granted.
- Skilled and sufficient TA is required to ensure that HIV programs have strong SOPs for using ORA securely.

Country example (India)

As of 2021, 27 countries have invested in ORA-based systems to help manage online outreach, referrals, service reporting, and virtual case management. One of the first use cases was in India in 2018 through the LINKAGES project. The national HIV program in India wanted to build on its successful physical HIV outreach and testing services to include those in the virtual space, including members of key populations who use social media and dating apps. LINKAGES India implemented ORA with an online client support team to help key population members make online reservations and access offline HIV services. ORA was launched in India in May 2018 as Yes4me.net with a service package designed for the online target audience. Yes4Me offers clients the unique ability to access advanced HIV and STI testing at private laboratories in large cities at a heavily discounted rate, all from the convenience of their mobile phone. The confidentiality and convenience of Yes4Me and the high quality of clinical providers to whom users were referred convinced this previously unreached audience to access HIV services. Yes4Me expanded the ORA platform's functionalities to include case management and tracking of service uptake for each client. Yes4Me was initially piloted in three districts and in March 2019 was scaled up to 15 cities across the country. From May 2018 through September 2019, 2,528 bookings were made on ORA and 43 percent of those clients arrived at a lab for HIV testing. This resulted in an HIV case-finding rate of 5.6 percent, compared to a 0.5 percent HIV case-finding rate through comparable traditional in-person outreach among men who have sex with men in the same regions. One hundred percent of the 61 clients diagnosed as HIV positive through this approach were linked to ART. This platform is now being implemented by the ACCELERATE project.

Other related examples

- A new digital tool rolled out in London in 2021 allows patients to manage their appointments, complete assessments, review their results, and communicate with their health team. ([Digital Tool for HIV Patients Launched at Chelsea and Westminster](#))

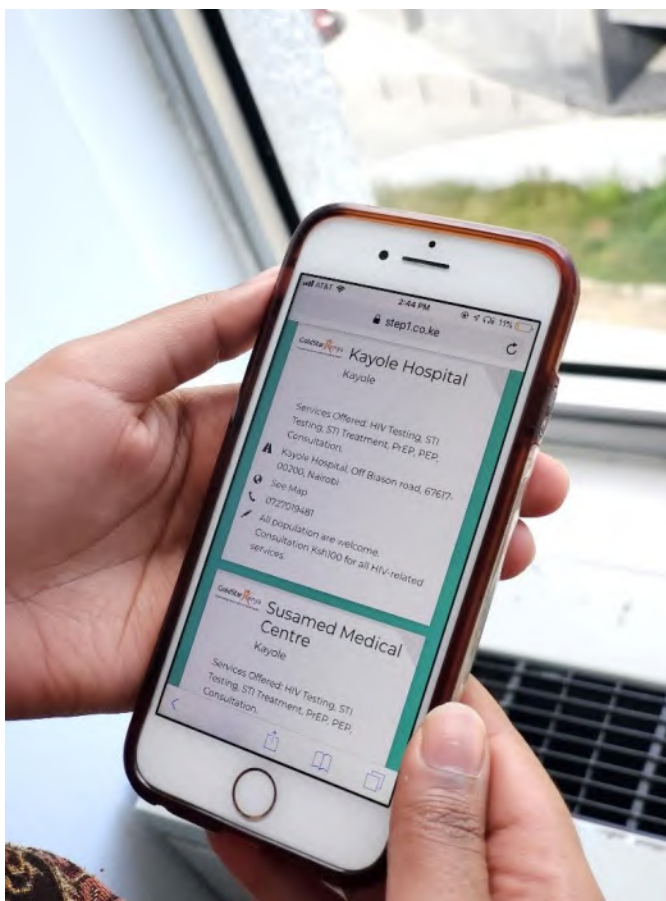


Photo 10. A client uses ORA on their mobile phone to find and book HIV services nearby. Credit: Ben Eveslage (2018)

- A study in Europe in 2020 introduced an app for the management of HIV to enable patients and clinicians to connect virtually, result in an undetectable viral load among 99 percent of participants and a 30 percent reduction in clinic attendance. ([Evaluating mHealth Technology in HIV to Improve Empowerment and Healthcare Utilisation: Research and Innovation to Generate Evidence for Personalised Care](#))
- Napneung, a research project conducted by the Thai Program for HIV Prevention and Treatment (PHPT), offers anonymous online appointment booking for HIV testing in Chiang Mai, Thailand. (<https://www.napneung.net/>)
- PrEPTECH by the Youth Tech Health Initiative of ETR is an integrated technology-based approach to increasing PrEP uptake among men who have sex with men and transgender women in California and Florida, USA. It is a digital platform that integrates at-home testing, telemedicine appointments, online pharmacy with home delivery, and a medication adherence system. ([Innovate: PrEPTECH](#))
- The European AIDS Treatment Group designed and deployed the EmERGE mobile health platform in five European countries to support self-management for medically stable clients living with HIV, including client facing interface to access medical records and facilitating virtual consultations. ([EmERGE mHealth Platform: Implementation and Technical Evaluation of a Digital Supported Pathway of Care for Medically Stable HIV](#) and <https://www.emergeproject.eu/>)
- A study in South Africa investigated a client-facing app for reporting HIV self-testing results. ([Uptake of the Ithaka Mobile Application in Johannesburg, South Africa, for Human Immunodeficiency Virus Self-testing Result Reporting](#))
- An app was deployed in Spain to help people who inject drugs find needle-exchange locations. ([Developing and Testing the Populi Needle Exchange Point Finder: An App to Reduce Harm Associated with Intravenous Drug Consumption among Homeless and Non-homeless Drug Users](#))

Budget inputs: ORA

HIV programs can either host their own country-specific ORA platform or join an existing app that is shared across programs and countries. Setup and maintenance costs are lower to join an existing ORA platform (called “QuickRes”), but country-level adaption may be limited. If country-level adaptations such as custom functions, branding, and data integrations will be required, HIV programs should consider deploying a country/program-specific ORA platform. The following table provides the budget inputs to design and deploy a country- or program-specific ORA platform.

Items	Example Vendors	Cost Estimates
ORA setup developer cost To clone the latest ORA software into new hosting environment with light adaptation (e.g., language, branding, services). Includes service contract for first year.	AD System Asia This vendor is preferred because of its exclusive technical expertise in developing and maintaining ORA-based platforms.	US\$3,500
Developer/information technology (IT) service contract To maintain proper functioning of ORA, update system to latest security patches, and fix any site bugs	AD System Asia While not recommended, routine ORA developer support may be handed over to another local developer.	US\$1,000 (annually starting at Year 2) Cost is variable based on the version of ORA used and the level of developer support required.
Server hosting package Including hosting, backup, domain, and encryption	GoDaddy and DropMySite Other local and international vendors should be verified by the developer.	US\$900 (annual) Server hosting US\$600+ (up to US\$1,200 depending on required capacity), US\$50 domain rental, US\$100 secure backup service, ~US\$150 for SSL encryption certificates.
Develop ORA site branding and design assets	Design Lab 360 , local creative/marketing agency, local graphic design consultant, graphic design staff of HIV program	US\$1,000–US\$3,000 Cost varies by region and scope of work (e.g., adapting existing brand versus creating a new brand).
Specialized TA Assistance from an ORA technical specialist for design, rollout, and routine implementation support, including adaptation of program SOPs for using ORA	TA from FHI 360's Going Online team is recommended for ORA design and rollout.	Year 1: 40 days LOE Year 2+: 25 days LOE (annual)
One-week trip (optional) For TA provider to visit project site and assist with ORA design and rollout		7 days LOE 1 roundtrip airfare 6 nights hotel and per diem
Implementing partner To onboard local providers and facilitate field-level training and quality assurance of ORA use	Implementing partner staff or consultant	20 days LOE (annual) LOE is based on rollout among 5–10 facilities. Additional time may be required for larger-scale rollouts.
SMS bundle (annual) To send clients automated SMS reminders and follow-ups from ORA	BudgetSMS (global vendor) Local vendors may also be used but should be verified by the developer.	US\$400–US\$10,000 (annual) Costs vary based on client volume. See sample SMS costs per country here from

		BudgetSMS . Low-connectivity settings with small key population programs may budget US\$400 annually to support approximately 100 bookings per month.
Developer fee to add new functions to ORA (optional) Required to establish data transfer with other systems or to add new functions to ORA	AD System Asia	Variable Cost varies based on scope of changes and new functions requested.
Smartphones/tablets and cases For program staff and providers to access and use ORA	See Android device specifications here , compatible with DHIS2 and ORA . For use with ORA, tablets with a screen size larger than 8 inches is recommended.	Variable One device and case per outreach worker, case manager, and supervisor using ORA
Mobile data/airtime For program staff and providers to access and use ORA	Local mobile network operator	Variable (monthly) ~US\$5–US\$50 per 2GB monthly mobile data bundle for each online outreach worker, case manager, and supervisor using ORA Find costs on local mobile network operator websites or here .
Training workshop costs To train providers on how to use ORA, view upcoming appointments, and report arrivals and service delivery.	N/A	Variable Cost varies based on number of providers and training sessions.
Notes: <ul style="list-style-type: none"> • LOE for TA to support ORA rollout excludes LOE for design and performance support for various other technical approaches that use ORA, such as online outreach and virtual case management. • Devices: ORA works well on standard Apple and Android smartphones and tablet models. Confirm selections with FHI 360. Programs receiving funds from the U.S. Government (USG) may be restricted from purchasing devices and services from Huawei, ZTE, and its subsidiaries due to USG policy Section 889. • Developer costs and TA provider LOE do not include effort to establish data exchange between ORA and other data systems. 		

Budget inputs: Joining an existing global deployment of ORA (QuickRes.org)

Item	Example Vendors	Cost Estimates
Developer/IT service contract	AD System Asia (cannot change vendor)	US\$1,300 (annual shared cost) Each country/project on QuickRes pays an equal portion of this cost.
QuickRes improvements and new functions	AD System Asia (cannot change vendor)	US\$10,000 (annual shared cost) Each country/project on QuickRes pays an equal portion of this cost.
Server hosting package Including hosting, backup, domain, and encryption.	GoDaddy and DropMySite (cannot change vendors)	US\$1,550 (annual shared cost) Each country/project on QuickRes pays an equal portion of this cost.

Specialized TA Assistance from an ORA technical specialist for design, rollout, and routine implementation support, including adaptation of program SOPs for using ORA	TA from FHI 360 Going Online team is recommended for ORA design and rollout.	Year 1: 30 days LOE Year 2+: 20 days LOE (annual)
One-week trip (optional) For TA provider to visit project site and assist with QuickRes rollout		7 days LOE 1 roundtrip airfare 6 nights hotel and per diem
Implementing partner To onboard local providers and facilitate field-level training and quality assurance of ORA rollout with partners	Implementing partner staff or consultant	20 days LOE (annual) LOE is based on rollout among 5–10 facilities. Additional time may be required for larger-scale rollouts.
SMS bundle To send clients automated SMS reminders and follow-ups from ORA	BudgetSMS (global vendor); local vendors may also be used but should be verified by developer.	Variable (annual) Costs are charged to countries/projects individually and are based on client volume. See sample SMS costs per country here , e.g., ~US\$400 annually for an HIV program with 100 bookings per month.
Smartphones/tablets and cases For program staff and providers to access and use ORA	See Android device specifications here , compatible with DHIS2 and ORA. For use with ORA, tablets with a screen size larger than 8 inches is recommended.	Variable One device and case per outreach worker, case manager, and supervisor using ORA
Mobile data/airtime For program staff and providers to access and use ORA	Local mobile network operator	Variable (monthly) ~US\$5–US\$50 per 2GB monthly mobile data bundle for each online outreach worker, case manager, and supervisor using ORA Find costs on local mobile network operator websites or here .
Training workshop costs To train providers on how to use ORA, view upcoming appointments, and report arrivals and service delivery.	N/A	Variable Cost varies based on number of providers and training sessions.
Notes: <ul style="list-style-type: none"> Shared costs are paid by FHI 360 and distributed equally to participating programs/countries. Costs in this budget assume a minimum of 10 countries/projects. LOE for TA to support ORA rollout excludes LOE for design and performance support for various other technical approaches that use ORA, such as online outreach and virtual case management. Devices: ORA works well on standard Apple and Android smartphones and tablet models. Confirm selections with FHI 360. Programs receiving funds from the USG may be restricted from purchasing devices and services from Huawei, ZTE, and its subsidiaries due to USG policy Section 889. Developer costs and TA provider LOE do not include effort to establish data exchange between ORA and other data systems. 		

4.2 STANDARD DHIS2 TRACKER

The Standardized DHIS2 Tracker package for HIV programs is an HMIS that simplifies and standardizes the DHIS2 configuration to support person-centered case management of individuals accessing HIV services across the continuum of HIV outreach, testing, prevention, and treatment. It facilitates automated reporting of HIV prevention, testing, treatment, and care indicators which can be customized for program monitoring or reporting to national programs and donors. The standard tracker automatically generates a unique ID, which can be customized to match country-specific algorithms, allowing for monitoring of an individual's engagement with the HIV program over time for longitudinal observations and analysis. While the DHIS2 Tracker was built to support key and priority populations, it can be broadly applied to any HIV prevention, testing, treatment, and care program. Finally, in terms of long-term sustainability, DHIS2 is the most frequently used HMIS platform at the global level and is consistently being used by national programs with the support of WHO's Health Data Initiative (<https://dhis2.org/who/>).

Features include the following:

- Enroll and track individuals over time across the continuum of HIV testing, prevention, and treatment.
- Improve active case management by scheduling visits and easily tracking upcoming and missed appointments.
- Assign individuals to peer workers to allow peer workers to easily manage their cohorts.
- Generate reports in real time to understand performance and target interventions for program improvement.
- Collect and view data online or offline using a mobile app or internet browser.
- Seamlessly convert individual-level data into aggregate data in standard DHIS2 reporting formats.

Privacy and data security

- DHIS2 includes several layers of data security centered around access permissions, sharing (read access), and defining scopes that are designed to ensure that only users who should have access to data do have such access.
- The system automatically generates unique IDs based on predefined parameters (e.g., registering unit, client initials, date of birth).

RESOURCES

General information:

<https://dhis2.org/resources>

Metadata package:

[Standard DHIS 2 Tracker Metadata Package for HIV Programs, Complete Manual \(FHI 360\)](#)

[DHIS2 HIV Metadata Package \(Github\)](#)

- Contact FHI 360 to consider all privacy and data use issues, as these will be tailored to a program-specific use case for the DHIS2 Tracker (dhis2@fhi360.org).

Country example (various)

Numerous countries are in the process of adapting the new DHIS2 Tracker for HIV programs, including the Dominican Republic, Zambia, Eswatini, and Malawi, as well as countries in Central Asia (Tajikistan, Kazakhstan, and Kyrgyzstan). For the Central Asian countries, it only took three months from conception to implementation for the countries to modify the existing tracker to fit their local reporting requirements, configure their DHIS2 server, and translate the user interface into Russian. The standard DHIS2 metadata tracker package comes preloaded with data collection forms, indicators, analytics, and dashboards — saving both time and money.

Budget inputs: DHIS2 Tracker

Items	Example Vendors	Cost Estimates
DHIS2 server setup, hosting, annual maintenance		
Setup Includes system requirements assessment, server configuration, software installation, basic application configuration, and backup activation	IT developer	1–3 days LOE
Hosting Production and development/testing servers on Azure or a different cloud server/hosting provider	Any server-hosting vendor, such as Azure (as used by FHI 360) or BAO Systems	US\$3,000–US\$4,800 (annual) Fee can be fixed or based on resource usage.
Annual maintenance Upgrades, security patches, performance tuning. Estimated at one day per quarter for Azure platform.	IT developer	4–6 days LOE (annual)
DHIS2 configuration and customization		
Discovery and architecting To document user requirements, conduct gap analysis on current data collection systems, and document changes to standard tracker to suit local context and reporting requirements	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	12–18 days LOE
Metadata configuration To modify metadata package to capture output from discovery and architecting activity reflecting necessary updates to data collection forms, analytics components, reports, and dashboards	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	35–50 days LOE
Project management Weekly meetings to review project plan, milestones, and deliverables	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	10–15 days LOE (annual)

Testing/revisions To fully test each component of the system after implementation and provide fixes based on feedback	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	10–15 days LOE
Documentation To update standard tracker documentation to reflect project context	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	10–15 days LOE
Data migration (optional) To develop extract, transform, load (ETL) process, review legacy data, and transform and import data into DHIS2 database if applicable	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	15–20 days LOE
Mobile optimization (optional) To optimize configuration for use with Android app	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	10–15 days LOE
Training		
Admin training To train users in the administration of the system and configuration updates	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	5–10 days LOE (per facilitator)
End-user training To train end users in data capture and analysis using desktop and mobile versions	Local implementing partner	5–10 days LOE (per facilitator)
Documentation To develop/adapt training materials to suit project context	TA providers trained in DHIS2, such as BAO Systems, the University of Oslo, FHI 360 HIV Strategic Information (see HISP network)	5–7 days LOE
Devices and internet		
Smartphones/tablets and cases For program staff and providers to access and use DHIS2	See Android device specifications here , compatible with DHIS2 and ORA . For use with ORA, tablets with a screen size larger than 8 inches is recommended.	Variable One device and case per outreach worker, case manager, and supervisor using DHIS2
Mobile data/airtime For program staff and providers to access and use DHIS2	Local mobile network operator	Variable (monthly) ~US\$5–US\$50 per 2GB monthly mobile data bundle for each online outreach worker, case manager, and supervisor using DHIS2 Find costs on local mobile network operator websites or here .
Notes: <ul style="list-style-type: none"> • LOE for international TA can range from US\$700 to US\$1,000 per LOE day. • LOE estimates above are based on project-level implementation of approximately 50 users, 20 sites, and a customization need of 25 percent to 30 percent based on gap analysis. • The list of activities/items assumes the requirements of standard implementation and may differ based on specific requirements. • Costs associated with trips should be budgeted for on-site trainings. Costs associated with devices should be budgeted for implementation that includes mobile reporting. 		

4.3 LINK ELECTRONIC CLIENT FEEDBACK SYSTEM

LINK is an electronic client feedback system for HIV programs that may be adapted for broader health services. This approach can facilitate collection of client feedback data as part of [community-led monitoring](#) for HIV services. The standard LINK survey format is short and targeted for actionable results. Implemented with online survey tools such as Survey Monkey, it eliminates paper forms and automates data analysis to reduce the time between data collection and use. Surveys are completed by clients on their smartphone or a device owned by a health facility or community worker. Program staff analyze the resulting data to identify factors contributing to positive and negative client experiences and use suggestions from open-ended responses to help identify the root cause of negative client experiences and potential solutions. Rapid-response teams receive client complaints reported on LINK and facilitate corrective actions with service providers or other staff involved in the HIV program. Client feedback through LINK is analyzed and shared with relevant health authorities and leaders of community efforts and advocacy (such as the community score card) working on quality improvement.

RESOURCES

Guides:

[LINK Technical Guide: An Electronic Client Feedback System for HIV Programs](#)

[Community-Led Monitoring Technical Guide](#)

[Establishing Community-Led Monitoring of HIV Services](#)

Webinar recording:

[Electronic Client Feedback Systems for HIV Services](#)

Privacy and data security

- Provide clear consent and explanatory text within the survey design so that clients are aware of how data are used and who can view responses.
- Allow clients to submit feedback anonymously (without identifying information) or offer the option to be contacted to receive support on their complaint.
- The survey does not collect IP address.
- Client key population and HIV status data are optional and use of the survey is not restricted to specific populations.
- The feedback survey is voluntary and facility supervision ensures that clients are not coerced to take the survey and/or provide favorable responses.

Country example (Nepal)

LINK has been implemented in 10 countries to date. The LINKAGES project in Nepal was the first to implement it, starting with SMS-based surveys in 2017. The project later switched to Survey Monkey and in 2020 adopted a shorter, more targeted feedback tool format (now the standard tool shown in the LINK technical guide linked above under Resources). In Nepal, LINK is implemented in communities, ART sites, and clinics in 37 districts through 21 partners and 20 subpartners. In addition, the national guidelines for community-led HIV testing include the use of LINK. Using the new survey format, LINKAGES Nepal collected 2,316 feedback surveys between October 2020 and May 2021, with a 76

percent completion rate and an average of two minutes spent taking the survey. Data from LINK surveys showed that clinic hours were not convenient for clients and that confidentiality was not being maintained. Based on these data, health care providers received the feedback about inconvenient clinic hours, and one clinic shifted their counseling room to a more secure area to ensure confidentiality. Additionally, a specialized client complaint form embedded in the survey collected 35 complaints, each of which immediately triggered an email notification to selected program staff with the details of the client's complaint. The field team logs complaints in a complaint tracker to ensure that each is followed up and addressed with service providers and clinic management.

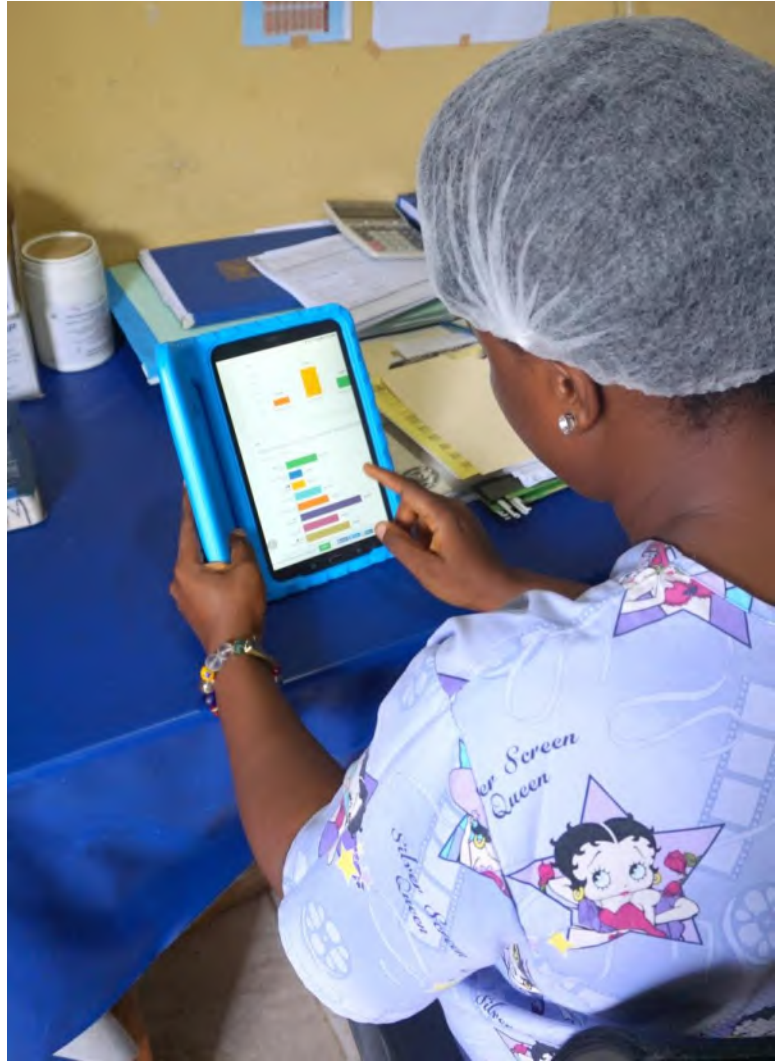


Photo 11. Staff member at the Santa Clara Health Facility in Monrovia, Liberia reviews the summary of client feedback collected through LINK. Credit: Ben Eveslage (2019)

Budget inputs: LINK (electronic client feedback system)

Items	Example Vendors	Cost Estimates
Online/electronic survey software subscription	Survey Monkey, QuestionPro, TypeForm, Google Forms	US\$800 (annual) Survey Monkey Advanced package with all survey features
Survey translation	Local translation vendor	2 days LOE
Specialized TA To support design, rollout, and routine implementation	A TA provider specializing in strategic information, client feedback, and HIV program implementation	10 days LOE (annual)
Implementing partner For routine support to facilities, data collectors, and to respond to client feedback and complaints	Implementing partner staff or consultant	20–50 days LOE (annual) The LOE required varies depending on the scale of implementation. Support for routine LINK implementation and data use for 20 facilities may require 20 days of LOE.
Community workshops To plan and test LINK survey with stakeholders and target audiences	N/A	Variable Two one-day workshops with 15 participants
Tablets/smartphones and cases (optional) For program staff and providers to access and use LINK. Not required if clients only provide feedback on their personal devices.	See Android device specifications here , compatible with DHIS2 and ORA. For use with ORA, tablets with a screen size larger than 8 inches is recommended.	Variable One smartphone/tablet and case should be procured for each online outreach worker and supervisor.
Mobile data/airtime (optional) For program staff and providers to access and use LINK. Not required if clients only provide feedback on their personal devices.	Local mobile network provider	Variable ~US\$5–US\$50 per 2GB monthly mobile data bundle per data collector or facility Find costs on local mobile network operator websites or here .

Annex

Cost Estimates for Each Approach

Disclaimer: Programs should use caution when applying these budget estimates to their own program, as many of the budget inputs vary by context. (See Table 3 below the annex for more information on variation. More details on low-connectivity and high-connectivity settings are described in [Adapting to Program Context](#))

Approach	Cost Estimate Ranges			
	Low Connectivity		High Connectivity	
Plan	Lower	Upper	Lower	Upper
Quick online surveys To implement the survey among two to three target audiences. Use the higher estimate range for larger-scale implementation coordinated with national stakeholders and which includes additional specialized TA. High-connectivity settings include additional costs to promote the survey to online target audiences.	US\$14,000	US\$18,000	US\$17,000	US\$30,000
Social media mapping To implement social media mapping for two to three target audiences. High-connectivity settings include US\$5,000 for marketing agency support to map, identify, and engage social media influencers.	US\$8,000	N/A	US\$13,000	N/A
Density mapping To implement density mapping for one dating app for men who have sex with men. Lower-connectivity settings are budgeted to include a lite approach which spans several urban areas and is less granular. High-connectivity settings are budgeted to include a team of data collectors to implement both full and granular density mapping in one metropolitan area.	US\$3,000	N/A	US\$13,000	N/A
CAGs To implement a CAG for one target audience and hold quarterly meetings for one year. Use the higher value range when requiring additional assistance from a specialized TA provider to help identify and engage CAG members.	US\$10,000	US\$14,000	N/A	N/A
Online audience size estimation To implement online audience estimation for two to three target audiences. Use higher estimate range when using social media advertising to distribute online survey to refine estimates (costs to develop and roll out the quick online survey not included).	US\$5,000	US\$6,000	N/A	N/A
Online audience segmentation To implement online audience size estimation for two to three target audiences. Includes US\$500 for incentives for in-depth interview participants.	US\$9,000	N/A	N/A	N/A

Reach				
Social network outreach	US\$125,000	N/A	US\$225,000	N/A
To design and implement online HIV outreach for one year. Low-connectivity settings are budgeted for five full-time online outreach workers and one supervisor for one year, which can result in 1,500 new clients reached and booked per year. High-connectivity settings are budgeted with 10 full-time online outreach workers and two supervisors, which may result in 4,200 new clients reached and booked per year. Use of ORA to support online client bookings is budgeted separately.				
Social profile outreach	US\$12,000	US\$23,000	US\$19,000	US\$79,000
To implement online advertising for one year. Use the higher estimate range when requiring professional marketing and design support. Low-connectivity settings are budgeted with lower ad budgets, lower creative/marketing agency fees, and lower implementing partner LOE.				
Social influencer outreach	US\$12,000	US\$22,000	US\$50,000	US\$72,000
To implement social media influencer promotions for one year. Use the higher estimate range when requiring professional marketing support and additional costs to pay for influencer fees. Lower-connectivity settings are budgeted with lower marketing agency fees and influencer fees.				
Engage				
Virtual case management	US\$125,000	N/A	US\$225,000	N/A
To design and implement virtual case management for one year. Low-connectivity settings are budgeted with five full-time case managers and one supervisor, which can support 500–600 clients in routine care. High-connectivity settings are budgeted with 10 full-time case managers and two supervisors, which may support 1,000–1,200 clients in routine case. Use of ORA or DHIS2 for virtual case management is budgeted separately.				
DDD	N/A	N/A	N/A	N/A
Cost depends on DDD model selected.				
Chatbots	US\$34,000	US\$134,000	US\$49,000	US\$149,000
To design and implement a chatbot for one year. Higher cost estimates include professional support for service design (US\$100,000). Low-connectivity settings are budgeted to include US\$10,000–US\$25,000 monthly active chatbot users, while high-connectivity settings are budgeted for US\$100,000–US\$150,000 monthly active users (based on use of the turn.io chatbot platform).				
Improve				
ORA	US\$39,000	US\$54,000	US\$50,000	US\$70,000
To design and implement ORA for one year. Use the lower estimate to join an existing global deployment of ORA and the higher estimate. To deploy a country-specific ORA platform. Low-connectivity settings are budgeted to				

include an SMS package for 100 appointments per month and high-connectivity settings are budgeted to include an SMS package for 1,000 appointments per month and higher ORA design and functionality costs. Devices and mobile data are budgeted separately under social network outreach or virtual case management. Budget value does not include technical assistance for use of ORA to support outreach or case management (which are budgeted separately under “reach” and “virtual case management”).				
DHIS2 Tracker	US\$160,000	US\$350,000	N/A	N/A
To customize and implement the DHIS2 tracker for one year. The lower estimate budgets for rollout in 20 facilities, two end-user training facilitators, and minimum LOE estimates and does not include any optional budget items. The higher estimate budgets for rollout in 50 facilities, five end-user training facilitators, maximum LOE estimates, and all optional costs included. Workshop costs for trainings and devices for community staff are not included.				
LINK	US\$21,000	US\$38,000	N/A	N/A
For the first year of LINK rollout to collect and monitor client feedback. Use the lower range for rollout in 10 facilities or data collectors and the higher range for rollout in 30 facilities or data collectors.				
Note: Optional costs are not typically included in overall activity costs in this table unless otherwise specified.				

The budget assumptions below were used for the cost estimates in this annex. The notes in the Comments column describe the substantial variation in costs by country.

Table 3: Budget assumptions

Assumptions	Comments
US\$830 daily rate for specialized international TA providers (US\$1,000 for DHIS2)	This rate may decrease over time as more providers become available to provide specialized services.
US\$250 daily rate for local implementing partner staff and local translators	These rates will depend on local salary cost and contract type. For example, the cost of monthly salaries for longer assignments will often be lower than daily rates. Salaries are also considerably lower in some low- and middle-income countries. To ensure that programs are sustainable and scalable, rates should be based on local salary scales for community health workers, supervisors, project managers, and translators.
US\$125 daily rate for supervisor of online outreach workers or case managers	
US\$50 daily rate for online outreach workers, US\$75 for virtual case managers	
US\$7,000 for a one-week trip for specialized TA (LOE not included)	The actual cost may vary based on country-specific travel allowances and meeting costs.
US\$500 cost of workshop for 15 participants (1–6 hours)	The cost is based on the Samsung Tab A 10" WiFi+LTE , but may vary by device. The smartphone recommendation for outreach staff is the Samsung A21s .
US\$350 for tablet and case (used for online outreach workers, virtual case managers, supervisors, and providers)	
US\$10 monthly cost for mobile data package of 2GB	These packages may be required provided for each online outreach worker, virtual case manager, supervisor, and provider using digital tracking tools.