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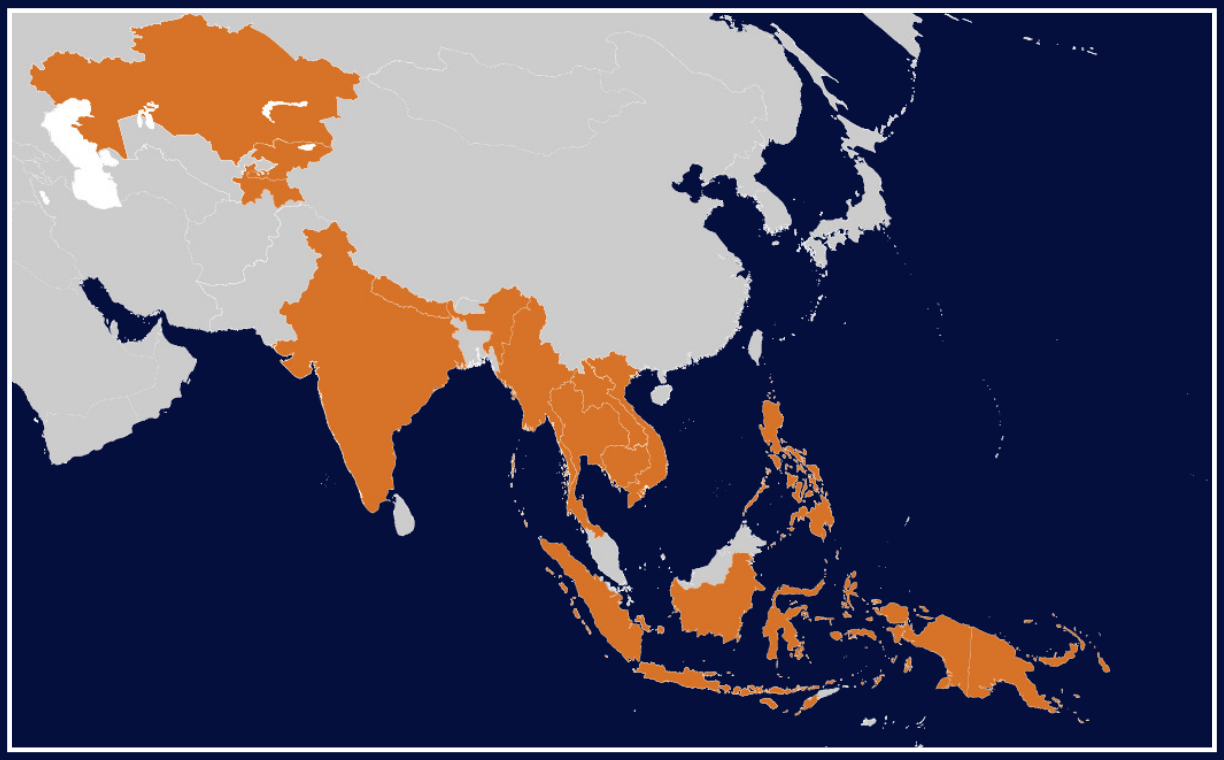

SUSTAINING HIV SERVICE DELIVERY IN THE CONTEXT OF THE COVID-19 PANDEMIC IN PEPFAR-SUPPORTED COUNTRIES IN THE ASIA REGION

USAID FROM THE AMERICAN PEOPLE

PEPFAR

HP+ HEALTH POLICY PLUS

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Contents

Abbreviations

ART	antiretroviral therapy
ARV	antiretroviral
CBO	community-based organization
COVID-19	coronavirus disease 2019
DSD	differentiated service delivery
HIV	human immunodeficiency virus
HIVST	HIV self-testing
HP+	Health Policy Plus
MMD	multi-month dispensing
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PHO	Provincial Health Office
PrEP	pre-exposure prophylaxis
UNAIDS	Joint United Nations Programme on HIV/AIDS
US$	U.S. dollar
USAID	U.S. Agency for International Development

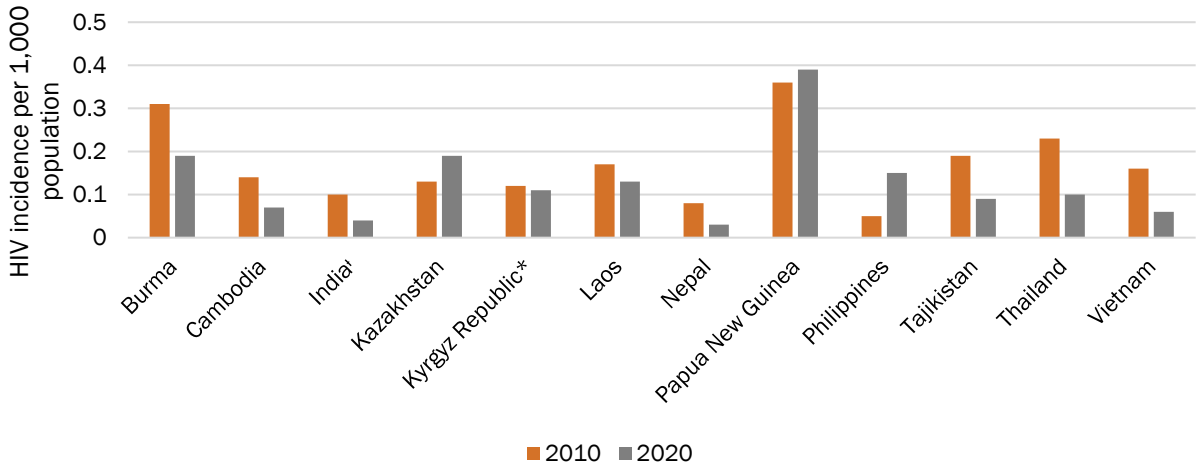
Introduction

This report highlights adaptive service delivery approaches in response to the COVID-19 pandemic within HIV programs supported by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) in the Asia Region. First, the report outlines the HIV situation in these countries, explores the impact the COVID-19 pandemic has had on HIV programs, and discusses possible future effects. It then looks at four HIV service delivery approaches in the region that have been adapted and employed in response to COVID-19: (1) multi-month dispensing of antiretroviral therapy (ART) and pre-exposure prophylaxis (PrEP), (2) virtual outreach and telehealth, (3) community-led delivery of ART and PrEP (and other services), and (4) promotion of HIV self-testing. These service delivery approaches are assessed on their delivery mechanisms, benefits, costs, impacts, and what is needed for scale-up and expansion. The report concludes with a look at each approach regarding sustainability and expansion and makes some recommendations on possible ways forward. The information presented in this document can support program managers and policymakers in making informed decisions about sustaining HIV program service delivery during the COVID-19 pandemic and beyond.

Background

The Asia Region has made considerable progress in responding to HIV. According to the UNAIDS *Global AIDS Update 2021*, new HIV infections have decreased by 21 percent since 2010, and AIDS-related deaths by 56 percent (UNAIDS, 2021b). However, this region-wide picture of progress hides variations across countries. Figure 1 presents the change in HIV incidence per 1,000 population across countries in the region for 2010 and 2020. Nepal, Vietnam, India, Thailand, and Tajikistan have seen the most significant decreases in incidence rates, with declines of 63 percent, 63 percent, 60 percent, 57 percent, and 53 percent, respectively. Conversely, Kazakhstan and the Philippines have had the greatest increases, with incidence rates increasing by 46 percent and 200 percent, respectively (UNAIDS, 2021c).

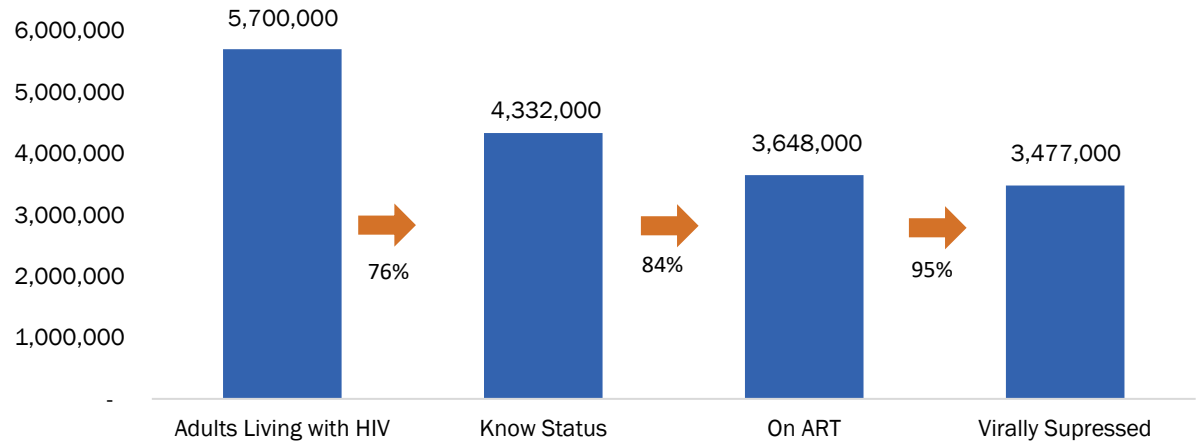
Figure 1. HIV Incidence per 1,000 Population in PEPFAR-Supported Countries in the Asia Region, 2010–2020



Data source: UNAIDS, 2021c (data not available for Indonesia) [1] Data for India: NACO, 2021 * Data for 2020 is not available for Burma, data here is for 2019.

Figure 2 presents the HIV testing and treatment cascade for the PEPFAR-supported countries in the Asia Region as of 2021. It illustrates the region's progress toward achieving the UNAIDS 95-95-95 targets by 2030.[1] The percentage of people living with HIV who know their status ranged from slightly more than 60 percent in Tajikistan and the Kyrgyz Republic to more than 80 percent in Cambodia. As expected, HIV testing rates across countries in the region vary, which has a direct effect on the number of people living with HIV to be put on treatment (UNAIDS, 2020i); in addition, data are not always available.

Figure 2. HIV Testing and Treatment Cascade for Adults 15 Years and over in PEPFAR-Supported Countries in the Asia Region, 2021



Source: UNAIDS, 2021c

Across the region, the proportion of people living with HIV who know their status and are receiving ART increased from approximately 19 percent in 2010 to 64 percent in 2021 (UNAIDS, 2016, 2021b). Table 1 presents the number of people living with HIV who were on ART in 2020 in countries across the region. Keeping in mind variations in testing, the data in Table 1 partially help to explain the increases and decreases in incidence rates shown in Figure 1. For example, relative to the number of people living with HIV, Cambodia, Thailand, and Burma are at the high end of the spectrum—83 percent, 79 percent, and 77 percent ART coverage, respectively. Many countries in the region are clustered in the upper 60 percent range: India, Nepal, Papua New Guinea, and Vietnam. Coverage estimates drop to lower levels for the rest of the region. The higher the coverage levels of ART, the greater the possibility of viral suppression when combined with other prevention initiatives, which can have an important impact on reduction of incidence (Borgdorff et al., 2018; Vandormael et al., 2019).

Across the Asia Region, the HIV epidemic is driven in large part by key populations. According to UNAIDS, gay men and other men who have sex with men accounted for 53 percent of new infections in 2021. People who inject drugs accounted for 18 percent, sex workers accounted for 12 percent, and transgender women accounted for 2 percent. Importantly, the clients of sex workers and the sexual partners of all key populations fell from 21 percent of all new HIV infections in 2019 to 9 percent in 2021. The concentrated nature of the epidemic has sharpened

[1] The 95-95-95 targets are 95 percent of people living with HIV know their status; 95 percent of all people diagnosed with HIV receive sustained ART, and 95 percent of all people receiving ART have viral suppression.

the focus on the potential of PrEP as an important prevention intervention for key populations, where condom promotion and behavior change communication programs alone have less of an impact (UNAIDS, 2021b).

Table 1. ART Coverage among People Living with HIV in the Asia Region, 2020

Country	Estimated # of people living with HIV	Estimated # of people living with HIV receiving ART	Percent receiving ART
Burma	240,000	184,624	77%
Cambodia	75,000	62,310	83%
India	2,300,000	1,494,143	65%
Indonesia	540,000	142,906	26%
Kazakhstan	35,000	20,176	58%
Kyrgyz Republic	9,200	4,442	48%
Laos	15,000	8,189	55%
Nepal	30,000	19,827	66%
Papua New Guinea	55,000	35,840	65%
Philippines	120,000	47,977	40%
Tajikistan	14,000	7,960	57%
Thailand	500,000	394,598	79%
Vietnam	250,000	169,000	68%

Source: UNAIDS, 2021c

In March 2020, the World Health Organization declared COVID-19 a pandemic. In response, many countries instituted lockdowns and restrictions on people's movement, social distancing measures, and the required use of personal protective equipment. These COVID-19 control measures frequently made it difficult to ensure continued access to antiretrovirals (ARVs) and PrEP and to ensure that clients are properly monitored for adherence and retention (UNAIDS, 2021a, 2020j; UN, 2020; UNOPS, 2020; WHO, 2020; Romyco, 2020). They also exacerbated fear of HIV stigma and discrimination, further limiting people's access to services—especially marginalized and vulnerable key populations (Shukla and Ramakant, 2020; UNDP, 2020a; Iversen et al., 2020; UNFPA, 2020). Access to health facilities or HIV/AIDS centers was limited as they were often focused primarily on COVID-19 mitigation (PSI, 2020; UNAIDS, 2020g; Quilantang et al., 2020; Jiang et al., 2020). Similarly, patients may have had limited access to transport, been far away from health centers, or resided in remote locations where access to medicines was already problematic (UNOPS, 2020; the Borgen Project, 2021; UNAIDS, 2020c; Quilantang et al., 2020).

HIV testing rates across countries in the region decreased with the advance of COVID-19 (Rao, 2020; PSI, 2020; Global Fund, 2020). A recent report from the Global Fund looked at the impact of COVID-19 on HIV, tuberculosis, and malaria services in health facilities across Africa and Asia (Global Fund, 2021). The report compared mid-year 2020 service records to those of 2019 and found that HIV testing had declined between 40 and 50 percent in health facilities in Asia due to the pandemic. In addition to national or community lockdowns, which limited people's access to testing services, voluntary testing and counseling centers were often closed

and there was a general fear of contracting COVID-19 if services were sought at any health facility (UNAIDS, 2020f; Rao, 2020; USAID, 2020b).

The COVID-19 pandemic threatens to undermine efforts of individual countries in the Asia Region to control the HIV epidemic and to erode the progress that has been made over the last decade (UNAIDS, 2020d, 2020f). However, while COVID-19 has presented some serious challenges, making HIV service delivery more complex and problematic, it has also afforded important opportunities for the HIV response in the Asia Region by providing a platform for seeking and expanding creative solutions that can be sustained in the long term.

Methodology

The U.S. Agency for International Development (USAID) has led the implementation of PEPFAR's Sustainable Financing Initiative (SFI) and has worked with the Health Policy Plus (HP+) project to assess four HIV service delivery approaches that have been adapted to respond to the challenges of the COVID-19 pandemic in PEPFAR-supported countries in the Asia Region. These four approaches are: (1) multi-month dispensing of ART and PrEP, (2) virtual outreach and telehealth, (3) community distribution of ART and PrEP, and (4) HIV self-testing. See Appendix 1 for the country-by-country implementation status for each approach.

Through a desk review of available data, each HIV service delivery approach was assessed based on the broad categories contained in Box 1. The analysis was limited, in that the literature available for review did not exhaustively address all the guiding questions for each strategy in each country. Alternative sources addressing similar HIV service delivery methods, or examples from different countries, were used to fill information gaps and offer a proxy for service delivery in the Asia Region. Taken broadly, however, the literature reviewed was able to suggest how strongly each of the four service delivery

Box 1. HIV Service Delivery Assessment Guiding Questions

The delivery mechanism employed:

- What is the status of the delivery mechanism?
- Were these mechanisms already established and in place and operating?
- Were the mechanisms supported by policy or implementation guidelines?
- Can the mechanisms be easily replicated or expanded?

Benefits to the health system or clients:

- Does the approach to service delivery maintain/expand coverage levels?
- Is it equitable and inclusive (i.e., ensuring benefit to all marginalized groups)?
- Does it decongest or ease stress on the health system?

Cost per person to implement:

- Are there cost savings (for provider or client)?
- Are there hidden/additional costs not foreseen?

Potential impact on program results:

- Has access to the service been expanded or enabled to reach more/new clients?
- Are program objectives maintained or improved?
- Is quality of service delivery maintained?

Assumptions for roll-out or scale-up:

- What would it take to roll out or scale up this service delivery approach?
- Are the inputs required in place or accessible?
- Are scale-up and roll-out achievable rapidly or are they a longer-term objective?

approaches met the broad assessment categories. This methodology provided a useful albeit partially subjective basis for assessing the service delivery methods.

The result of the analysis is meant to provide HIV program managers and promoters with information to advocate for introducing or institutionalizing these HIV service delivery approaches in a post-COVID-19 environment.

Strategic HIV Service Delivery in the Era of COVID-19

Expanded Multi-Month Dispensing of ART and PrEP

Providing multi-month dispensing (MMD) of ARVs and PrEP was first recommended by the World Health Organization in 2016. MMD provides three- to six-month stock of medication at one time to clinically stable ART patients or PrEP clients, allowing for longer intervals between visits to service providers for refills and monitoring. With the deepening COVID-19 crisis, MMD has become an important strategy for addressing the constraints imposed by national lockdowns and limitations on people's movements.

Delivery mechanisms. Before the COVID-19 pandemic, most countries in the region practiced some form of MMD for ARVs but generally not for PrEP as it has only recently been introduced. Within the Asia Region, MMD varied by the number of months for which ARVs were provided, the level of dispensing facility, and whether the patient was on first- or second-line medications, among others. Countries practicing MMD include Burma (2018), Cambodia (since 2020), India (2017), Indonesia (2020), Kazakhstan (2019), the Kyrgyz Republic (2019), Laos (2017), Nepal (2017), Papua New Guinea (2019), the Philippines (2015), Thailand (2017), and Vietnam (2019) (UNAIDS, 2020a; PEPFAR, 2020).

Establishing MMD, or supporting its expansion, was generally enabled by a directive or guidance document issued by a government authority such as the national AIDS control body, as in India and Vietnam; or the country's Ministry of Health, as in Burma, Indonesia, and Thailand (Shukla and Ramakant, 2020; NACO, 2020; Romyco, 2020; UNAIDS, 2020g, 2020c; UN, 2020; UNOPS, 2020; Jiang et al., 2020; WHO, 2020). Other countries not already practicing MMD (e.g., Kazakhstan, the Kyrgyz Republic, and Tajikistan), and with little previous experience with implementation, rapidly developed or adjusted their existing policies to allow for MMD (PSI, 2020).

Once COVID-19 mitigation measures were put in place, HIV programs had to find ways to ensure that ART clients were able to access their medications in a timely way, while protecting them from the risk of COVID-19 infection. MMD allowed clients to receive a greater quantity of their medications at any one time, thereby reducing the frequency of visits to health facilities or HIV/AIDS centers (UNAIDS, 2021a; UNOPS, 2020; Quilantang et al., 2020).

Benefits to health system and clients. When the COVID-19 pandemic hit, the countries mentioned above were able to accelerate implementation of MMD by developing national guidelines, authorizing different levels of facilities to dispense medications with longer periods of time between disbursements, and increasing the number of clients enrolled (UNAIDS, 2021a, 2020j; DSD, 2020).

The general driving factor for national HIV programs to move toward MMD was the recommendation by the World Health Organization to adopt differentiated service delivery (DSD) approaches and the growing evidence of program efficiency gains, especially concerning health staffing and adherence rates (USAID, 2019). National and international partner organizations provided training, commodities logistics support, and other assistance to help develop national MMD guidelines (PSI, 2020; UN, 2020).

Cost per person to implement. The literature available on the costs of MMD is limited. Much of the costing work has been focused primarily on African countries. For example, based on Prust et al. (2017), adopting three-month MMD for ART (their analysis did not discuss PrEP) is likely to reduce unit cost by about 10 percent from single-script, facility-based dispensing. A similar study by Nichols et al. (2021), indicated a savings per client of 6 to 8 percent by adopting a three- or six-month distribution of ART respectively. Another analysis comparing DSD costs to standard of care in several African countries indicated a cost reduction of between 10 percent and 81 percent as a country moves from standard of care to DSD (Kuchukhidze et al., 2019). Assuming commodity costs remain constant, cost savings could be realized through reductions in personnel time spent with clients and operational costs (supervision, training, and running costs). The baseline unit cost for facility-based, single-script ART delivery is estimated at around US$108 to US$135 (per patient per year), while MMD costs about US$20 to US$122, making MMD at least nominally cost-saving in per patient costs (Hoffman et al., 2021; Nichols et al., 2021; Hubbard et al., 2020; Prust et al., 2017; Kuchukhidze et al., 2019). In addition, countries that implement MMD and purchased larger individual volumes (bigger bottles) have realized substantial programmatic cost savings, which has resulted in a real decline in treatment costs per patient per year (GHSC-PSM, 2020).

Potential impacts on program outputs. The COVID-19 pandemic has been an impetus and accelerator for adopting and/or scaling up MMD in countries in the Asia Region (UNAIDS, 2021a). As a strategy, MMD has promoted the development of guidelines and local-level action plans that adopt a more human-centered approach to ART delivery (NACO, 2020). This approach is reflective of a broader aim for development generally, which since 2019 has focused on promoting equitable growth in the context of education, technology, and the climate crisis (UNDP, 2019). Studies have found that MMD can reduce the number of days patients might go without medication, which may have positive implications for viral suppression (Fatti et al., 2020). Further, findings show that retention and viral suppression rates have been found to be equivalent to those for the standard of care for ART (Hoffman et al., 2021; Parrish et al., 2021). Offsets to program costs, such as the modest cost saving per patient mentioned above, and some savings derived from procuring larger volumes of ARVs, or in bulk, may also contribute to program sustainability and increased reach over time.

Assumptions for roll-out or scale-up. As mentioned earlier, most countries in the Asia Region had begun implementing MMD in some form before the COVID-19 crisis. However, maintaining and scaling up implementation requires that the policy environment and political will of health ministries, AIDS programs, and governments in general must also be sustained over the long term. Additionally, undertaking MMD assumes the presence of robust procurement and supply chain mechanisms to forecast drug supply needs appropriately and ensure adequate storage and a proper distribution system (UNAIDS, 2021a; UN, 2020). Any lapses in the drug supply and distribution systems might result in a return to single month dispensing and greater frequency of contact between people on treatment and health facilities or ART dispensaries. Implementing MMD also depends greatly on reliable communication

between ART providers and clients to adequately monitor their needs and adherence (PSI, 2020). With less frequent interaction between providers and clients, tracking and follow-up with clients become crucial for program staff to know who is or remains clinically stable.

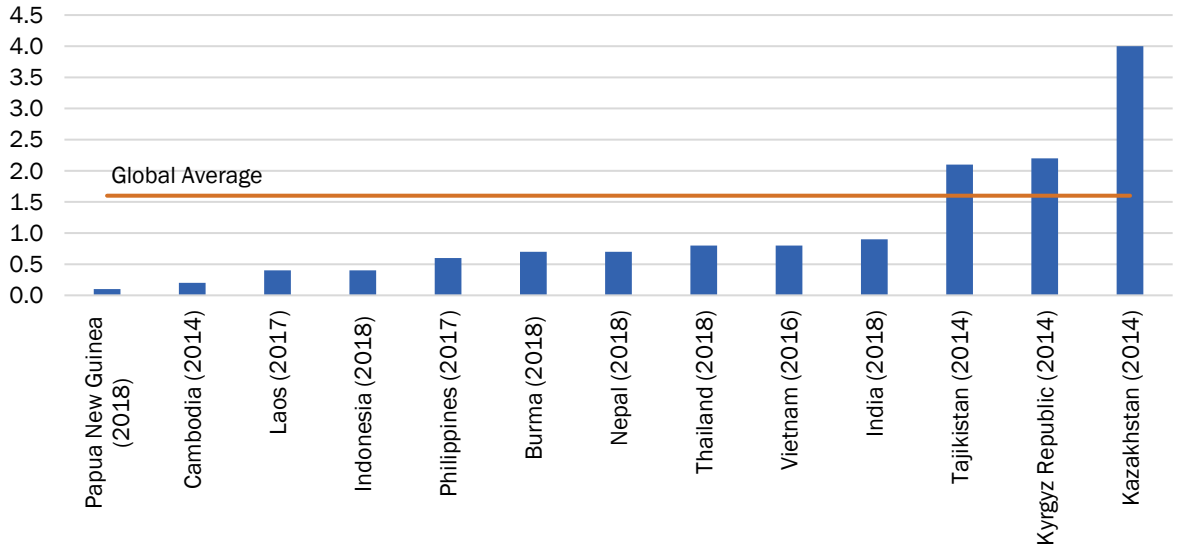
Starting their MMD programs with committed government systems, policy support, and a focus on learning from implementing in more easily controlled "pilot" areas, countries such as Burman, India, Laos, Nepal, the Philippines, and Thailand, have relatively more established MMD programs. They have leveraged their experience to develop more robust procurement, supply chain, and patient tracking systems, putting them in an advantageous position to scale up or expand MMD after the pandemic. Other countries in the region with nascent or pilot MMD programs would need to focus efforts on both developing or strengthening such systems and overcoming potential political barriers in order to enhance future roll-out.

Virtual Outreach/Telehealth

The potential of telehealth and associated digital health platforms has been recognized for decades, but limited technology, poor infrastructure, and lack of financial resources have hindered their global deployment (Kim and Zuckerman, 2019). At the turn of the century, however, improvements in information and communication technology (ICT) made telehealth more relevant and widespread, and improved access to medical services and resources. Given the scarce access to medical professionals, especially specialists, in low- and middle-income countries, telehealth can contribute to a meaningful improvement in health outcomes (Kim and Zuckerman, 2019).

Most countries in the Asia Region have a below-average ratio of doctors to population (Figure 3). This low ratio was a challenge before the COVID-19 pandemic, with health systems already under stress to provide appropriate and quality services and was sharply accentuated as countries began responding to the pandemic. The growth of telehealth, and its increasing importance in the face of the pandemic, has meant that some of the service delivery for HIV has shifted to online platforms to continue reaching clients and beneficiaries (ICT Works, 2021).

Figure 3. Doctors per 1,000 Population (data from latest year available)



Source: World Bank, 2021

Delivery mechanisms. Over the last decade or more, countries in the Asia Region have been in various stages of implementing telehealth. Efforts in many countries have focused on reaching key populations with services and helping avoid stigma and discrimination at health facilities. Several countries, including Burma, India, Indonesia, Kazakhstan, the Kyrgyz Republic, the Philippines, Thailand, and Vietnam, have expanded their telehealth programs to numerous clinical and non-clinical areas and health facilities, and over a variety of platforms (Ang, 2021; Gunasegaran, 2021b; Ministry of Health, 2021; Aung Phay Kyi Soe, 2019; Yun Xuan Poon, 2021; Anh Kiet, 2020; Adilin, 2021; UNDP, 2020b; Yergaliyeva, 2020). Other countries in the region, including Cambodia, Laos, Nepal, Papua New Guinea, and Tajikistan, have more limited telehealth programs that cover few health programs, have been introduced or can be accessed in fewer facilities, and tend to be more constrained both geographically and by the availability of infrastructure (Nit et al., 2021; Yafoi, 2020; Sisounthone et al., 2015; NREN, 2017; UNFPA, 2021).

Benefits to health system and clients. The challenges of COVID-19 have expanded virtual networks and brought more of them into existence. For example, in India, a WhatsApp group was created to help streamline communication and coordination between the National AIDS Control Organization, state aids control societies, and the National Coalition of People Living with HIV (Shukla and Ramakant, 2020).[2] Also, India's telehealth network connects to doctors outside of India to provide virtual services to alleviate the growing strain on the national health system (Gunasegaran, 2021a). In-service or pre-service trainings have also been held using online platforms to avoid personal contact during the COVID-19 crisis (PSI, 2020; NREN, 2017).

Cost per person to implement. Costs to consumers for mobile phone service in the Asia Region can vary significantly, depending on the infrastructure available, market competition, and total population in the market. Evaluating costs for 1 gigabyte (GB) of cellular data across service providers in each country reveals that Laos, Tajikistan, and Papua New Guinea are at the high end of the range, with 1 GB of data costing US$3.19, US$2.60, and US$2.26, respectively, whereas Indonesia (US$0.42), Vietnam (US$0.49), and Kazakhstan (US$0.59) are at the lower end. Costs for all other countries in the region fall in between (Cable.co.uk, 2021).

Table 2 shows the cost for cellular data service per month in a selection of countries in the region. It also shows the relative teledensity, or number of cellphone subscriptions to mobile phone service providers per 100 people. Teledensity closely correlates with per capita gross domestic product (Taylor and Silver, 2019). Countries that have a cellular subscription greater than 100 indicates that some people have more than one phone.[3] Given an estimated average cellular data use in the region of around 8.3 GB per month (Statista, 2021), average monthly costs for service can range from a low of US$4.07 in Vietnam to a high of US$14.69 in the Philippines. Estimates of average monthly income means cellular data service may consume between 1.0 percent (Indonesia) and 5.6 percent (Burma) of an individual's monthly income (WorldData Info, 2021). This cost, added to that of the phone itself,[4] may be prohibitively

[2] WhatsApp is a free, internationally available application owned by Meta Platforms. It allows users to make voice and video calls and to share images, documents, and other content on mobile devices.
[3] A phone subscription does not necessarily mean data subscription.
[4] Although there are cheaper mobile phones on the market, telehealth apps tend to require smartphones to access services.

expensive, especially in Burma, Cambodia, and the Philippines, where average cost of cellular data ranges between 5 and 6 percent of average monthly income.

Table 2. Average Cost for Cellular Data Service and Percentage of Monthly Earnings

Country	Cellular Subscriptions per 100 People	Average Cost per 1 GB (2021)*	Average Cellular Data Use per Month	Average Cost per Month	Average Income per Month	Average Cost as % of Monthly Income
Burma	114	$0.78	8.3	$6.47	$116.00	6%
Cambodia	130	$0.83	8.3	$6.89	$128.00	5%
India	84	$0.68	8.3	$5.64	$177.00	3%
Indonesia	127	$0.42	8.3	$3.49	$338.00	1%
Philippines	155	$1.77	8.3	$14.69	$321.00	5%
Thailand	186	$1.06	8.3	$8.80	$605.00	1%
Vietnam	141	$0.49	8.3	$4.07	$216.00	2%

* Costs for other countries in the region were available, but other data were limited for making a comparison.
Source: Cable.co.uk, 2021; Statista, 2021; WorldData.info, 2021; CIA, 2021

Although cost analyses have not been conducted, telehealth is assumed to save provider time, client time, and transport expenses (IHRI Foundation, 2020). Engaging with clients online can ensure service delivery is maintained, even in the challenging environment brought on by COVID-19, and can reduce potential stress on the health system by allowing for prioritization of the most urgent cases coming into the facility for care. This approach reduces the potential number of patients at the health facility at any one time (Quilantang et al., 2020).

Potential impact on program outputs. Telehealth is both a strategic response to the COVID-19 pandemic and an opportunity to extend HIV services to those previously unable to access them. HIV services that have used telehealth include psychosocial support, provision of program information, counselling, or booking appointments for regularly scheduled tests or if more serious medical issues arise (USAID, 2020c; UNAIDS, 2020h; PSI, 2020; UNDP, 2020b). In Thailand, the use of telehealth and social media platforms resulted in more HIV-positive cases being identified through online engagement than had been the experience with physical outreach (ICT Works, 2021). Although recognizing the possibility that greater reliance on telehealth may mean some complications or conditions go undetected, given that limited access to doctors and some form of social distancing are likely to continue, telehealth through mobile technology has emerged as an important tool.

Assumptions for roll-out or scale-up. There are barriers or challenges to implementing, scaling up, and sustaining telehealth. First, service providers and target populations must have devices that allow them to access digital platforms at affordable data charges. If clients and providers lack access due to the expense of procuring the necessary equipment, or being unable to consistently buy airtime, telehealth may prove out of reach for some more rural or economically disadvantaged populations (Quilantang et al., 2020). A related challenge that has been observed, though anecdotally, is that, due to competitive pricing and the bonuses individuals can get for activating a new SIM, clients frequently change their phone numbers,

which is challenging for using phones for index testing/partner notification and follow up from missed appointments. Second, telehealth requires adequate and consistent cellular coverage in the country. In many countries in the region, cellular services are constrained. In countries such as Burma, the Kyrgyz Republic, Laos, Tajikistan, and Vietnam, limited market competition and an often-unfavorable regulatory climate have slowed innovation and expansion of network coverage. In other countries, such as Nepal, Papua New Guinea, the Philippines, and parts of India, there is very limited connectivity, with terrain and remoteness meaning that underprivileged areas do not have adequate coverage (CIA, 2021; Devex, 2021). Finally, there are confidentiality concerns, where client information needs to be held securely and with the necessary privacy safeguards (Quilantang et al., 2020).

Community Distribution of ART and PrEP

In recent years, community-based service delivery has assumed greater importance as national responses to HIV have refocused efforts on DSD (WHO, 2021a; Global Fund, 2015; UNAIDS, 2019).

Delivery mechanisms. For the purposes of this document, community-based service delivery includes the decentralized distribution of ART and PrEP from either fixed sites or pick-up points and community organizations being involved in patient monitoring and delivering other services, such as psychosocial support or linkage to other services. There has been growing evidence that communities can play an important role in HIV service delivery. However, policy support for that role in ART service delivery is still somewhat limited across the region with the exception of Burma, India, Nepal, Papua New Guinea, the Philippines, and Thailand (UNAIDS, 2020a). During the COVID-19 pandemic, the strategic positioning of community groups and their ability to reach clients make them a natural ally in ensuring ART and PrEP delivery.

Community-based ART and PrEP delivery has functioned under numerous forms both before and during the COVID-19 pandemic. Local organizations (networks of people living with HIV, local AIDS groups, peer navigators or project personnel, etc.) coordinated with health facilities in India, Kazakhstan, the Kyrgyz Republic, Laos, Tajikistan, and Thailand to manage ART delivery and monitor client well-being (UNAIDS, 2020e; Shukla and Ramakant, 2020; PSI, 2020; IHRI Foundation, 2020). Deliveries were made either to a local distribution point, a community-based organization (CBO) or local-level health facility that served the area, or directly to the individual's home (Shukla and Ramakant, 2020; USAID, 2020c; UNOPS, 2020). Local groups or individuals used a variety of means to transport ART to its respective destinations, including motorcycle couriers, private cars, and ambulances (Romyco, 2020; the Borgen Project, 2021; Shukla and Ramakant, 2020; PSI, 2020). Clients were monitored by the CBOs and other local organizations and, in some countries, monitoring was linked to telehealth using social media and phone apps to support program adherence.

Mechanisms to carry out more localized delivery of ART and PrEP are often ad hoc, and their success in meeting the needs of ART clients depends on organizations or individuals stepping in as implementing actors. For example, in India, approximately 45,000 people were receiving home-based ART delivered through the National Coalition of People Living with HIV in India, (Shukla and Ramakant, 2020). In Indonesia, 27 percent of people living with HIV (29,700 people) in Jakarta had ART delivered to their homes through the Jak-Anter delivery mechanism developed by the USAID-sponsored LINKAGES project (Romyco, 2020). Through LINKAGES-Nepal, home deliveries reached 24 percent of people living with HIV (5,553 people) (Mahler,

2020). In Vietnam, through the USAID/PATH Healthy Markets project, more than 1,500 people were initiated on PrEP between January and May 2020. Of these clients, 88 percent received three months of PrEP through private clinics or community organizations during COVID-19 lockdown (IAS, 2022).

Benefits to health system and clients. Bringing service delivery closer to clients has many of the same benefits as MMD. It reduces the number of times clients need to access services at a health facility, thereby decreasing both transport and opportunity costs and reducing exposure to COVID-19 (UNAIDS, 2021a; UNOPS, 2020; Quilantang et al., 2020). Clients in very remote areas may achieve improved access and reduced economic burden through community-based ART delivery (Papua New Guinea NDOH, 2019). This strategy may also reduce congestion in facilities caused by ART clients seeking prescription refills (NACO, 2020). By reducing the number of ART clients seen at facilities, providers may benefit from reducing their own exposure to COVID-19 risks and freeing up their time to devote to other health service delivery (UNAIDS, 2021a).

Cost per person to implement. Delivering ARV and PrEP through community-based entities is assumed to reduce provider costs compared to facility-based, single-script dispensing. However, there is very little evidence to directly support this (Kuchukhidze et al., 2019). The pool of available costing studies is limited to a few countries, primarily in Africa. One crucial difficulty in determining the cost savings of employing community-based DSD is that antiretroviral drugs make up the vast majority of overall ART program cost. Therefore, the implementation of a chosen service delivery modality will not have much latitude to demonstrate any substantive reduction in program cost (Kuchukhidze et al., 2019; Rosen et al., 2021). However, reviews of literature indicate that most DSD models, including those that are community-based, do cost slightly less than conventional service delivery (Rosen et al., 2021; Kuchukhidze et al., 2019). Again, using the modeling work done by Prust et al. (2017), the total unit cost for community ARV delivery is about US$122 per patient per year; more traditional facility dispensing is about US$135. The difference is primarily due to lower personnel costs because patients require fewer clinical visits and their interactions with service providers can be with fewer and lower-level staff cadres being used. Despite the additional supervision initially required to implement community-based DSD, the overall staffing changes including task shifting, human resource reallocation, and reduced workload, which can help address staffing shortages within and outside the ART program are, perhaps, the most important benefit to the health system (Kim et al., 2018; Rosen et al., 2021). Running costs for this mode of service delivery may decrease further over time if intensive supervision of ART at start-up is relaxed and shifted from health facility staff to similarly capacitated community groups. Further cost savings may result from better viral suppression, fewer losses to follow up, and fewer patients moving to more expensive second- and third-line treatments, but this possibility needs further analysis.

Perhaps the most remarkable impact of implementing a community-based DSD model can be seen in the reduction in patient costs. With the reduced number of facility visits required through a DSD model, out-of-pocket expenditure and opportunity cost per patient falls sharply (Rosen et al., 2021; Kuchukhidze et al., 2019). These savings may have a positive and beneficial impact on quality of life and long-term adherence to ART.

Potential impact on program outputs. It has been suggested that delivery of ART through community organizations, especially when coupled with MMD, results in slightly better retention rates than the standard delivery practice of facility-based dispensing (Fatti et al.,

2020). A recent study by Mwango et al. (2020) found that using a community-centered approach with local organizations and support groups had a significant effect on linkage to and maintenance in care for newly identified HIV-positive people in the African setting, especially among men and key populations. Given the strong recent move to greater community-level implementation due to COVID-19, these benefits may accrue equally to countries in the Asia Region.

Assumptions for roll-out or scale-up. To institutionalize community-based service delivery, mechanisms need to be developed and formalized between health or ART facilities and community entities to ensure uninterrupted delivery in the post-pandemic era. Private companies, CBOs, or other community networks need to be identified and capacitated to initiate and then expand delivery of ART, PrEP, and other services for clients; manage treatment supply chains; monitor adherence; and provide psychosocial support and counseling, among other services in their local area (Quilantang et al., 2020). CBOs, with the active participation of key populations, will help ensure that services are demand-driven, needs-based, and client-centered (Janamnuaysook et al., 2021). In addition, clear and sustainable domestic funding pathways need to be established to ensure that local-level delivery continues without interruptions.

HIV Self-Testing

Testing and identifying HIV-positive individuals is an entry point for all other HIV services and a critical first step in achieving the 95-95-95 targets and epidemic control. Although the region has seen some success in reducing the overall AIDS mortality rate, with some countries achieving their 95-95-95 targets, there is still a substantial gap in testing across Asian and Pacific countries, especially among key populations. As a result, many people are still unaware of their HIV status (UNAIDS, 2020i), a situation further exacerbated by COVID-19, which has led to additional reductions in testing rates (Rao, 2020; PSI, 2020; Devex, 2021; UNAIDS, 2020j; ICT Works, 2021). Clients may be afraid of being exposed to COVID-19 if they travel to facilities for an HIV test; in addition, there are often lockdowns or limitations on their movements, which makes it much harder to get a test (Rao, 2020). A more intensive focus on HIV self-testing (HIVST) has followed. “HIV self-testing is an empowering self-care tool, allowing individuals to seek out an HIV test based on their own assessment of risk and need. It also increases options for those who may be reluctant or unable to go to a clinic for an HIV test” (USAID, 2020b).

Delivery mechanisms. HIV self-testing can be assisted or unassisted. Assisted HIVST involves a lay worker who supervises the process and may, or may not, depending on the wishes of the client, be privy to the results. Unassisted HIVST is done independently by the client and does not involve any lay counselor or worker support (Wulandari et al., 2020). The practice generally assessed in this paper is unassisted HIVST.

In many countries in the region, testing kits can be ordered online, by text, or over the phone (USAID, 2020b; Chandran, 2020). They can be delivered to a person’s home, private pharmacy, community dispensing point, or an agreed-upon location (Mahler, 2020; PSI, 2020). Delivery can be made through any channel employed for ART delivery, including private car, ambulance or health facility vehicle, or motorcycle. In the Philippines, shortly after lockdown for COVID-19, one local implementing partner quickly hired 20 former motorcycle taxis, gave them rapid training on HIV, had them sign confidentiality agreements, and used them to deliver self-test kits as well as ART (Chandran, 2020).

Benefits to health system and clients. Self-test kits have enabled HIV programs to maintain service provision and continue pursuing testing targets, even given the challenges of COVID-19. HIVST benefits key populations by providing a safer environment in which to test, free from possible stigma and discrimination, resulting in higher numbers of tests requested and positive cases identified. In 2020, for example, Kazakhstan, the Kyrgyz Republic, and Tajikistan distributed more than 5,750 HIVST kits, with clients reporting results online. A positivity rate of between 4 and 10 percent was identified through this distribution (PSI, 2020). In April 2020, during the initial reaction to the COVID-19 crisis, Vietnam delivered 800 HIVST kits to those who had requested one. Most requests came from younger men who have sex with men, about 28 percent of whom had never tested before and were motivated by online content around testing (USAID, 2020b).

Potential impact on program outputs. As with other strategies aimed at bringing services closer to end users, HIVST has resulted in decongesting health facilities (Mahler, 2020), thereby reducing facility staff time spent on HIV clients. However, though some data exist on the effects of HIVST on follow-up and linkage to care, results have been mixed. A meta-analysis by Witzel et al. (2020) found that HIVST increased testing uptake among key population groups (men who have sex with men, transgender people, and sex workers), but positivity rates markedly increased only among men who have sex with men. Also, linkage to care decreased among all groups.

> "The challenges created by lockdowns and other COVID-19-related restrictions have often been met with accelerated adoption of differentiated, people-centred approaches that have been proven to be more accessible and acceptable to people living with HIV and people at risk of HIV infection."
> - UNAIDS World AIDS Day Report 2020, p. 27

Cost per person to implement. The cost of implementing an HIVST strategy should be much lower than traditional testing models, such as stand-alone voluntary counseling and testing or provider-initiated testing. Due to increased production and availability, the price of test kits has come down considerably and are now available in most low- and middle-income countries for around US$2.00 (CHAI, 2021). A recent costing study of HIVST indicated that the cost for HIVST kits ranged between 2 and 20 percent of the total intervention cost targeting sex workers, men who have sex with men, and people who inject drugs in three African countries (d'Elbée et al., 2021). This cost may be comparable in the Asia Region. Using d'Elbée et al. (2021) costs of other HIVST key inputs, delivery can be broken down as follows: personnel cost is estimated to make up around 54 percent (US$7.00–US$13.00) of total intervention costs; recurrent (non-personnel) expenditures (including transport) comprise 5.5 percent (US$1.00–US$1.50); and sensitization comprises around 12 percent (US$2.00–US$3.00). The remaining 28.5 percent of costs are made up of capital costs, training, and the cost of the test kits. Costs may be reduced further if procurement and distribution of self-tests is integrated with other programs, such as community-led ART (as demonstrated in the Philippines) (Quilantang et al., 2020).

Assumptions for roll-out or scale-up. Scaling up HIVST in the Asia Region, as with all other service delivery, will require sustained government commitment to providing a strong and supportive policy environment and national guidance on implementation. Additionally, appropriate levels of investment need to be maintained and supply chain mechanisms must be fully operationalized, efficient, and closely monitored to ensure that test kits are readily available and accessible at a greater number of service points—CBOs, private pharmacies, or

local health facilities (Unitaid, 2018). Integrating decentralized programming is important for successful expansion and cost-effectiveness. Using community organizations and support groups with online platforms can increase access to and demand for testing, especially among key populations who experience high levels of stigma and discrimination (Lau, 2020; Unitaid, 2018). Also, these organizations and groups can be used for feedback, follow-up, and linkage to care.

Conclusions

Although the HIV response in the Asia Region is progressing (decreased AIDS-related deaths and reductions in new infections), there is wide variation in the status of epidemic control in individual countries. The arrival of the COVID-19 pandemic in early 2020 and the swift measures taken by governments in the region to contain its impact made the continued progress of the HIV response uncertain. With lockdowns, limited social movement, and resources and attention being focused on this new and escalating crisis, implementation of HIV programs has been imperiled. With new waves of COVID-19, there could be continued erosion of the gains made in responding to HIV.

As mentioned earlier, initiatives such as MMD, virtual outreach/telemedicine, community-centered delivery of ART and other services, and HIV self-testing are not new. Indeed, countries in the region have been implementing some of them, in varying forms, for several years. However, some governments have been more responsive in adapting, expanding, and sustaining these service delivery approaches, given COVID-19 challenges.

HP+ assessed ways countries in the Asia Region were able to adapt and maintain HIV service delivery given the challenges of the COVID-19 pandemic. Using the five broad criteria outlined in the methodology section—delivery mechanism, the benefits to clients or the health system, cost per person, impacts on program outputs, and institutional barriers or enablers—HP+ used available data to consider each HIV service delivery modality, assessing the reach and feasibility of further scale up and institutionalization (see Table 3 for a summary assessment).

Table 3. Assessment of Interventions in the Asia Region

Expanded Multi-Month Dispensing of ART and PrEP	• Already being implemented • Helps ensure reliable access to medication • Less costly than standard care • Needs strengthened supply chain and supervision
Virtual Outreach and Telehealth	• Telehealth and digital platforms already exist • Puts more control in the hands of clients • Cost of devices/airtime may be prohibitive • Needs more/better cellular infrastructure
Community Distribution of ART and PrEP	• Currently being implemented but limited • Brings services to the client • Reduces cost compared with standard care • Needs standard operating procedures for service delivery by CBOs

HIV Self-Testing	• Already being implemented • Reaches more key populations • Can reduce overall cost for HIV testing and counseling • Needs to ensure follow-up and linkage to care

Most countries in the Asia Region are implementing multi-month dispensing for ART to some degree (anywhere from a two- to six-month supply), but fewer countries are implementing MMD for PrEP, as its introduction is relatively new. MMD limits the number of visits a client needs to make to a health facility, which, in the context of COVID-19 risk, can be an advantage for both clients and service providers. As mentioned previously, studies have found that MMD may have a positive effect on retention rates and, ultimately, viral suppression in ART patients (Fatti et al., 2020; Hoffman et al., 2021; Parrish et al., 2021). Furthermore, once established, MMD is less expensive than traditional single-script, facility-based delivery of ART and PrEP (Prust et al., 2017; Nichols et al., 2021; Kuchukhidze et al., 2019). MMD is one of the most practical HIV service delivery approaches in terms of rapid roll-out and sustainability to expand the geographic coverage of people on ART. Experience already gained with MMD could be leveraged to further strengthen country capacities in supply chain management. This involves the development of and training on logistics management information systems to improve inventory management, strengthened planning and information management for forecasting/needs estimation, procurement procedures, good storage practices, and trained human resources (PEPFAR, 2020). Additionally, standard operating procedures and regulations need to be developed for MMD and incorporated into national planning documents or guidelines. Currently, most countries in the region include MMD in their national HIV strategic plans or treatment guidelines. These include Burma, Cambodia, India, Laos, Papua New Guinea, Thailand, and Vietnam, while Indonesia, Nepal, and the Philippines currently lack such guidance (UNAIDS, 2020a). Kazakhstan, the Kyrgyz Republic, and Tajikistan received support to develop and roll out their MMD programs, but implementation was hindered by COVID-19 (PEPFAR, 2020).

Providing virtual outreach or telehealth services offers an easy way to communicate with clients and provide them access to some services, including counseling, patient monitoring and follow-up, psychosocial support, and information. Many countries in the region began using telehealth platforms before the COVID-19 pandemic, but subsequently these platforms have assumed greater importance. Institutionalization and scale-up of this service delivery approach may be constrained by overall accessibility. First, many clients, or even service providers, may not own the necessary mobile device or be able to afford any additional cost for airtime or cell service. This circumstance may disadvantage clients, especially key populations, whose income may be well below average. Second, there may be regions in the country that lack a reliable cellular network. Coverage in some countries in the region is patchy and may currently be limited to urban centers, where cellphone coverage is strongest. To be beneficial, substantial investment would be needed in expanding and upgrading network coverage.

Community-led distribution of ART, PrEP, and other services is another approach that could be sustained and scaled up, albeit with greater effort required. Community distribution of ARVs and PrEP brings provision of medications, patient monitoring, information, psychosocial support, and other services closer to the client and eases potential congestion and waiting times at health facilities. Also, community organizations are positioned to reach marginalized people, such as men who have sex with men, transgender people, and sex workers, who may face

barriers to accessing services at health facilities. In the short term, costs for scaling up and sustaining community-led service delivery may be significant, both in time and funding. Start-up costs for selecting, sensitizing, and training community organizations and local partners can add nearly 30 percent to total program costs (d'Elbée et al., 2021; Quilantang et al., 2020). In addition, the process of building relationships with numerous community organizations can be lengthy and complex.

Promoting HIV self-testing has clear potential for scalability and sustainability. Again, many countries in the region are already providing HIVST and could work to expand accessibility. HIVST has the advantages of being able to maintain testing availability in the context of COVID-19 and reaching key populations who may be marginalized and more likely to avoid other traditional testing approaches. As the literature highlights, multiple approaches can be employed for distributing HIVST kits; in general, however, those operating in larger urban centers tend to be more successful than those targeting more remote locations. Similarly, there are obvious challenges in following up with self-testers to mitigate false positive results through confirmatory testing and to ensure linkage to care. Despite the higher cost of the test kits themselves, costs for HIVST should be comparatively low, as self-testing incurs fewer service-level and recurrent costs than more traditional stand-alone voluntary counseling and testing centers or provider-initiated testing.

Countries may achieve economies of scale if implementation and scale-up of most of the service delivery mechanisms discussed here are planned and managed as an integrated package. Due to their complementarity, these service delivery approaches could be combined to provide wider and more sustained access to HIV services. Furthermore, resources must be available to sustain implementation of HIV services and scale up. In the event of any future waves of the COVID-19 pandemic in the region, there is a risk that funding may be diverted away from HIV and toward the fight against COVID-19. With the future of the pandemic unclear, countries should focus on generating cost savings through further and expanded innovation.

The COVID-19 pandemic has demanded that HIV service providers find alternative, innovative approaches to service delivery. Although these approaches help offer solutions for the current adversity, they also provide an opportunity to improve HIV programs (Quilantang et al., 2020; the Borgen Project, 2021). HIV programs in the Asia Region have proven flexible and adaptive to the uncertainties of the COVID-19 crisis. Working toward institutionalizing and building from some of the HIV service delivery mechanisms reviewed in this HP+ document may prove practical both immediately and over the long term.

Recommendations for HIV Service Provision

Based on the above conclusions and the reviewed literature available, this section outlines some possible steps each PEPFAR-supported country can take to expand these approaches to sustain the HIV response into the future.

Burma

The country's HIV response has been challenged by the COVID-19 pandemic and its impact, as well as by political and economic upheavals. The public healthcare system has struggled to sustain services among the fragile and disrupted health infrastructure. While slowly recovering, for many, treatment has been interrupted and new diagnoses delayed due to closed health facilities, loss of jobs, inability to travel, and limited medical supplies (MSF, 2021). Based on the analysis presented in this report, the following recommendations can be made:

1. Further build on and expand patient-centered provision of ART (including MMD) and testing by working with the local health system and community organizations to support expanded delivery and refills of medications and offering HIV testing at local service delivery points.
2. Introduce HIV self-testing in high burden areas, expand mobile HIV testing in hard-to-reach areas, and train additional community-based screeners.
3. Expand the use of social media and virtual platforms to increase demand for and access to health information and advice and to link key populations and other hidden groups to tailored HIV services (MOHS, 2016). Such mechanisms will be increasingly important for intensive outreach and recruitment.
4. Create an online reservation system for facilities and have waiting areas outside to ensure social distancing.
5. Introduce home-based delivery of PrEP and multi-month dispensing of PrEP for key populations to ensure adherence during lockdowns and periods of conflict and political instability.

Cambodia

With an estimated population of 16.7 million, Cambodia has made many advancements in its response to HIV over the last decade with new infections down by around 46 percent and a decline in AIDS-related deaths by 24 percent (UNAIDS, 2021c). ART coverage among those who know their status has increased by 25 percent since 2015 with nearly 50 percent being served through MMD (UNAIDS, 2021c, 2021a). Cambodia must work to sustain these gains in the wake of COVID-19 and to reach the rural and remote areas of the country where more than 75 percent of the total population and an estimated one-third of people living with HIV live (World Bank, 2022; Sopheab, 2009). Based on the analysis presented in this report, the following recommendations can be made:

1. Increase MMD to six months and expanding pediatric MMD. To increase access to care for people living with HIV and their retention in care, strengthen decentralization of program implementation.

2. Assess the feasibility of expanding the community action approach to HIV prevention, care, and treatment by clarifying roles and responsibilities, including for testing, case detection, contact tracing, ART provision, and adherence monitoring (NAA, 2019; LINKAGES, 2018).

3. Continue to develop a rapid detection and response system to quickly address HIV outbreaks, build capacity at the local level for enhanced community-led service provision, and scale up HIV self-testing and reporting, especially among key populations and at-risk groups, as part of the community action approach. Having robust community and peer-led organizations is essential for being able to respond quickly at the local level to potential HIV outbreaks, thereby reducing overall infections and helping to end the epidemic (PEPFAR, 2020).

India

With India's large population (around 1.4 billion) and immense land area, the reach of the program is an important consideration. While national prevalence has fallen over the past two decades, many states have prevalence rates above the national level of .22 percent (NACO, 2021). The arrival of COVID-19, and the subsequent lockdowns and mitigation measures, have had negative repercussions on the national response. With more than 2.3 million people living with HIV in the country, India is moving into Phase V of its national response with a focus on, among other things, synergies, partnerships, and community engagement (NACO, 2022). Based on the analysis presented in this report, the following recommendations can be made:

1. Continue to scale up decentralized implementation of HIV programs into a greater number of communities. Not only will this help to ease congestion at health facilities and overloading of staff, it will also expand the network of community organizations and private practitioners providing services, especially in rural and harder to reach areas. In addition, develop a capacity building package that will strengthen and empower communities and capacitate CBOs (MOHFW, 2017). A stronger community network will support better results from MMD, testing (including self-testing), ART adherence and retention, psychosocial support and counseling, as well as from other HIV- and health-related programs such as patient identification and monitoring, tuberculosis case identification, and peer-led support and advocacy groups for key populations.

2. Explore the opportunities presented by the increasingly important social media platforms and mobile phone applications. These communication channels need to be harnessed and expanded beyond what currently exists to provide information to clients and better contact between service providers and clients (MOHFW, 2017). These enhanced interventions allow beneficiaries, especially hidden populations and those lost to follow up, the ability to engage in healthier practices and manage their own health.

3. Expand implementation of community-based HIV testing and index testing as indicated in the *National Strategic Plan for HIV/AIDS and STI, 2017-2024* (MOHFW, 2017). Identify local health facilities and networks of community organizations that can function as distribution points for HIV self-tests, especially organizations that can help target testing among key populations and marginalized groups. In addition, explore adoption of an implementation model that integrates HIV self-testing with existing telehealth platforms (or other platforms developed by peer groups or key populations) where the self-test purchaser/request is made through a cellphone that automatically registers clients on a telehealth platform for testing and follow-up.

Indonesia

Indonesia has been challenged to accelerate its national response to the growing HIV epidemic where testing has been able to identify about two-thirds of all people living with HIV but only 26 percent of those are on treatment (UNAIDS, 2021c). A nation made up of some 17,000 densely populated islands with high levels of ethnic, cultural, and linguistic diversity, Indonesia is presented with a number of barriers to managing the response and strengthening it across all provinces (BMJ Blog, 2021). These challenges have been exacerbated by the COVID-19 pandemic. Based on the analysis presented in this report, the following recommendations can be made:

1. Provide clear and adequate national guidance to expand the implementation of MMD, increasing coverage and the length of interval before resupply. Developing this strengthened policy guidance will need continued engagement with international partners, building on the work already done in terms of procurement and supply chain management to maintain ARV supplies and ensure timely ARV replenishments at site levels to avoid stockouts (PEPFAR, 2020). More robust national guidance on MMD will help to move implementation beyond the urban centers and more easily reached areas into more rural communities (Directorate General of Disease Prevention and Control, 2020).

2. Expand and develop additional community and civil society partnerships. Work with these organizations to enhance their capacities to provide more client-centered service delivery (prevention, testing, care and treatment, psychosocial support, etc.), especially among key populations. Establish strong linkages and systems between community and civil society organizations, the health system, and clients by providing a clear policy environment supported by guidelines and standard operating procedures. When empowered, communities can play a significant role in delivering HIV services including MMD of ART, patient monitoring, and linkage to care services.

Kazakhstan

The HIV epidemic continues to grow in Central Asia. Kazakhstan's incidence per 1,000 population has increased to 0.19 from 0.13 a decade ago and the number of people living with HIV has increased by more than 50 percent over the same period (UNAIDS, 2021c). As a response to COVID-19, the state program has worked with partners to increase coverage of HIV programs including testing, treatment, and follow-up (USAID, 2020a; Kazakh Scientific Center of Dermatology and Infectious Diseases, 2020). Based on the analysis presented in this report, the following recommendations can be made:

1. Continue to strengthen and increase the mechanisms of social contracting with community service organizations, NGOs, and outreach organizations to expand HIV service delivery into a wider network of communities, particularly key populations and marginalized persons who may have only limited access to services (Kazakh Scientific Center of Dermatology and Infectious Diseases, 2020).
2. Build on the virtual networks and social media platforms that are in place to increase access to telehealth. Further develop these networks to play an important role in information and education provision, patient tracking, adherence monitoring, HIV self-testing, etc.

Kyrgyz Republic

HIV incidence per 1,000 population in the Kyrgyz Republic declined from 0.12 in 2010 to 0.11 in 2020 but the number of people living with HIV has increased by nearly 60 percent over the same period (UNAIDS, 2021c). As part of its development strategy, the Kyrgyz Republic has embarked on a program of system optimization to provide quality services, control infectious disease, and strengthen the state's funding and implementation role, especially for programs targeting key populations (USAID/Kyrgyz Republic, 2020; Global Fund/Optima, 2020). Based on the analysis presented in this report, the following recommendations can be made:

1. Build on experience gained by adapting to the challenges of COVID-19 and finding innovative ways to continue providing HIV services. Continue to expand and increase coverage of MMD and strengthen community-based ART for all who need it with clear policy guidance. Seek opportunities to work with more rural community or peer-led groups to increase ART coverage. Integrate community HIV testing or self-testing into this service delivery network to increase the number of people living with HIV who know their status.
2. Work with and develop the capacities of community organizations, peer-led groups, or key population groups to ensure that testing and ART delivery mechanisms are robust, sustainable, and can provide auxiliary services like adherence monitoring, psychosocial support, and information.

Laos

Through the efforts of its national response to HIV, Laos has been classified as a low-prevalence country (HP+ and the Center for HIV/AIDS and STI, 2019). However, treatment coverage is just 54 percent of the estimated total of people living with HIV and AIDS-related deaths are rising (UNAIDS, 2021c). With one of the lowest population densities in Southeast Asia, and nearly two-thirds living in rural areas, finding and maintaining people in treatment and prevention programs is crucial and was underscored during the COVID-19 pandemic (CIA, 2022a). Based on the analysis presented in this report, the following recommendations can be made:

1. Strengthen access to MMD of ART and HIV testing by continuing with efforts made during COVID-19 lockdowns to adopt local delivery practices. These can be expanded by working with and developing the local health infrastructure and community-based organizations to maximize reach into more rural communities and hard to reach areas; Also, build the capacity of procurement and supply chain mechanisms to handle increased volumes of ARVs and test kits and for better forecasting, tracking, warehousing, and distribution into the future (HP+ and the Center for HIV/AIDS and STI, 2019).
2. As HIV services reach more people in the highest-burden geographic areas, telehealth should become a priority. Develop easy-to-use and easily accessible platforms for key populations and marginalized groups to enhance patient tracking, adherence monitoring, follow-ups, and provision of information and services.

Nepal

Due to well-targeted interventions, especially among key populations, new HIV infections in Nepal have declined over the past decade from 2,100 to 750 (UNAIDS, 2021c). However, about 25 percent of the population live below the poverty line (CIA, 2022b) and this, along with weak infrastructure, limited economic opportunities, and the COVID-19 pandemic, have put the gains made through the national HIV response at risk of being eroded. Based on the analysis presented in this report, the following recommendations can be made:

1. Remote and hard-to-access areas of the country can be provided with important HIV services through expanded community networks and trained lay providers. Continue integrating community services into the local health system to provide consistent ART delivery. This will require building the capacities of peer-led groups and key population support groups to recruit and monitor existing and potential clients and link them with the local health system to provide integrated HIV service delivery. Peer groups and community organizations should work to provide an integrated package of services (including access to ART, testing, psychosocial support, and patient monitoring) with standard operating procedures that provide clear roles and responsibilities among community groups and the local health system.

2. Expand the use of mobile telecommunication technologies for public health. This may be facilitated by increasing overall accessibility and connectivity and the creation of more client-centered platforms/applications tailored to the needs of key populations or marginalized groups. A similar strategy can be developed and implemented to increase the linkage of rural and remote populations with the health system. Wider social networks providing HIV information, personal health assistance, testing, drug and patient tracking, etc., is critical. So too is virtual connectivity among the various arms of the health system to strengthen forecasting and procurement, diagnostics, training, and outreach (MOH, 2016).

Papua New Guinea

Papua New Guinea has the highest HIV incidence (0.39) and prevalence (0.9) in the Asia Region, and new HIV infections and the number of people living with HIV continue to rise (UNAIDS, 2021c). The country is primarily rural with only about 20 percent of its population living in urban areas (CIA, 2022c). Additionally, health and transport infrastructure is limited and service delivery to more remote areas of the country is inconsistent. The COVID-19 pandemic response was both limited by and exacerbated these challenges. Based on the analysis presented in this report, the following recommendations can be made:

1. Build on experience gained with inclusion of MMD in national strategies. Expanding MMD and ensuring delivery of ART through decentralized, local-level structures, including community service organizations, will be essential to increase coverage of ART in remote and hard-to-access locations in the country.
2. Continue to explore and develop telecommunications technologies to increase outreach to people in remote locations and facilitate their access to health and HIV information and health practitioners (NACS, 2018).

The Philippines

There has been a substantial increase in the number of new infections over the last decade climbing by 237 percent, from 5,000 infections in 2010 to 17,000 in 2020 (UNAIDS, 2021c). A densely populated archipelago of over 7,000 islands, roughly half the population lives in rural areas where health service provision is a challenge (CIA, 2022d). The epidemic is concentrated and driven primarily by marginalized, high-risk populations. For example, men who have sex with men account for more than 80 percent of all reported HIV cases (1984–2021) (NEC, 2021). However, high levels of stigma and discrimination limit access to services, a situation made worse by COVID-19 and the government's mitigation measures. Based on the analysis presented in this report, the following recommendations can be made:

1. Maximize decentralized support to increase ART coverage in rural and hard-to-reach areas. Formalize and develop standard operating procedures and guidelines for decentralized ART delivery and dispensing. Include building the capacities of community-based organizations to provide extended HIV services and program management (DOH, 2020).
2. Move beyond the limited pilot phase and facilitate greater access to HIV self-test kits. Work with local health facilities, pharmacies, and networks of community organizations to provide distribution points for HIV self-tests, screening, and linkage to other HIV services. Train community and peer-led groups to provide support to key populations and marginalized groups to generate demand and expand testing uptake, and to link clients to health facilities and other providers for care and treatment.

Tajikistan

Tajikistan's national response to HIV has reduced the number of new infections from 1,400 in 2010 to 810 in 2020, while the prevalence rate has increased from 0.1 percent to 0.2 percent over the same period (UNAIDS, 2021c). Despite ratifying a "Political Declaration on HIV and AIDS" and adopting a 2017 health code with provisions for treatment, prevention, and anti-discrimination, people living with HIV, especially women, continue to suffer institutional stigma and discrimination (Alexandrova, 2021; UNAIDS, 2020b). The situation limits access to necessary services and medicines. Based on the analysis presented in this report, the following recommendations can be made:

1. The HIV response needs to increase coverage of HIV testing and treatment. To reduce the effects of stigma and discrimination, work to establish alternative avenues to HIV services. Broaden the network of clients and work with and develop the capacities of community organizations, peer-led groups, or key population groups to ensure that testing and ART delivery mechanisms are robust, sustainable, and can provide auxiliary services like adherence monitoring, psychosocial support, and information.

Thailand

There are about half a million people living with HIV in Thailand but both new infections and AIDS-related deaths have fallen by more than half over the last decade (UNAIDS, 2021c). While Thailand's epidemic has been in decline, it still has one of the highest prevalence rates in the Asia Region. The epidemic is concentrated among key populations, with over 40 percent of all new infections attributed to men who have sex with men and another 10 percent each to sex workers and people who inject drugs. While legal protection provisions are in place in Thailand, stigma and discrimination still have the effect of limiting access to HIV services (Avert, 2020). This was exacerbated during the COVID-19 pandemic. Based on the analysis presented in this report, the following recommendations can be made:

1. Continue work on integrating the areas of MMD and HIVST into existing or newly created telehealth platforms. Further link telehealth platforms with local health centers and pharmacies to provide multiple, local distribution points for MMD and HIVST to expand access. Encourage the development of platforms designed especially for key and marginalized populations to recruit networks of new users and link them with services.

2. Identify, train, and work with communities and community organizations, strengthening their capacities to provide a strong linkage between HIV service providers and clients. Provide structure and operational clarity through guidelines and standard operating procedures outlining roles and responsibilities between community and peer-led organizations and the existing health system (public and private). Communities can play a significant role in delivering and managing HIV services including MMD of ART, patient monitoring, testing, and linkage to care services.

Vietnam

Vietnam has been able to reduce the number of new infections by around 55 percent over the last decade and the number of AIDS-related deaths by about a third over the same period (UNAIDS, 2021c). The epidemic is driven by high-risk key populations. For example, in the Northern Economic Zone (NEZ) and Ho Chi Minh City Metro regions (which together constitute around half the HIV burden in Vietnam) there is high incidence and prevalence among men who have sex with men and many undetected infections remain (PEPFAR, 2021). Based on the analysis presented in this report, the following recommendations can be made:

1. Refocus efforts on utilizing community structures and community-based organizations to support and expand decentralized HIV service delivery. This will assist with reaching a greater number of people living with HIV in rural and remote locations and increase coverage of testing (including self-testing) and ART. Strengthen the capacity of community organizations so they can play an increasingly important role in HIV prevention and control, especially among key populations (MOH, 2020).

2. Broaden the accessibility, availability, and use of mobile telecommunication technologies for public health. There have been groups working in this area who can be supported to develop platforms for key populations and marginalized populations. Expanding access to these audiences can increase the linkage of rural, remote, and marginalized populations with the health system and widen social networks providing HIV information, personal health assistance, testing, drug and patient tracking, etc.

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Appendix 1. Country-by-Country Implementation Status for HIV Service Delivery Approaches

Country	Multi-Month Dispensing	Virtual Outreach/Telehealth	Community-Led Service Delivery	HIV Self-Testing
Burma	National AIDS Program under the Ministry of Health and Sports implemented multi-month dispensing for people living with HIV.	Global Fund supported efforts so that clients who are in facilities or home quarantine are reached through phone or online to make sure they do not miss ART.	Global Fund supported efforts so that ART is delivered to township borders or dispensed at the nearest centers, even for non-locally registered clients.	Not implemented
Cambodia	Beginning in 2019, three- to six-month supply for patients on ART (reaches almost 50% of 73,000 people living with HIV).	Telegram (cellular phone app) group started by clinics for people living with HIV in case they have a question about their health or medicine. Telegram offers group chat and calls, much like WhatsApp.	National Center for HIV/AIDS, Dermatology, and STDs provides home delivery of ART.	PEPFAR and Ministry of Health collaborated to provide community-based self-testing.
India	National AIDS Control Organization allows: • A three-month ART prescription for those who are on stable first-/second-line therapy • A one-time three-month prescription to those who are stable and on ART-provided counseling • 15-day dispensing for third-line therapy	A WhatsApp group connects the National AIDS Control Organization, state AIDS control societies, and the National Coalition of People Living with HIV to help with coordination.	National Coalition of People Living with HIV has assisted more than 45,000 people living with HIV in getting ART home delivery through local solutions, including government ambulances and personal vehicles. The Gujarat State Network of People Living with HIV worked with state AIDS control societies to have medicines delivered to the block level (a district sub-divisional area).	Self-testing is not integrated into the National AIDS Control Program.

Country	Multi-Month Dispensing	Virtual Outreach/Telehealth	Community-Led Service Delivery	HIV Self-Testing
Indonesia	Provincial Health Office (PHO) Circular Letter authorized two-month ART dispensing pending stock availability; 69% of eligible clients in Jakarta are receiving two-month dispensing (Romyco, 2020).	PHO Circular Letter transitioned contract tracing and civil society organization outreach to a virtual platform.	PHO Circular Letter authorized provision of home-based ART delivery service. PHO agreed to adopt home-based delivery of ART into formal policy and technical guidance as long as patient confidentiality is maintained and delivery verified. Jak-Anter, a recovery and resilience fund introduced by the USAID/PEPFAR-supported LINKAGES project, provides home delivery of tests and treatment.	PHO Circular Letter issued in March 2020 suspended community-based HIV testing services.
Kazakhstan	The National AIDS Center provides a three-month prescription of ART for people living with HIV who are on treatment. UNAIDS peer navigators deliver three- to six-month prescriptions.	USAID's case management moved to an entirely virtual system, with peer navigators checking in with clients virtually. The Kazakhstan Ministry of Health developed an online platform to offer psychological services and supports to people living with HIV.	Peer navigators have provided home delivery of three- to six-month ART supplies to more than 500 people across Pavlodar and East Kazakhstan.	Introduced in 2019 and scaled up in March 2020. Peer navigators provided HIV self-tests and counseling and information via phone or Skype.
Kyrgyz Republic	The National AIDS Centre provides three-month supplies of ART to all people living with HIV who are on treatment.	UNAIDS provides virtual self-testing. Kyrgyz Indigo has moved all consultations online. United Nations Development Programme/Global Fund supported online consultations for people living with HIV.	Kyrgyz Indigo provides home ART delivery. United Nations Development Programme mobile brigades bring health services to patient homes.	PSI project staff used community distribution to provide self-testing to men who have sex with men and partners of people living with HIV.

Country	Multi-Month Dispensing	Virtual Outreach/Telehealth	Community-Led Service Delivery	HIV Self-Testing
Laos	Not implemented	Telehealth services for people living with HIV has been identified as a priority.	Two civil society organizations (working with the Ministry of Health and 11 health facilities) provided home delivery of ART to provide care to 839 people.	Not implemented
Nepal	Sparsha (society supporting people living with HIV) offers an initial one-month ART supply and then a two- to three-month supply.	To promote more inclusive, convenient, and client-centered HIV services, the USAID- and PEPFAR-supported LINKAGES and EpiC projects have been providing HIV services virtually since 2018. Sparsha provides phone and virtual counseling after ART home delivery.	Sparsha mobilized peer workers to deliver ART to homes. LINKAGES provides uninterrupted ART supply via community, home, or center delivery.	Not implemented
Papua New Guinea	Papua New Guinea's national pre-COVID-19 policy already stipulated providing three- to six-month prescriptions for ART.	Not implemented	Community-level approaches are used, such as initiation of ART at peripheral health facilities with maintenance at the community level.	Not implemented
Philippines	Not implemented	The Department of Health is planning to develop an app to facilitate distribution of medication, which will enhance the quality of HIV treatment and counseling. Some community-based organizations have created online platforms and adapted telemedicine for clinical consultations and counseling.	Project Red Ribbon, Manila Social Hygiene Clinic, UNAIDS, and the Department of Health partnered on "Love on Wheels," which sources e-bikes and other bicycles to provide mobile HIV services and deliver ARVs. Red Whistle's 40 volunteers mobilized to collect ART refills from treatment centers and deliver them.	Not implemented

Country	Multi-Month Dispensing	Virtual Outreach/Telehealth	Community-Led Service Delivery	HIV Self-Testing
Tajikistan	USAID-supported projects provide two ART delivery waves of three-month supply.	USAID-supported projects use the Telegram app to order HIV self-test kits and provides phone counseling for information about service access, ART, and psychological support.	Not implemented	Not implemented
Thailand	IHRI Foundation provides four-week initial supply of same-day ART service for those eligible for ART and willing, and a six-week second ART supply. National Health Security Office directs hospitals to dispense three- to six-month ART supply based on patient need.	LINKAGES used TestMeNow data to send mass messages to almost 4,000 people living with HIV treatment updates during COVID-19. IHRI Foundation allows virtual two-week follow-up visit (first visit must be in person); virtual PrEP counseling for users is available. LINKAGES set up telemedicine for PrEP users to check in with providers.	IHRI Foundation allows eligible couriers to deliver ART to the home after a follow-up visit through Xpress delivery services.	Thai Red Cross AIDS Research Center has a virtual platform for its clinic with a screening system that provides HIV testing and prevention supplies. In April 2020, 800 HIV self-test kits were couriered, posted, or otherwise delivered to those seeking an HIV test.
Vietnam	Vietnam Authority for HIV/AIDS Control released new guidelines for HIV support, including multi-month ART and lowered referral requirements so people can more easily access care.	Viet Nam Network of People Living with HIV created a group on one of the largest social media chatting platforms in the country to find ways to connect people and help them reach clinics other than their own (150 members). USAID SHIFT worked with clinicians in Ho Chi Minh City and Dong Nai Province to set up virtual counseling and health check-ups.	USAID assisted health facilities in setting up an ART refill mechanism using the postal service.	Not implemented

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