The COVID-19 pandemic exposed critical vulnerabilities contributing to disruptions in access to and utilization of HIV services. The Joint United Nations Programme on HIV/AIDS (UNAIDS) and other health agencies predicted these service disruptions threatened to reverse hard-won gains across the HIV response. While service disruptions were reported, they were attenuated as health service providers and community organizations implemented mitigation innovations or adapted service delivery to maintain a continuity of prevention, care, treatment, and support services for people living with and affected by HIV.

This HIV Policy Brief titled, “Innovations and Adaptations to Maintain a Continuity of HIV Services during the COVID-19 Pandemic,” summarizes five such innovations, among them telehealth and telemedicine, HIV self-testing, multi-month dispensing, community-based engagement in service implementation and monitoring, and visit spacing. Implementation examples are provided from six cities and municipalities: Addis Ababa, Lusaka, Manila, New York City, Port-au-Prince, and Washington, DC.
Telehealth and Telemedicine

Telehealth is a broad term describing the use of telecommunication for remote health services that includes telephone calls, texts, and emails, while telemedicine is more strictly defined as videoconferencing and remote patient monitoring. Until the outbreak of COVID-19, uptake of telehealth and telemedicine was limited. However, the COVID-19 pandemic forced clinicians to rapidly adapt or introduce telehealth and telemedicine technologies. Studies conducted in the early months of telehealth and telemedicine adoption due to the COVID-19 pandemic found that overall patient satisfaction with telemedicine was higher than in-person medical appointments, at 94.9% and 92.5%, respectively.

In the context of mental health, telehealth and telemedicine have been effective models for continuous service delivery, with demonstrated feasibility and acceptability for clinician-delivered cognitive therapy. Additionally, tele-mental health has been shown to be effective for people who are facing isolation, including those quarantined due to the COVID-19 pandemic. Moreover, in relation to opioid use disorder (OUD), a policy change expanded access to OUD treatment following a year (2020) marked by more than 100,000 overdose deaths in the United States. Federal laws that make buprenorphine for OUD difficult to access for many patients, including those most at-risk for overdose death, are a key driver of the persistent gap between treatment need and availability. Previously, healthcare providers were required to conduct an in-person evaluation before prescribing buprenorphine, a US Food and Drug Administration (FDA)-approved medication that reduces nonmedical opioid use, overdose, and death. But through an exemption, healthcare providers may now initiate buprenorphine via telehealth, a policy change that many advocates are working to make permanent.

Within the context of HIV, the COVID-19 pandemic made expanding telehealth and telemedicine even more important for key populations, including people who inject drugs (PWIDs). Since 2020, several pilot projects were launched to integrate tele-harm reduction programming within existing syringe exchange programs. One such pilot project found that 78% of PWIDs who accessed tele-harm reduction services as they returned to syringe service centers achieved viral suppression after six months of participating in the project.

New York City

In the week following the stay-at-home order in New York City, video and telephone visits rose from 3.4% and 0% of total visits to 14.9% and 22.3%, respectively. By April 2020, more than 60% of visits were being conducted via telemedicine. Health care providers and patients reported overall positive experiences delivering care remotely using both telephone and video and believe both modalities are critical for enabling access to care during and after the COVID-19 pandemic.
HIV Self-Testing

Currently, it is estimated that only 75% of people living with HIV globally know their HIV status.9 There are more than 160,000 people with undiagnosed HIV in the United States.10 In 2016, the World Health Organization (WHO) published the first global guidelines on HIV self-testing, in which HIV self-testing was recommended to be offered as an additional approach to HIV testing services.11 Additionally, the International Association of Providers in AIDS Care (IAPAC) released guidance in January 2019 to expedite the introduction, uptake, and scale-up of HIV self-testing in Fast-Track Cities.12

To control the COVID-19 pandemic, most countries introduced significant restrictions, including the closure of non-essential services, stay at home orders, and social distancing. Beyond mitigating risk, these restrictions made it difficult for people to access HIV testing services through clinics and community-based organizations, making home care options for testing increasingly important.10 HIV self-testing presented a positive benefit to affected communities, including those that historically struggle with accessing traditional testing services – a struggle that was exacerbated during the COVID-19 pandemic.13,14

For example, in March 2020, the US Centers for Disease Control (CDC) launched TakeMeHome, a novel public-private partnership to deliver HIV self-testing kits to men who have sex with men (MSM) seeking HIV testing. Seventeen state and municipal health departments participated in the program, allowing residents of their jurisdictions to order test kits. Most program participants reported they had either never tested for HIV (36%) or that they had last tested >1 year before receiving their self-test kit (56%).15 After receiving the self-test kit, >10% of respondents reported accessing additional HIV prevention services. Beyond its efficacy in facilitating increased HIV testing, self-testing has also been shown to be cost-effective when directed to those at highest risk of HIV infection.16,17

Washington, DC

In the summer of 2020, the District of Columbia Department of Health launched GetCheckedDC.org for Washington, DC, residents to order home-based oral HIV antibody tests and urogenital, pharyngeal, and rectal chlamydia and gonorrhea tests. During the program’s first five months, a total of 1,089 HIV and 1,262 gonorrhea and chlamydia tests were ordered by 1,245 residents. More than half of the people requesting tests reported convenience and COVID-19 as the reasons for ordering the tests. Almost all (98.5%) said that they would recommend HIV self-test kits during and after the COVID-19 pandemic.18
Visit Spacing and Multi-Month Dispensing

A key component of differentiated service delivery is visit spacing that simplifies HIV service delivery across the HIV care continuum by allowing people living with HIV to attend clinic less frequently. Visit spacing not only is more convenient for patients, but it became essential due to risk mitigation restrictions caused by the COVID-19 pandemic.

In an IAPAC global survey of HIV care providers, 54% of clinician-respondents reported being transferred to COVID-19 care from HIV care, with visit spacing of HIV appointments, as part of differentiated service delivery, allowing this transfer to occur without significant disruptions in HIV services.

Multi-month dispensing (MMD) is another key component of differentiated service delivery, which provides patients with several months of antiretroviral drugs at one time and reduces the need for monthly clinic visits to pick up medication refills. In the context of the COVID-19 pandemic, MMD policies reduced the need for close interaction between patients and healthcare workers in clinical settings and improved access to patient-centered care by removing barriers related to month-

Addis Ababa

The Bole Drop-In Center, supported by the President's Emergency Plan for AIDS Relief (PEPFAR), UNAIDS, and Population Services International, adopted a model for providing pre-exposure prophylaxis (PrEP) to female sex workers during the COVID-19 pandemic. Prior to the pandemic, women were required to visit the clinic every month to receive their PrEP. Women are now provided three months of PrEP along with remote education and training in PrEP use. Services also are provided for addressing intimate partner violence and conducting outreach to gender-based violence survivors.
ly clinic visits, travel time, and cost. Multi-month drug dispensing also improved antiretroviral therapy (ART) adherence and helped patients attain or maintain an undetectable viral load.\textsuperscript{21}

While the WHO has recommended MMD since 2016, some countries have been slow to implement the policy change.\textsuperscript{22} Out of necessity, the COVID-19 pandemic has accelerated MMD implementation. HIV service disruption associated with the pandemic was significantly diminished in those settings where MMD was more widely implemented, both in the global North and South.\textsuperscript{23-27} In sub-Saharan Africa, MMD was implemented by accessing national drug stocks and adjusting ART guidance to maximize available stock and ensure optimal regimens. Community ART dispensing was also adopted or expanded through newly established community-based ART points, primary healthcare outreach points, community ART adherence groups, mobile vans, and home delivery.\textsuperscript{26}

As noted in an evaluation of MMD implementation across 21 countries supported by the US President’s Emergency Plan for AIDS Relief (PEPFAR), “Access to MMD markedly expanded during the COVID-19 pandemic, supporting treatment continuity while mitigating exposure to COVID-19 at health facilities. This model is beneficial in public health emergencies and during disruptions to the healthcare system. Outside emergency contexts, expanded MMD eligibility extends client-centered care to previously excluded populations.”\textsuperscript{26}

**Lusaka**

In the second quarter of 2020, the HIV Coverage, Quality, and Impact Network (CQUIN), led by ICAP at Columbia University, conducted a rapid survey to understand the impact of the COVID-19 pandemic on MMD policies in 14 sub-Saharan African countries. In Lusaka, Zambia, pharmacies transitioned from three-month dispensing to six-month dispensing for patients aged over 10 years old on stable ART, and to three-month dispensing for children ages 2-10 also on stable ART.\textsuperscript{29}
Community Engagement in Service Implementation and Monitoring

The COVID-19 pandemic has highlighted longstanding disparities in health outcomes for communities of racial and ethnic minorities and demonstrated again the importance of engaging communities in all aspects of health service delivery.\textsuperscript{30,31} Community-led organizations have shown themselves to be an invaluable and essential part of the global public health infrastructure.\textsuperscript{32} With respect to service implementation, a recent UNAIDS report highlighted the critical nature of community-based organization engagement in responding to the “colliding” pandemics of COVID-19 and HIV. Drawing on qualitative survey data spanning 225 community-led organizations across 72 countries, the report provides a snapshot of how community-based organizations worked to sustain HIV responses (i.e., antiretroviral drug and HIV self-test kit distribution) while supporting their communities through the COVID-19 pandemic (i.e., distributing masks, soap, and hand sanitizer).\textsuperscript{32}

Also in the context of HIV, community-led monitoring (CLM) has taken root as a process in which affected communities, notably those who are the recipients of HIV prevention and care services, take the lead in monitoring program performance. Community monitors are trained on data collection and analysis, and report outcomes based on standardized indicators to track prioritized issues.\textsuperscript{33} The CLM process involves collecting evidence about what works well, what is not working, and what needs to be improved. The CLM model thus serves as a watchdog for the HIV response and allows communities, health facilities, and governments to rapidly identify and respond to community-experienced barriers to accessing and utilizing HIV services.\textsuperscript{34} Within the context of the COVID-19 pandemic, CLM has played a critical in advocating for HIV-affected communities in the face of service disruptions and health commodity shortages.\textsuperscript{34}

**Manila**

As a consequence of lockdown measures put in place in response to the COVID-19 pandemic, Love on Wheels, a Manila-based initiative by the community-based Project Red Ribbon and the Manila Social Hygiene Clinic, supported community engagement in HIV service delivery by procuring bicycles. These bicycles were used by medical technologists and nurses to bridge the distance to facilities dispensing antiretroviral medications, collecting specimens, and delivering HIV screening materials to community members who indicated difficulty in travelling to community-based clinics.\textsuperscript{35}

**Port-au-Prince**

In Port-au-Prince, CLM work conducted by Haiti’s Civil Society Forum Observatory unearthed a need to improve HIV treatment literacy related to the concept of undetectable equals untransmittable (U=U), recommended extending clinic service hours and reducing patient wait times, and facilitated a policy change to increase to six months the supply of antiretroviral medicines dispensed to people living with HIV.\textsuperscript{36}
Conclusion

The COVID-19 pandemic and more specifically its impact on health systems required service delivery adaptations and innovations to maintain a continuity of health services, including in relation to HIV. Some of the adaptations and innovations had been previously recommended by normative bodies, however uptake took place at a slow pace until COVID-19 risk mitigation measures disrupted HIV service delivery as two pandemics collided. The successful implementation of telehealth and telemedicine, self-testing, multi-month dispensing, community-based engagement in service implementation and monitoring, and visit spacing have helped health systems and healthcare providers to maintain a continuity of HIV services through a global public health crisis.


