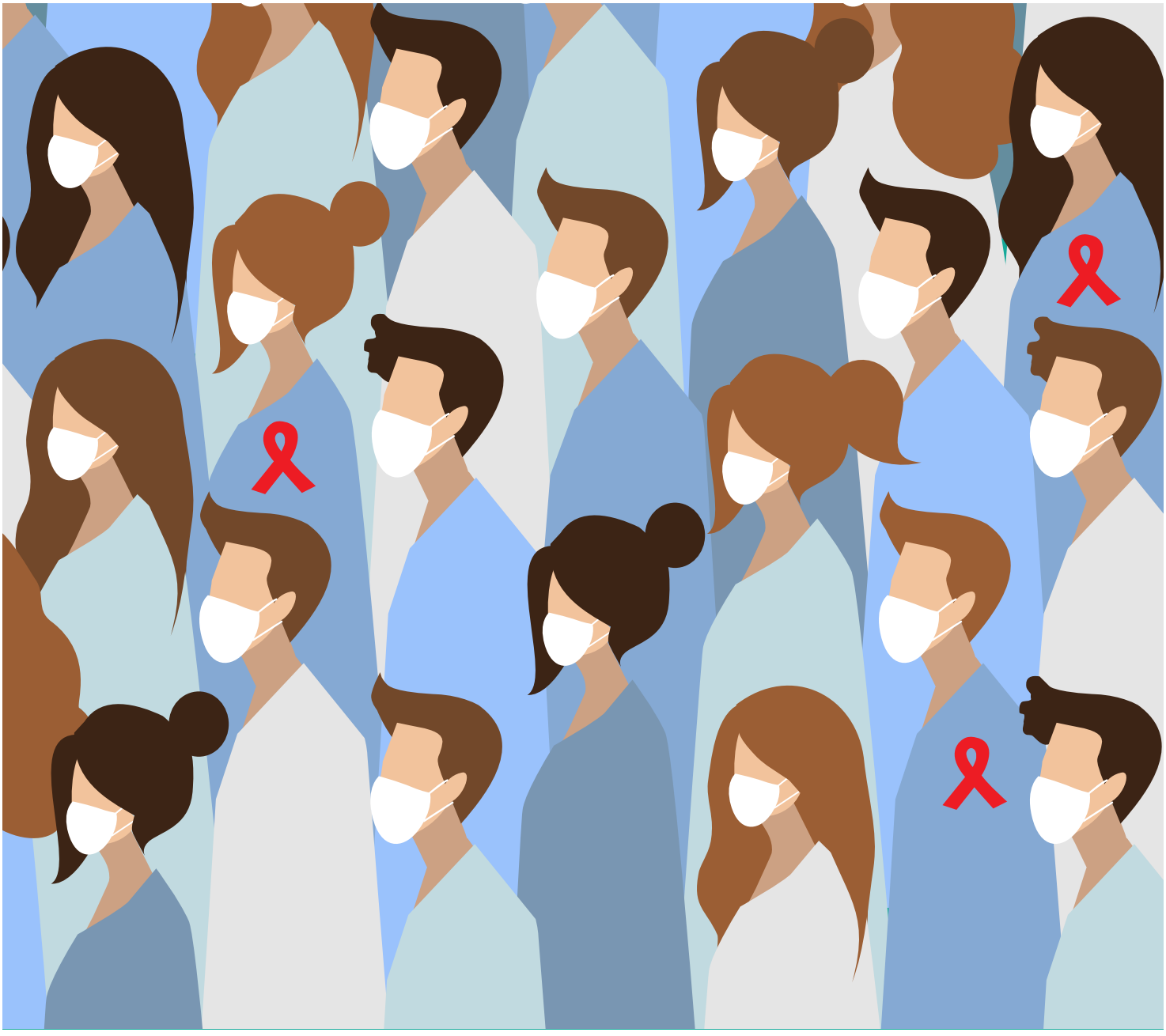
Preventing HIV infections at the time of a new pandemic

A synthesis report on programme disruptions and adaptations during the COVID-19 pandemic in 2020

GPC
Global HIV
Prevention Coalition



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This crisis is a wake-up call to do things differently. We need a recovery based on economic and social justice since response gaps in pandemics, whether HIV or COVID-19, lie along the fault lines of inequality.

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Executive summary

Throughout 2020, the COVID-19 pandemic swept around the world, threatening decades of hard-won development and public health gains. Global and country-level efforts to control the AIDS epidemic are facing unprecedented threats. Hard-won gains in HIV prevention, with the number of people newly infected with HIV declining by 23% since 2010, are in danger of being reversed by the COVID-19 pandemic—and populations already left behind are at risk of falling further behind.

The pandemic, and the measures put into place to contain its spread, have triggered a sharp economic downturn, which is having pervasive and devastating effects on national economies and people's livelihoods. Millions are being driven into extreme poverty and precarity, with sub-Saharan Africa and South Asia hit the hardest. Evidence indicates that the convergence of COVID-19 and HIV is deepening inequalities and sharpening the vulnerabilities that have long been recognized as the structural drivers of HIV transmission. Upturned livelihoods, interrupted access to education, worsening of gender inequalities, increased violence against women and erosion of human rights, with a surge in punitive legal and policy measures in many settings, is likely to increase HIV risk in the coming years.

The stresses on health systems have been acute, as health facilities and health personnel were mobilized to contribute to the pandemic response and refocused their energies on the urgent need to attend to related COVID-19 prevention, testing, tracing and care responsibilities. The demands on health-care workers and other containment and mitigation responses (including lockdowns and physical distancing mandates) have made it difficult—or even impossible—to continue the face-to-face health encounters that have long been the backbone of HIV prevention, testing and treatment services.

Inevitably, HIV prevention services have been disrupted, and supply chains for key prevention commodities, including condoms, lubricants and antiretroviral and other medicines, have been stretched. This is reflected in the early dips observed in the monthly numbers of people served by key prevention interventions, including those at high risk of HIV (such as sex workers) and priority groups such as adolescents and pregnant women.

At the same time, while it has vividly exposed and widened stark inequalities and health inequities, COVID-19 has also indicated ways of making health systems and other public institutions fairer, more inclusive and better able to meet the challenges of ending the AIDS epidemic in the years to come. Health-service providers and community organizations have responded to the crisis by changing the ways they provide HIV prevention services to minimize disruptions of the most essential services.

The response to the pandemic has drawn on decades of experience in pushing back AIDS, and HIV-concerned experts and communities have in many instances stepped up to the plate during the worst of the crisis. Many countries around the world took early, decisive action to address critical vulnerabilities, maintain health services and build synergy between both COVID-19 and AIDS control approaches. These underline how these measures can complement and support each other, in a coherent and comprehensive approach to confronting both the COVID-19 and HIV threats.

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The HIV and COVID-19 pandemics and their responses have exposed the dangers of insufficient investment in pandemic response capacity at the national and global levels

Many of the changes made have been inspired by community-based service models pioneered over the years in the HIV response. These models are characterized by their strong client focus, their responsiveness and flexibility and their attention to the wider realities of the communities in which they are embedded. Over the past year, the communities most affected by HIV have mobilized to defend the gains in the AIDS response, to protect people living with HIV and other key and vulnerable groups and to push back the coronavirus. They have taken bold steps, in the face of considerable adversity and with limited financial assistance, to assure continued HIV prevention services to community members but also to support measures to prevent COVID-19 and manage its consequences. To overcome the constraints imposed by pandemic-related restrictions, they have campaigned for multi-month dispensing of medicines and supplies, organized their delivery and brokered financial support, food and shelter to marginalized groups at higher risk. They have innovated with the use of virtual platforms to continue to meet the multiple needs and concerns of beneficiaries. Country-level experiences documented in this report demonstrate how COVID-19 has catalysed the accelerated implementation of innovations that predate the pandemic but that have previously struggled to obtain traction. In most settings, these measures have managed to compensate for the breakdown of formal health services and enable rapid rebound in the delivery of essential services to those in need. In some cases, they have even led to increases in service coverage compared with the pre-COVID situation.

The ability of HIV programmes to adapt to COVID-19 highlights their resilience and flexibility, especially in settings with strong community systems and in which robust links have been built with the formal health system. An overview of currently available trend data about actual service delivery disruptions at the country level suggests that disruptions to HIV treatment efforts may not be severe as feared and that the impact on AIDS-related mortality may be less than that predicted early on by mathematical models. The picture that emerges for HIV prevention services, however, is more mixed, with variable degrees of disruptions across services and over time. Reports from countries convey a sense of programmes struggling to maintain coverage in the face of difficult times. They also portray countries recognizing and responding quickly to the most acute challenges. These changes are many faceted, being devised and implemented across sectors, by government programmes and as well by civil society. The level of disruption to services so far is less than many feared, thus making it possible to avoid the worst effects predicted by the mathematical models.

More detailed and contextualized analysis would be required to assess how coverage with different types of HIV prevention services has been affected and why. More analyses are also required to understand how vulnerabilities might translate now and into the future into changes in sexual or other risk behaviour and the possible effect on the numbers of people acquiring HIV. Evidence of any changes in incidence in the time of COVID-19 is expected to be available over the coming year, as countries estimate the numbers of new HIV infections in their populations, using standard approaches. Additional data may also become available from well characterized cohorts in settings with a high burden of HIV infection. A careful review of observed trends will be required to assess to what extent they may be associated with increased COVID-19 vulnerabilities, changes in risk behaviour and/or HIV prevention or treatment service disruptions.

The HIV and COVID-19 pandemics and their responses have exposed the dangers of insufficient investment in pandemic response capacity at the national and global levels. They have also underscored the importance of increasing the resilience of societies and health systems and the importance of addressing underlying inequalities. At the same time, they have stimulated the acceleration of people-centred approaches to infectious disease prevention and control—approaches

long called for by people living with HIV and other civil society activists. Collective global efforts that give priority to people can transform the COVID-19 crisis into an opportunity to accelerate both the HIV response and the efforts to achieve universal health coverage and the Sustainable Development Goals. As countries mobilize against COVID-19, the lessons learned from decades in pushing back on AIDS must continue to inform the latest pandemic response, and the HIV control programmes must be bolstered to prevent the world from falling further behind on its commitments to end AIDS by 2030.

The COVID-19 and the HIV responses must build synergy to ensure that they address and do not exacerbate the inequalities and vulnerabilities that increase risk of infection and disease, impede access to services and curtail programme impact. Restrictions to protect public health must be context-relevant, time-limited, proportionate, necessary and evidence-informed. In particular, education systems must be protected, in view of the huge benefits, including health benefits, they bring to future generations, and the enduring effects of any disruptions, especially for girls and women. It is also time to heed the previous calls of the HIV community for strengthening the social protection of those most in need, for combatting all forms of stigma and discrimination, for supporting and protecting health-care workers, and for ensuring free and affordable access to diagnostic, preventive and therapeutic tools, with particular attention to the needs of the most vulnerable and hardest to reach. In countries with a high HIV burden, it is recommended that social protection schemes be made sensitive to the needs of people living with HIV, those at higher risk of HIV infection and others affected by the epidemic. Adequate investments must finally be made into community systems, which have been essential to assure the resilience and sustainability of the health system in the context of the spread of COVID-19 and will be necessary to finish the job, through advocating for and supporting the delivery of vaccines, when available. Domestic funding must be directed to strengthen mechanisms such as social contracting to support and sustain community-led service delivery.

In the meantime, some reprogramming of HIV prevention efforts needs to continue as necessary to achieve improvements, increase coverage and build efficiency. Existing strategies and technologies should be taken forward, such as multi-month dispensing and differentiated service delivery and self-testing approaches, as well as innovations, such as the use of online platforms for reaching people at highest risk and young people who are frequently missed by conventional programme delivery methods. These changes need to be scaled up, sustained and institutionalized. Attention must be placed on building capacity, strengthening links and ensuring the safety of frontline workers (such as by providing personal protective equipment and mobile technologies as required). Procurement and supply systems need urgent attention as well, to fix the faults thrown up in the COVID-19 crisis. Finally, strategic information platforms need to be developed to monitor how COVID-19 affects programmes and make data-driven course corrections. Triangulation and analysis of HIV and COVID-19 data is required as countries promptly respond to both pandemics. Guidance has been developed for taking forward key service delivery adaptations and innovations, of which examples are provided in the report.

In the longer term, specific efforts will be needed to ensure that the move towards universal health coverage reflects the key attributes of the HIV response (including community engagement, inclusive governance, accountability for results and a commitment to human rights and gender equality), that all services provided are free of stigma and discrimination and that service packages include essential HIV diagnostic, treatment and prevention services. No one should be left behind.

The COVID-19 and the HIV responses must build synergy to ensure that they address and do not exacerbate the inequalities and vulnerabilities that increase risk of infection and disease, impede access to services and curtail programme impact

Background

People living with HIV and people at higher risk of HIV infection are facing immediate, life-threatening challenges to access the health and HIV services that they need

Throughout 2020, the COVID-19 pandemic swept around the world, leading to spikes in excess mortality and untold suffering *(1)*. As the spread of SARS-CoV-19 disrupts health systems and lockdowns and other containment measures restrict movement, threaten livelihoods and strain economies, AIDS control programmes face unprecedented threats.

People living with HIV and people at higher risk of HIV infection are facing immediate, life-threatening challenges to access the health and HIV services that they need. HIV testing and treatment, voluntary medical male circumcision, condom procurement and distribution, needle syringe and opioid substitution therapy programmes, pre-exposure prophylaxis and other programmes have all been negatively affected *(2)*. Modelling conducted on behalf of UNAIDS and the World Health Organization has shown that a six-month disruption to antiretroviral therapy services alone has the potential to add another 500 000 people dying from AIDS-related causes in sub-Saharan Africa by the end of 2021 *(3)*. Access to health and HIV services is not the only concern, however. Many key and priority populations also face increased vulnerability and risk because of upturned livelihoods, interrupted access to education, increased levels of gender-based violence and, in some cases, an upsurge in punitive legal and policy measures. Hard-won gains in HIV prevention, with the number of people acquiring HIV declining by 23% since 2010, are in danger of being reversed by the COVID-19 pandemic—and populations already left behind are at risk of falling further behind.

This report considers the status of HIV prevention programmes in the time of COVID-19 and efforts at the country level to make the necessary service adaptations and build synergy with COVID-19 responses.

Laboratory test, Kyrgyzstan. Photo: Alexei Sokolov, AIDSInfoshare, UNAIDS

Aim and objectives

The aim is to provide a synthesis of the status of HIV prevention programming in the time of COVID-19, identifying key vulnerabilities and risks, major service disruptions and documenting responses in a range of settings. A major focus was placed on gathering information on programme innovations at the community level.

Specific objectives include:

- To analyse information on how COVID-19 affects new patterns of HIV infection, taking into account changes in vulnerabilities and risks.
- To summarize available information on disruptions of HIV prevention service delivery in health facilities and in communities.
- To document HIV prevention responses, including innovations and good practices but also critical gaps.
- Based on the findings, to develop propositions for HIV prevention in the new normal.

This report is primarily directed to key partners and decision-makers in the global HIV and COVID-19 response. These include technical and funding partners and country-level decision-makers, programme planners and managers. Additional audiences are UNAIDS staff, consultants and technical experts and members of civil society and community organizations. The lessons from successful HIV responses in countries and communities are identified and shared with a view to promote and sustain resilience strategies and programme improvements—even under the circumstances required to prevent the ongoing transmission of SARS-CoV-2 and address its consequences. It is hoped that the report will serve as a basis for decision-making in the next year or two, as countries step up their efforts to control both epidemics.

This synthesis focuses on how the unfolding of the COVID-19 pandemic has affected efforts for the primary prevention of HIV infection among adults, infants and children. For this purpose, primary prevention encompasses "a network of strategically and necessarily combined strategies" to anticipate and avert new HIV infections and to contain the AIDS epidemic *(4)*. These strategies include social and structural changes, are not limited to biomedical commodities and services and assume that people have the resources they need to anticipate and deal with critical challenges. This implies that countries will take concrete steps to address key policy and legal barriers and create an enabling environment for successful prevention programmes. With this important principle in mind, the Global HIV Prevention Coalition has recommended that HIV prevention responses be organized around five pillars, depending on country context *(5)*:

- Programmes for key populations, including sex workers, gay and other men who have sex with men, prisoners, people who inject drugs and transgender people.
- Programmes for adolescent girls and young women and their male partners in settings with high HIV incidence.

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- Condom promotion and distribution.
- Voluntary male medical circumcision.
- Pre-exposure prophylaxis (PrEP).

Information was gathered and synthesized therefore on how COVID-19 has affected programming related to all five pillars and to secure an enabling environment for HIV prevention. A specific focus was placed on community-led prevention efforts. Information was also collected on the status of programmes for preventing HIV among infants and young children through programmes for preventing mother-to-child transmission. Finally, consideration was given to HIV testing services, given their role in comprehensive programmes for key and other priority populations, including but not only with respect to entry into voluntary male medical circumcision, PrEP and services for preventing mother-to-child transmission.

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Relevant and illustrative experiences from all countries from the Global South served by UNAIDS have been considered, as available. The sourcing of information has been opportunistic since efforts to collect data comprehensively and systematically on this topic have not yet been put into place. An attempt has been made, however, to include country experiences across all regions and all main types of HIV epidemics.

Visit to sex workers, Cotonou, Bénin. Photo: Yanick Folly / UNAIDS I Bénin

Data sources

To set the context, information from authoritative sources about the social and economic impact of COVID-19 and how it affects health systems and other key sectors such as education was identified. The main thrust of the exercise, however, was seeking and summarizing information on HIV prevention responses at the country level.

The main sources of data were as follows:

- Literature (including grey literature) found through a structured but not exhaustive search approach.
- Country, organizational and thematic reports, such as from the Global Fund to Fight AIDS, Tuberculosis and Malaria, the United States President's Plan for Emergency AIDS Relief (PEPFAR) and the UNAIDS Secretariat and Cosponsors, including UNICEF, UNFPA, UNODC, UNDP and the World Bank.
- The UNAIDS COVID-19 Portal and the UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database.
- Reports of surveys conducted by diverse interested organizations,
- The results of COVID-19 impact modelling exercises.

A variety of methods was used to analyse the data assembled for this enquiry. Two potential ways COVID-19 affects HIV prevention are of concern: service disruptions in HIV prevention programmes and related activities at the country level and how these service disruptions affect the risk of acquiring HIV in specific subpopulations. The first was assessed primarily by querying the UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database and/or the UNAIDS COVID-19 Portal. Specifically, trends in country-level service statistics from 1 January to 30 September 2020 were examined to detect key service disruptions and identify multi-country and individual country trends in key prevention services and numbers of clients served over the first nine months of the year. Trend data were somewhat limited, and the countries' reporting varied by the indicator being reported: good multimonth trend data on one aspect of a country's HIV prevention efforts was not often accompanied by similar trend data for other aspects of its programme. Further, any analysis of these data is compromised by the lack of good ways to measure the disruption and recovery of services. The sudden arrival of the pandemic precluded a systematic approach to developing a comprehensive monitoring system with standardized indicators. As a result, the data that do exist are often incomplete, lack important context and do not reveal trends.

This first-level analysis was complicated by different timing of the arrival of COVID-19, different timing of the responses to it and differences in the intensity of these responses. Contextual information to enable a better understanding of emerging patterns was sought from the qualitative reports that accompanied these data. As with the quantitative data, the existence of high-quality information was not uniform or consistent.

In addition to the Portal data, other sources were sought and used to provide context when possible. Data from online surveys and from other organizations such as the Global Fund and from published

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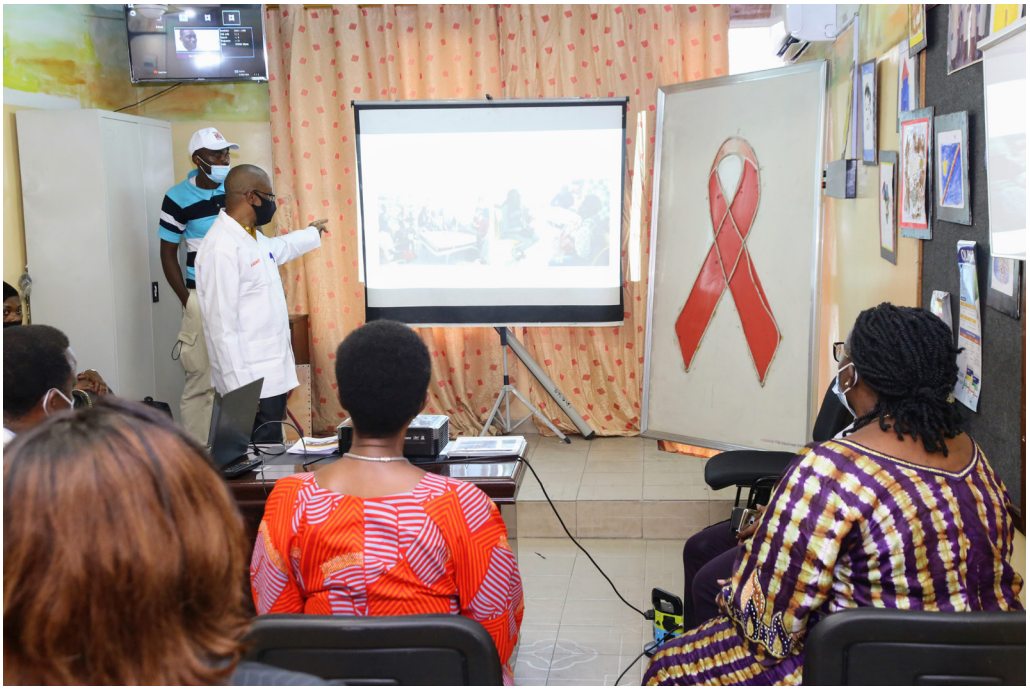
and grey literature were also sought for inclusion. Responses to the numerous surveys that have been conducted, mostly online data collection, were examined to detect effects on reported behaviour that may suggest how COVID-19 is affecting the risk behaviour patterns of those at highest risk.

The second impact, how COVID-19 affects the risk of acquiring HIV, is more difficult to assess at this stage. Several mathematical models originally developed to track the AIDS epidemic have been used to assess the potential impact of COVID-19 on the epidemic trajectory. Most of these models have focused on treatment and AIDS mortality but less on prevention and numbers of people acquiring HIV. As a result, these models are more limited in addressing how COVID-19 affects HIV prevention.

Additional material was obtained mainly from narrative reports and results of primary studies based on interviews, and analysis was therefore largely qualitative, focusing on key emerging themes and providing illustrative case study descriptions.

The report first considers how the unfolding of the COVID-19 pandemic led to increased HIV vulnerability and risk, through disruptions to health services, and the economic and social repercussions of pandemic containment responses. It then examines the magnitude and potential effect of HIV service disruptions, as predicted by early modelling efforts and documented at the country level. It follows with examples of country-level adaptations and innovations. Finally, the report provides propositions for the way forward.



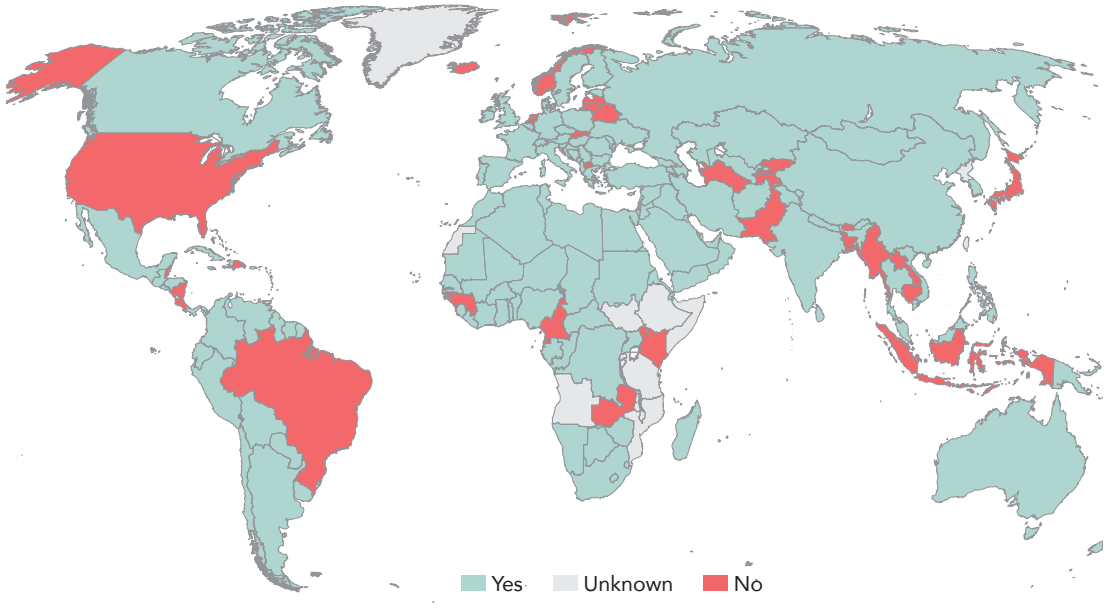
Visit to Kalembelembe Paediatric HIV Unit by First Lady of DRC and other officials. photo: UNAIDS Photolibrary

A devastating new pandemic

Disrupting billions of lives and livelihoods, the COVID-19 pandemic threatens decades of hard-won development and public health gains. By late December 2020, the global number of new cases reported was increasing, and all countries were affected in some way or another. The pandemic is challenging the world's health systems and has triggered a deep global economic downturn, with uncertain outcomes *(6)*. The recession in advanced economies is hitting low- and middle-income countries hard and exacting a massive toll on poor and vulnerable people. The World Bank warns that millions of people will fall into extreme poverty, and millions of existing poor people will experience even deeper deprivation—the first increase in global poverty since 1998 *(6)*. The pandemic is aggravating social and economic inequalities in most affected countries. In fragile and conflict-affected situations, it is deepening existing sources of fragility and exacerbating instability.

In 2020, an estimated 168 million people need humanitarian assistance and face a considerably worse situation because of the COVID-19 pandemic *(7)*. In a wide range of settings, lockdowns and other containment measures have been adopted to curtail the spread of the virus (Figure 1). These measures can restrict livelihood options and access to a range of social, educational and health services. In some settings, concerns have been raised about measures such as curfews, banning demonstrations, enforcement via police or military violence, restricting media and responses benefitting certain groups or regions at the expense of others, which may be perceived to restrict civil and political liberties and exacerbate existing or create new societal fault lines (such as those based on identity, political allegiance or regional disparities) *(8)*. These threats require particular vigilance to leave no one behind in responding to the COVID-19 pandemic.

Figure 1. National lockdown measures implemented because of COVID-19, global overview



Sources: UNICEF Rapid Situation Tracking for COVID-19 Socioeconomic Impacts and Assessment Capacities Project (ACAPS).

Effect on vulnerability to HIV infection

The COVID-19 crisis is amplifying the deep inequalities and vulnerabilities that structurally drive the HIV epidemic. Poor, marginalized and criminalized people are the most exposed to infection and death and the least able to cope with the broader epidemic effects

The COVID-19 crisis is amplifying the deep inequalities and vulnerabilities that structurally drive the HIV epidemic *(9)*. In both cases, poor, marginalized and criminalized people are the most exposed to infection and death and the least able to cope with the broader epidemic effects. In some contexts, efforts aimed at controlling the spread of COVID-19 penalize people already on the margins of society.

Although the available data suggest that men experience higher rates of COVID-19-related deaths *(10)*, women and girls in all their diversity are bearing a disproportionate burden of the larger effects of the pandemic and of emergency responses, given entrenched gender-based social and economic disparities, women's roles in the informal economy and their unpaid care and domestic workload *(11–14)*. In particular, efforts to reduce COVID-19 transmission, including mobility restrictions, geographical lockdowns and curfews—compounded by pandemic-linked stresses—have led to sharp increases in reported violence against women and girls *(15, 16)*. India reported double the usual number of domestic abuse cases in the first week of nationwide movement restrictions, according to the country's National Commission for Women *(17)*, and South African police reported 87 000 gender-based violence calls in the first week of that country's lockdown *(18)*.

At the end of March 2020, about 89% of students worldwide were not attending school because of COVID-19 closures. This represents 1.54 billion children and youth enrolled in school or university, including nearly 743 million girls *(19)*. The impact of this period of disrupted education will be far-reaching for both girls and boys, and it is likely to hit marginalized girls the hardest *(20)*. Girls' education has long been recognized as a critical tool for advancing gender equality and enhancing the health and welfare of families and communities *(21)*.

All key populations, including sex workers, gay men and other men who have sex with men, transgender people and people who inject drugs, and also migrants, refugees, internally displaced people and populations in humanitarian settings, face higher risks of COVID-19 and a range of adverse socioeconomic effects that increase their vulnerability to and, in turn, risk of acquiring HIV *(22)*. This is of grave concern—although they are a small proportion of the general population, key populations and their sexual partners accounted for more than 60% of the adults acquiring HIV infection in 2019 *(23)*. Stigma and discrimination, punitive laws and practices, lack of infrastructure and medications and other health commodities and the lack of tailored information and services pose recurrent, overlapping and often entrenched challenges to meeting their basic needs. These populations are hard to reach through formal health facility structures. They also tend to have limited livelihood options. Currently, more than half of the world's population is estimated to have no social protection coverage *(23)*. This applies to many populations most severely affected by HIV and AIDS, who may also be excluded from assistance packages in the face of the COVID-19 pandemic. In addition, aggressive enforcement of restrictions created for containing the pandemic have targeted marginalized communities in some countries, amplifying their vulnerability and undermining public health objectives *(24)*.

Sex workers all over the world are facing increased discrimination and harassment, with reports of punitive crackdowns against sex workers resulting in raids on homes, compulsory COVID-19 testing, arrests and episodes of extortion and threatened deportation of migrant sex workers *(25, 26)*. Their livelihoods are under threat *(27)*. For example, when Thailand shut 23 000 entertainment venues as part of its lockdown, tens of thousands of sex workers were instantly left unemployed and without a source of income *(28)*. A rapid community-led assessment managed by Service Workers in Groups (SWING), an organization led by Thai sex workers, showed that many sex workers were unable to pay for daily expenses, housing and medicine *(29)*. In settings in which any aspect of sex work is criminalized, sex workers lack legal protection against violence, discrimination and abuse and are excluded from the labour protections and benefits that might be available to workers in the formal sector *(30)*. Many similar examples exist. Demands for social distancing, curfews and restrictions on movement have all contributed to reducing income from a livelihood that is increasingly difficult to pursue.

Gay and other men who have sex with men and gender-diverse people seeking health care, escape from violent situations or work to survive can get caught up in criminal law enforcement for violating movement restrictions. Reports of harassment have emerged from numerous countries in the wake of restrictions linked to the COVID-19 response *(31–33)*. In some settings, transgender people cannot leave their homes without facing harassment or punishment under the gender-segregated quarantine measures that have been enforced in a few countries. For example, a transgender woman health outreach worker in Panama was detained by police for being out on the "wrong day" *(34)*. People who use drugs have similarly reported increased risks of police harassment and violence during COVID-19 *(35)*.

People in prisons and other closed settings confront especially high risks of acquiring infections, including COVID-19, HIV, hepatitis C and tuberculosis, because they are frequently detained in crowded, confined and poorly ventilated spaces and are exposed to high levels of violence, including sexual violence *(36, 37)*. Prison populations already have a weaker health profile than the broader community, and many prisons do not provide adequate health care, including access to condoms, lubricants, PrEP and harm-reduction services *(38)*. The COVID-19 crisis exposes yet again and compounds these stark inequities.

Some of the 272 million international migrants and refugees worldwide have had their vulnerability exacerbated by the COVID-19 pandemic because of a lack of appropriate health insurance, insufficient income and stigmatization because of the perception that migrants carry infection and disease *(39, 40)*. According to the International Organization for Migration, at least 2.75 million migrants have been stranded globally by travel restrictions imposed to contain the spread of the COVID-19 pandemic and face even higher levels than ever of abuse, exploitation and neglect and amplifying underpinning vulnerability to HIV infection *(40, 41)*.

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Homeless and unemployed people queue to receive food during the nationwide lockdown as a preventive measure against the COVID-19 coronavirus, Mumbai/India. Photo: Shutterstock

Effect on the risk of acquiring HIV

The impact of COVID-19 on women's access to modern contraceptives could result in a decline of 6 percentage points (from 77% to 71%) in the proportion of women in 2020 having their need for family planning met, resulting in about 60 million fewer users of modern contraception worldwide in one year

The COVID-19 pandemic has clearly exacerbated the pre-existing vulnerability of most key and priority populations through multiple mechanisms. Nevertheless, how this vulnerability might translate now and into the future into changes in high-risk sexual or other behaviour and how this might affect the number of people acquiring HIV are not understood.

Increased levels of violence, and the fear of violence, associated with COVID-19 create special difficulty for women in deciding whether they will have sex (and with whom) and in negotiating safer sex *(42)*. Violence, or the potential for it, discourages many women living with HIV from disclosing their HIV-positive status to their partners, families and health-care providers, creating difficulty for women and girls to stay on HIV treatment *(43)*. This can lead to serious health problems for them but also curtails the prevention benefits of HIV testing and treatment.

Education for girls, especially secondary education, protects against acquiring HIV *(44–46)*. This protection will be a huge and enduring loss in the aftermath of school interruptions because of COVID-19. Lessons learned from the Ebola crisis show that school closures can lead to increases in gender-based violence, teenage pregnancies, child marriage, exploitation and other forms of abuse against adolescent girls (including online sexual exploitation and grooming) *(47)*.

Past crises have shown that adolescent girls are more likely to drop out after school closures, which further entrenches gender gaps in education and leads to increased rates of early and forced marriage, early pregnancy, unplanned or forced sexual activity, risk of physical and sexual abuse by peers and older men and transactional sex to cover basic needs *(11)*. All these factors are associated with increased risk of acquiring HIV. School closures may be especially devastating for girls with greater vulnerability, such as refugees, internally displaced people, returnees and girls with disabilities *(48)*, who face high risks of acquiring HIV through sexual violence in many settings.

Further, women and girls in many settings have faced major barriers to accessing services, including necessary sexual and reproductive health services—key points for delivering critical HIV services for women and girls, including HIV testing, prevention counselling and programmes for preventing mother-to-child transmission *(49)*. The impact of COVID-19 on women's access to modern contraceptives could result in a decline of 6 percentage points (from 77% to 71%) in the proportion of women in 2020 having their need for family planning met, resulting in about 60 million fewer users of modern contraception worldwide in one year *(50)*. In regions that rely less on long-acting contraceptive methods, such as sub-Saharan Africa, the potential impact may be even greater. Increased unplanned pregnancies may substantially affect the potential need for services to prevent the mother-to-child transmission of HIV, services that have been affected themselves, especially if disruptions continue over a long period of time. Even when countries have identified sexual and reproductive health care as being essential, barriers such as the increased burden of care and transport and mobility bans have hampered health-seeking behaviour.

Experiences from Kenya suggest that the changes in the patterns of sex work resulting from COVID-19 may lead to situations and behaviour that increase

the risk of HIV transmission *(51)*. One longstanding programme delivering sexual health services to sex workers in Kenya has been collecting information on the effects of the disruptions through online virtual discussions *(11)*. The disruptions have forced sex workers to adapt in oftentimes risky ways. Some sex workers have attempted to bring clients to their homes to avoid curfews but have encountered problems of privacy and the surveillance of neighbours who have chastised them for breaking physical distancing rules and placing their communities at further risk for COVID-19. Sex workers have also tried going to the clients' homes, but this is risky, since they have less control over their environment and do not benefit from the usual protection of other sex workers, bartenders and bouncers, which leaves them more vulnerable to physical and sexual violence and not being paid as agreed. Some male clients have kept them past curfew hours, effectively forcing them to stay overnight, then deducting a fee for lodging and food from the agreed cost of sex. Disagreements and violence are not uncommon or, if sex workers break curfew to avoid this situation, encounters with police and potential harassment and confinement in quarantine centres. In the latter case, some sex workers have reported securing their freedom through unprotected sex with law enforcement agents. In addition to these and many other indignities and risks they face, sex workers have also experienced major losses in income. Because sex work in Kenya is both criminalized and highly stigmatized, accessing social and financial support through government social protection schemes is difficult if not impossible. All these factors suggest that sex work may have become much riskier in the time of COVID-19.

The Global Network of Sex Work Projects surveyed its members in 55 countries and found that COVID-19 restrictions led to many challenges, exposing sex workers to severe loss of income, increased discrimination and harassment, hunger and reduced access to condoms and lubricants and other HIV services, such as HIV testing and harm reduction *(50, 52–54)*. These situations are evidence of considerable setbacks, which do not portend well for efforts to reduce sexual transmission in sex work settings.

Very little information is available on risk behaviour in other key and priority populations. A survey conducted in the United Kingdom, where COVID-19 restrictions discourage sexual intercourse with a casual partner, showed that most of the 1386 gay and bisexual men surveyed between 17 April and 8 May reported abstaining from casual sex during the lockdown, with 57% anticipating that their avoidance of casual sex would last at least six months *(55)*. This report may indicate the potential for lower rates of HIV transmission in 2020. However, evidence also indicates that people engage in high-risk sexual behaviour as they seek to relieve loneliness and stress during the pandemic. Among the men surveyed, 24% reported having had casual sex during the lockdown, with 5% reporting having had more than five casual partners. Similarly, a global online survey among more than 200 people who use drugs from 50 countries conducted in May 2020 highlighted severe COVID-related disruptions to their lives and many barriers to accessing services *(35)*. Anecdotal reports of multiple drug use to manage drug shortages and deaths associated with overdose suggest that COVID-19 is likely to have severe health effects on people who use drugs. The impact on whether they acquire or transmit HIV, however, remains unclear.

To obtain a clearer picture of how the pandemic affects high-risk sexual and other behaviour, further studies are needed in settings with both high and low HIV prevalence. Evidence of any changes in incidence in the time of COVID-19 is expected to be available over the coming year, as countries estimate the numbers of people acquiring HIV in their populations, using standard approaches. Additional data may also become available from well-characterized cohorts in settings with a high burden of HIV infection. Any changes need to be carefully analysed to assess to what extent they may be associated with increased COVID-19 vulnerability, changes in high-risk behaviour and/or disruptions to HIV prevention or treatment services.

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Country-level adaptations and innovations

Countries and communities have responded to how the spread of COVID-19 threatens HIV prevention efforts in various ways, as described below and summarized in Table 1. The country-level examples show how these measures can complement and support each other, in a coherent and comprehensive approach to confronting both the COVID-19 and HIV threats.

Table 1. Adaptations and innovations to bolster HIV prevention efforts in the time of COVID-19

	Measures taken
Strengthen national and subnational planning and policy measures	• Support the convergence of COVID-19 and HIV prevention efforts • Strengthen coordination and build links between COVID-19 and AIDS control strategies • Develop HIV contingency plans, reprogramme HIV activities as required and secure funding • Consider temporary delay or repurposing of certain interventions (such as voluntary male medical circumcision) • Strengthen civil society engagement in both COVID-19 and AIDS control planning and implementation • Allow exemptions to COVID-19-related restrictions to enable continued HIV service delivery • Remove or temporarily suspend health-care-related user fees • Provide technical and financial support and supplies to community-based organizations to enable continued HIV service delivery at the community level • Strengthen social protection measures for vulnerable groups • Minimize school closures and disruptions
Protect and promote rights	• Monitor and report cases of violence and other human rights violations among key populations and people living with HIV during the pandemic • Extend services to prevent violence against women and support survivors • Promote and protect sexual and reproductive rights and services • Strengthen judicial systems to give priority to cases of violence against women and other vulnerable groups • Minimize pre-trial detention and incarceration for non-violent crimes in accordance with international guidance • Reduce inequities in the provision of health services to incarcerated populations • Ensure the delivery of health, education and social services to mobile and migrant populations
Reconfigure service delivery models	• Conduct rapid assessments to identify evolving needs and opportunities • Safeguard the COVID-19 health and safety of implementers and beneficiaries • Facilitate access to essential services, goods and commodities • Decentralize services to the access points preferred by key and priority populations • Bundle services at the point of service delivery • Maximize distance-supported and online service delivery options • Support supply chain continuity • Strengthen systems to track the services delivered and population coverage

National actions to address the intersections of COVID-19 and AIDS

Many countries around the world took early, decisive action to address critical vulnerabilities, maintain health services and build synergy between COVID-19 and AIDS control approaches. In some countries, national HIV leaders were mobilized to drive national COVID-19 responses *(56)*. For example, in South Africa, a global leader in HIV prevention research was appointed to head the medical advisory committee for the COVID-19 response, and the director of the national AIDS coordinating body helped to coordinate a multisectoral advisory forum for the response. National AIDS directors in countries such as Angola, Brazil, China, the Democratic Republic of the Congo, Guatemala, Guinea, the Islamic Republic of Iran, Kenya, Malawi, Mexico, Nigeria and Zambia are serving as members of national planning and decision-making bodies for national COVID-19 responses. In other countries, such as the Democratic Republic of the Congo, Eswatini, Ghana, Indonesia, Malawi, the United Republic of Tanzania and Zambia, UNAIDS data show that HIV-focused civil society organizations are participating in national COVID-19 response planning and HIV contingency planning efforts. In Kenya, according to UNAIDS data, the government is also strengthening structures for community engagement in the COVID-19 response and mitigating its impact on HIV programming at the subnational level. These connections are important to ensure that the lessons learned in tackling HIV are being applied to COVID-19 action, to support links between COVID-19 and other disease control programmes and to mobilize additional funds to address common challenges.

The health authorities in many countries took swift action to anticipate health system disruptions. Several countries took advantage of Global Fund support to protect the continuity of disease control programmes, strengthen critical systems for health and fight COVID-19. In early March 2020, the Global Fund enabled countries to use up to US$ 500 million in grant flexibility to rapidly adapt existing programmes and to purchase protective equipment, diagnostics and medical supplies *(57)*. In April, the Global Fund took a further step by launching the COVID-19 Response Mechanism with an initial capacity of an additional US$ 500 million. As an example, Senegal took advantage of grant flexibility to support health-care workers providing critical services to key populations such as people who inject drugs by equipping staff at methadone clinics with personal protective equipment and adapting services to enable temperature checks, handwashing and masks for all clients *(57)*. Other positive changes during the pandemic have included removing or suspending health care–related user fees in at least four countries in sub-Saharan Africa *(58)*.

Support from health authorities has been critical to lift barriers to community-based service delivery

Support from health authorities has been critical to lift barriers to community-based service delivery. For example, in Kenya, the Ministry of Health offered early guidance and policy support to community-based organizations for continued service delivery in the context of strict measures to prevent the spread of SARS-CoV-2 (including a dusk-to-dawn curfew and mobility restrictions) *(33)*. According to UNAIDS data, in Myanmar, the government has provided special permission to allow unhindered movement of peers and community members who serve as health volunteers. Using COVID-19 personal protective equipment and risk-reduction measures, they are able to continue to deliver HIV prevention services, including

HIV testing and commodities. Engagement with community service organizations and capacity-building efforts have also been reported in other countries, such as Angola and Botswana. Virtual civil society organization and community-based organization platforms have been set up to facilitate collaboration and programme integration in Botswana and Cameroon.

Some countries have reconsidered priorities and consequently arranged a temporary delay and repurposing of some HIV prevention interventions for which a programme hiatus would not result in immediate increases in risk. For example, voluntary medical male circumcision programmes were paused in several countries during the first half of 2020 to enable health-care providers to be reassigned to fight COVID-19 and to reduce the transmission risks associated with congregations of young people. In Botswana, Lesotho, South Africa and Zimbabwe, for example, the number of procedures plummeted––in Zimbabwe's case from about 24 000 in February 2020 to a few hundred a month after April 2020. Kenya also experienced a decline, although services resumed rapidly after May 2020 (among men and boys older than 15 years) (Figure 16) *(58)*.

Other countries have taken bold steps to strengthen social protection measures to limit the human and economic impact of the COVID-19 pandemic, with a special focus on vulnerable populations

Other countries have taken bold steps to strengthen social protection measures to limit the human and economic impact of the COVID-19 pandemic, with a special focus on vulnerable populations. For example, the Ministry of Social Affairs of Indonesia has introduced social safety net support for low-income households such as food aid and conditional cash transfers, and civil society organizations working on HIV have worked actively to help key population beneficiaries access this support in their localities *(59)*. The Government of Thailand will pay unemployed workers up to 50% of their wages for up to six months and has earmarked 45 billion baht for cash handouts to support informal workers who are not covered by social security *(59, 60)*. Brazil established an emergency cash transfer of US$ 115 per month (or 60% of the minimum wage) for adults who do not have a formal job and live in poor households not receiving other monetary support. Single mothers receive a double benefit. Several other countries have also introduced fiscal and economic measures to support women in the economy *(61)*.

Overall, however, an insufficient number of countries have sufficiently strengthened and extended social protection systems and other critical policy measures to relieve the social and economic impact of COVID-19. And even fewer countries have implemented gender-sensitive measures in response to COVID-19, considering the disproportionate impact of the pandemic on women, in terms of the surge in violence against women and girls, the unprecedented increase in unpaid care work and the large-scale loss of livelihoods, especially in the informal sector, in which women are overrepresented *(61)*.

Communities at the centre of the emergency responses

Efforts to maintain health services during COVID-19 lockdowns have underscored yet again the critical role played by community-led organizations, which are responsive to the needs, priorities and rights of vulnerable populations. Organizations that are at the centre of the HIV response have stepped forward to lead local actions to fight both COVID-19 and HIV, challenging misinformation and stigmatization, delivering essential supplies to those in need and organizing local support systems. According to a survey of 160 civil society organizations by the Civil Society Institute for HIV and Health in West and Central Africa conducted in May 2020, most (72%) HIV-focused organizations were already working to raise COVID-19 awareness in their communities (56). Although some community organizations were successful in mobilizing financial resources for COVID-19-related work, others said they were struggling to handle the additional responsibilities. Many also reported difficulties in obtaining sufficient personal protective equipment for their staff.

In Burkina Faso, for example, UNAIDS data show that community-based HIV organizations are engaged in the COVID-19 response, informing and mobilizing communities, following contacts of people with confirmed COVID-19 diagnoses and re-engaging individuals who have been lost to follow-up. In South Africa, a broad group of civil society organizations have formed a coalition with the National Economic Development and Labour Council, representing government, labour, business and community organizations. This group has now launched a campaign to promote guidance on COVID-19 prevention while identifying, advocating for and addressing the critical underlying needs of vulnerable populations, including for food and water, housing and income opportunities. Swasthi, a community-based nongovernmental organization in India, is distributing rice, lentils, cooking oil and small amounts of cash to transgender people and women living with HIV in Madurai during the pandemic, since most of these people are struggling to work and earn money *(49)*. According to UNAIDS data, in Thailand, community-based organizations, the Department of Disease Control, the Global Fund and United Nations agencies partnered to provide a support package for sex workers, including food, personal hygiene items and COVID-19 and HIV prevention commodities (masks, hand sanitizers, condoms and lubricants). In Brazil, a sex worker collective in the State of Pará (GEMPAC) has registered women in the downtown area of Belem to receive food baskets and is working together with public officials to guarantee that the support promised by the state makes it to sex workers. A virtual channel was also opened up to facilitate communication with sex workers about COVID-19 along with a food drive for sex workers and their family *(62)*.

Protecting and promoting rights

Preventing and responding to human rights violations and violence are already recognized as essential for improving the coverage and effectiveness of HIV programmes. The increasing vulnerabilities and risks faced by key and priority populations during the COVID-19 pandemic require that these efforts be intensified *(63)*. Several civil society organizations, with support from partners, are taking steps to address pandemic-linked challenges to human rights.

For example, civil society networks in Thailand are working with partners to monitor and report cases of violence and other human rights violations among key populations and people living with HIV during the pandemic *(49)*. Using an online tool, community members can report, to a crisis response team, human rights abuses and other forms of discrimination, including physical violence, disclosure of HIV status, being tested for HIV without consent and discrimination in workplaces and schools. The team consists of a multidisciplinary group of people such as community health workers, health-care providers, social workers, lawyers and police officers and can provide immediate assistance, including social and health support, mediate with management in workplaces and education institutes and arrange for volunteer lawyers to support survivors in court.

Several countries have taken additional steps to prevent violence against women and support the survivors of such violence, including by setting up helplines, shelters and reception centres for survivors and fast-tracking court cases related to gender-based violence *(58, 61)*. For example, In Pakistan, a national cyberviolence helpline was improved with innovative tools, such as a mobile application with a silent panic button and text message, WhatsApp and online support for better access during the COVID-19 crisis. In the Plurinational State of Bolivia, Chile and Colombia, women can report violence and seek help in pharmacies, usually using a keyword that alerts pharmacy staff about the situation. In South Africa, for level 4 of the lockdown, the courts gave priority to cases involving corruption, sexual offences, gender-based violence and femicide, serious violent crimes, robbery, murder and violating COVID-19 regulations. Services to prevent and respond to violence against women

Several countries have taken additional steps to prevent violence against women and support the survivors of such violence, including by setting up helplines, shelters and reception centres for survivors and fast-tracking court cases related to gender-based violence

have been integrated into national COVID-19 response plans in several Global Prevention Coalition focus countries, such as Côte d'Ivoire, Democratic Republic of the Congo, Nigeria, South Africa, Uganda and Zimbabwe.

Networks of women living with HIV have been securing resources, documenting rights violations and mobilizing to support women, including those from key populations, to access medicines, food and other essential supplies. The Association Tunisienne de Prévention Positive, the International Community of Women Living with HIV and AIDS in Costa Rica, Mexico and Zimbabwe, the National Federation of Women Living with HIV and AIDS–Nepal, Positive Women Ukraine and the Viet Nam Network of Women Living with HIV are delivering food packages and provisions to the most vulnerable women, including sex workers and women in conflict regions. The International Community of Women Living with HIV and AIDS Eastern Africa is advocating for sexual and reproductive health and rights to be considered essential services in the context of COVID-19 *(49)*. The network successfully lobbied the Government of Uganda to exempt pregnant women from the lockdown so they can travel to health facilities *(49)*.

Crown the Woman–South Sudan, a grassroots, women-led organization that protects and advocates for the rights of women in the country, is working to reach women and girls during lockdown—including school closures and movement restrictions *(23)*. It is using social media to counter fake news about COVID-19 and conducting outreach activities to provide soap, gloves and information about COVID-19. Concerned about reported increases in child marriages and violence against women, the organization is also raising awareness on gender-based violence and using a national hotline that women and girls can use to report abuses and be connected to support. In Kenya, FIDA-Kenya, a women's rights organization, has launched a hotline to provide free counselling and legal aid services for people experiencing sexual and gender-based violence during the pandemic *(64)*.

To urgently address the disproportionate impact that COVID-19 and stay-at-home orders would have on adolescent girls and young women, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has adapted the existing Let's Talk campaign *(49)*. This campaign was originally created with UNFPA, SAfAIDS and Save the Children Sweden in 21 countries in eastern and southern Africa to prevent and address early and unwanted pregnancies and to keep girls in school. Using social media, the adapted campaign generates dialogue and information on how to ensure that women and girls are safe at home, know where they can turn for help in their communities and are supported to return to school once it is safe as well as core campaign messages on education, health and rights.

There have been growing calls to end the incarceration of people for minor offences or for offences not consistent with international law and to close all compulsory detention and rehabilitation centres in which people suspected of using drugs or engaging in sex work are detained *(65, 66)*. In a bid to limit the spread of COVID-19 in cramped and overcrowded places of incarceration, several countries are considering or applying practical reforms, including using detention as a last resort, avoiding pretrial detention and allowing early release or home detention of people convicted of nonviolent crimes *(67)*. Afghanistan, Chile, India, Indonesia, the Islamic Republic of Iran, Myanmar, South Africa and Thailand have recently released from prison large numbers of people sentenced for non-violent offences, and many more countries are releasing people in pretrial detention *(68)*. For example, according to UNAIDS data, every year in Myanmar, the President pardons selected prisoners as part of the country's New Year celebrations. In 2020, an unusually large number of prisoners were released—about 25 000 prisoners from 18 prisons around the country.

Bold measures have also been put into place to reach migrants and refugees,

who already face enormous challenges with precarious livelihoods and poor access to decent housing, education and health resources. For example, the pandemic has spurred innovations in education for children and young people (49). Egypt has committed to ensure access to education for refugee children within the national education system. With the advent of COVID-19, Egypt has experimented with virtual classrooms and using a streaming platform and television stations to broadcast school classes. And in the Plurinational State of Bolivia, UNHCR and partner organizations are organizing mobile classrooms for Venezuelan refugee and migrant children who have had no access to formal educational, distance learning or recreational activities since lockdown. This has helped both to identify the risks of gender- based violence within families during lockdown and to develop a mobile day centre for women that has been piloted in parallel with the classroom. On the borders of the Bolivarian Republic of Venezuela, where people are returning due to COVID-19, UNFPA and UNAIDS offer women in compulsory quarantine contraceptive methods (medroxyprogesterone acetate injections and condoms) and voluntary HIV testing. Women also receive dignity kits, including personal hygiene items and information papers on gender-based violence and HIV.

The crisis has also spurred calls for strengthening universal health coverage approaches in ways that give priority to marginalized populations at greatest risk of both COVID-19 and HIV. For example, the spread of COVID-19 has underlined the obligation of all states under international human rights law to protect the health of people remaining in prisons and detention facilities *(69)*. In another example, the global community of people who use drugs has called for harm-reduction services to be included in the benefits package of universal health coverage systems, arguing that the universal health coverage principles demand that the needs of the poorest and most vulnerable people—including people who inject drugs—be addressed first *(49)*.

Reconfiguring service delivery models

Health-service providers and community organizations have responded to the crisis by changing the ways they provide HIV prevention services to minimize disruption of the most essential services. Many countries have had to reassign noncommunicable disease personnel to cover COVID-19 needs *(70)*. Adaptations have included task-shifting with the increased involvement of peer and lay providers, rolling out self-testing, the extended provision of medicines and supplies (including condoms, needles and syringes and antiretroviral medicines) and distance-supported services *(56)*. These measures serve to decongest overstretched health facilities and bring services closer to the people who need them, while increasing the control that is invested in the hands of individuals and communities.

Health-service providers and community organizations have responded to the crisis by changing the ways they provide HIV prevention services to minimize disruption of the most essential services

Many of the changes made have been inspired by community-based service models pioneered over the years in the HIV response. These models are characterized by their strong client focus, their responsiveness and flexibility and their attention to the wider realities of the communities in which they are embedded *(56)*. Innovations in the context of COVID-19 have taken these models even further to address the challenges faced by those at highest risk of both COVID-19 and HIV infection and the increased vulnerability they face in the wake of the pandemic.

Global Prevention Coalition focus countries have reported on measures taken to continue essential HIV prevention services as part of their yearly reporting mechanism. Data reported in October 2020 show that, overall, about two thirds of Coalition focus countries had taken steps to continue safe outreach services for young women and for key populations and that about half the Coalition focus countries provide online counselling services for key populations (Table 2) *(58)*. Almost all the Coalition focus countries reported providing multimonth dispensing of condoms, and more than two thirds

did the same for PrEP. Eight Coalition focus countries had adopted multimonth dispensing of needles and syringes for people who inject drugs, and seven countries were providing take-home dosages of opioid substitution therapy.

Table 2. Changes made to prevention service delivery in Coalition focus countries, 2020

	Young women		Key populations		Condoms		PrEP		HIV treatment		Harm reduction	
	Safe continuation of outreach	Online counselling	Safe continuation of outreach	Online counselling	Adopted multimonth dispensing	Alternative access	Adopted multimonth dispensing	Alternative access	Adopted multimonth dispensing	Alternative access	Needles and syringes—dispensing large quantities	Opioid substitution therapy—take-home dosages
African Region												
Angola												
Botswana												
Cameroon												
Côte d'Ivoire												
Democratic Republic of the Congo												
Eswatini												
Ethiopia												
Ghana												
Kenya												
Lesotho												
Malawi												
Mozambique												
Namibia												
Nigeria												
South Africa												
Uganda												
United Republic of Tanzania												
Zambia												
Zimbabwe												
Other regions												
Brazil												
China												
India												
Indonesia												
Iran (Islamic Republic of)												
Mexico												
Myanmar												
Pakistan												
Ukraine												

Source: UNAIDS COVID-19 Portal reporting.

Note: The data in this table are reported by UNAIDS country offices. Orange shading means that the adaptation was not adopted by the time of reporting. Green sharing means that adaptations were made, but this does not mean that adaptations have already been implemented in all locations or all programmes within the country. Grey shading indicates countries in which young women are not the primary focus of dedicated HIV prevention programmes.

Examples of changes to HIV prevention service delivery for key and priority populations during 2020 are provided below. These illustrate how programmes in different settings have worked on several fronts, combining approaches to close critical service delivery gaps. They also show how opportunities have been seized for bundling a range of essential services, with the aim of building the resilience of communities and of the health system to COVID-19-related stresses.

HIV self-testing, which empowers people to choose for themselves the circumstances in which they take an HIV test, has the advantage of decongesting health facilities and increasing access to HIV testing to populations at higher risk of HIV infection. According to UNAIDS data, Burundi, Eswatini, Guatemala and Myanmar are among the countries that have reported expanding HIV self-testing during the COVID-19 pandemic. When implemented with the necessary linkages to care, such measures may well increase reach and coverage of HIV testing and access to treatment among those with greatest need. For example, in Kenya, three community-based organizations working with gay and other men who have sex with men took steps to adapt HIV services in the context of COVID-19 with the support of county health authorities *(33)*. They shifted to virtual platforms and strategies for outreach and mobile services for delivering condoms and HIV self-testing kits. They also raised funds to provide food aid and worked with local authorities to ensure that the poorest members of their community accessed COVID-19-specific social protection support. Encouraging programme results were obtained in terms of a gradual increase in HIV tests performed after an initial decline.

Various mechanisms have been developed in other settings to reach out to populations in need and deliver services in decentralized service points or in people's homes. In the Islamic Republic of Iran, mobile units normally used to provide services to people at high risk of HIV infection were adapted and equipped with personal protective equipment, including gloves, masks, gloves, hand sanitizers, soap and alcohol pads *(23)*. The units were then despatched to hotspots around the country, where they have been distributing COVID-19 education material, personal protective equipment and food packages to vulnerable women and people who inject drugs. They also conduct SARS-CoV-2 screening and refer suspected cases of infection to medical centres. According to UNAIDS data, the authorities also allowed private methadone maintenance treatment clinics (of which there are more than 6000 in the country) to disburse take-home methadone for up to one month and public methadone maintenance treatment clinics for up to one week. Other items, such as food basket support, were either delivered by outreach teams or available at the door of the harm-reduction centres on a predetermined schedule to avoid gathering and overcrowding.

Ashodaya Samiti, a sex worker organization, launched an assistance programme during India's stringent lockdown. In the face of the sudden loss of livelihood, heath care and social protection, Ashodaya adapted its HIV outreach programme to form an alternative, community-led system of antiretroviral therapy at discreet, private sites. WhatsApp messaging was used to distribute information on accessing government social benefits made available in response to the COVID-19 pandemic. Other assistance included advisory messages posted in WhatsApp groups to raise awareness, dispel myths and mitigate violence and regular, discreet phone check-ins to follow up on the well-being of members. Establishing this alternative system involved gaining the necessary district-level authorization and securing the necessary resources (including antiretroviral medicine stockpiles), collating the available information on members living with HIV and receiving ART, geomapping discreet distribution sites and ensuring privacy at these locations and mobilizing pre-existing community health care navigators who serve as links between the formal health system and community members *(72)*.

Community led multi-sectoral campaign for social protection for key populations

Introduction - This is the story of a community led, multi- sectoral partnership between HIV key populations, civil society, the Government of India, UNAIDS, the India Country Coordinating Mechanism, and the Global Fund, to ensure access to COVID relief for emergency food, shelter, and medical services for KPs in India.

The problem - HIV KPs, especially female and transgender sex workers, drug users, and orphans and vulnerable children, are disproportionately affected by the ongoing pandemic. They have no access to emergency food and cash transfers by the government because of poor access to necessary identity documents, which itself is a consequence of their extreme marginalization and/or criminalization. Multilateral institutions such as the World Bank and the Global Fund have largely restricted support to strengthening health systems – COVID testing equipment, PPE for health workers, and doorstep ART delivery. The lack of basic food security and safe shelter has exacerbated the vulnerability of sex workers and drug users to HIV, TB, and COVID, as well as to social isolation, discrimination, and violence.

Approach - Seven national networks of female sex workers, transgenders and MSM people, drug users, and PLHAs, launched an advocacy campaign with the GFATM to include emergency social protection measures for extremely vulnerable KPs as part of their COVID relief package to India. The Global Fund invited the networks to submit a proposal for USD 10 million, and the government gave unconditional support for a community led application. Using nationwide community consultations, the networks finalized beneficiary numbers, inclusion criteria, critical asks, and implementation mechanisms, and UNAIDS provided technical support to develop the proposal. The India Country Coordinating mechanism (ICCM) ratified the proposal unanimously and submitted the application to the GFATM which was endorsed by the CCM and approved by the GFATM Board.

In Chennai, India, the Tamil Nadu's Drug Users Forum (TNDUF), a community network of people who use drugs, and the Hopers Foundation, a community-based organization that provides harm-reduction services for people who inject drugs, teamed up to link street-based homeless people to opioid substitution therapy provided by the Tamil Nadu State AIDS Control Society. The national authorities agreed to authorize the provision of take-home doses of opioid substitution therapy, and TNDUF members were trained online to act as first responders *(23, 73)*. The TNDUF also obtained permission from the railway authorities for people to use drugs to sleep on railway platforms and have access to the railway toilets and clean water, a critical measure to prevent further spread of SARS-CoV-2.

To ensure continued support for mothers and pregnant women living with HIV and prevent the transmission of HIV to their babies, Uganda has made provision for door-to-door delivery of ART and other health services *(57)*. Eswatini and Kenya made provision for the delivery of condoms, lubricants and HIV self-testing kits to key population-friendly community distribution points *(58)*. In Ukraine, service providers and the Ministry of Health ensured that almost all people receiving opioid substitution therapy received 10-day stocks rather than having to visit facilities each day *(58, 75)*.

According to UNAIDS data, in Pakistan, an initial challenge was ensuring that the flow of antiretroviral medicines from Islamabad (central) to the provinces then to the district ART centres and then to the beneficiaries is not disrupted during lockdown by using the Government Postal Office to send medicines to the province and then working with local members of the Association of People Living with HIV to help the province bring them to the doorsteps of the beneficiaries. The Khawaja Sira Society is working with provincial governments to ensure that people living with HIV can have multimonth refills of antiretroviral medicines delivered to their homes and is reaching out to transgender people to promote their knowledge about COVID-19 and HIV prevention *(49)*.

The use of online platforms to reach key populations has long been part of HIV programming, even in settings with limited connectivity *(76)*. It has become essential for maintaining core HIV services and supporting outreach during COVID-19 during times of physical distancing and travel restrictions. Online platforms can help to maintain contact with beneficiaries and reach new clients using social media and message apps; provide information about keeping safe and sourcing services; support people receiving ART or PrEP through virtual case management and support; book appointments; and provide guidance and technical assistance to clinical and community partners *(77)*.

In Rabat, Morocco, the Moroccan Family Planning Association has been working throughout the lockdown to ensure continued access to sexual and reproductive health and HIV services for the most vulnerable people. Services quickly switched to telephone and online formats, providing virtual consultations and gender-based violence screening, referrals and, as necessary, at-home services. A primary concern during this time has been ensuring that the people living with HIV still have access to antiretroviral medicines and that pregnant women living with HIV are able to safely deliver their babies without risk to their own health (including SARS-CoV-2 exposure) and without risk of vertically transmitting HIV *(23)*.

The Lesotho Ministry of Health and the United Nations Children's Fund (UNICEF), through its implementing partner Help Lesotho, are providing remote health counselling, COVID-19 information and psychosocial support through virtual consultations for men and pregnant or breastfeeding adolescent girls and women 15–24 years old and their children, participating in the 2gether 4 SRHR Programme *(49)*. The consultations are done through individual messaging and phone calls that address issues related to continuity and access to maternal and child care, preventing vertical transmission, sexual and reproductive health, HIV

prevention and testing, mental health, birth registration and preventing sexual and gender-based violence.

In Brazil, a sexual health programme including PrEP among adolescent key populations introduced specific adaptations to observe recommended COVID-19 containment and mitigation measures *(78)*. Recruitment now relies exclusively on the activities of peer educators in social media platforms and hook-up apps, and most PrEP and other sexual health consultations and support services have now moved online. Supplies such as condoms, lubricant and medicines are delivered by fast delivery or mail.

The Eurasian Union of Adolescents and Youth—Teenergizer *(79)* has not only continued its support for adolescent girls and young women affected by HIV but also expanded its services during COVID-19 lockdowns in eastern Europe and central Asia. Teenergizer has transitioned to providing online services, which include facilitating confidential support groups for adolescents living with HIV, internships for HIV-negative adolescents and training for educational institutions. Website enquiries for peer-to-peer online counselling on teenergizer.com have increased four-fold since the lockdowns began. Through a series of live broadcasts, videos and articles on social media, thousands of adolescents and young people in the region were covered by the #StaySafe campaign, received reliable information on obtaining psychological support and help with adapting to quarantine orders and security measures during the pandemic and received sex education and information on HIV *(49)*.

Modelling how COVID-19 affects the risk of HIV infection

Modelling studies conducted once the COVID-19 pandemic began to spread used existing models developed to track and project changes to the HIV epidemic. Most of these models focused on mortality, assessing how disruptions in ART services would affect patterns of AIDS-related mortality. Some of the models were also able to assess the potential impact of reductions in prevention services.

Using one such model, the effects of three- and six-month disruptions in male circumcision, behaviour change programmes and condom distribution was estimated *(80)*. This model was applied to data from 12 countries in Africa, three in the west (Cameroun, Côte d'Ivoire and Nigeria) and the remainder in eastern and southern Africa. The model suggested that one negative effect of these short disruptions, increased HIV transmission, would likely be more than offset by reductions in commercial and multi-partner sex. A similar conclusion was reached in another modelling exercise using data on gay men and men who have sex with men from the United States *(81)*. The model does not include other negative effects, especially vulnerability or, more specifically, factors such as lost income for sex workers and therefore cannot address these effects. This inability to take increased vulnerability into account makes the usefulness of this and other models somewhat limited.

An update of this model, using data through November 2020, added a potential two-year disruption to the three-month and six-month scenarios and calculated the number of people acquiring HIV resulting from each *(2)*. These estimates range from 123 000 for a three-month disruption to as many as 293 000 for a two-year disruption. Additional numbers of people dying from AIDS-related causes increase from 69 000 to 148 000 across the three scenarios. This same model estimated that the number of children 0–14 years old acquiring HIV could double if service disruptions were to affect 100% of the population over a six-month period between April and September 2020 *(82)*.

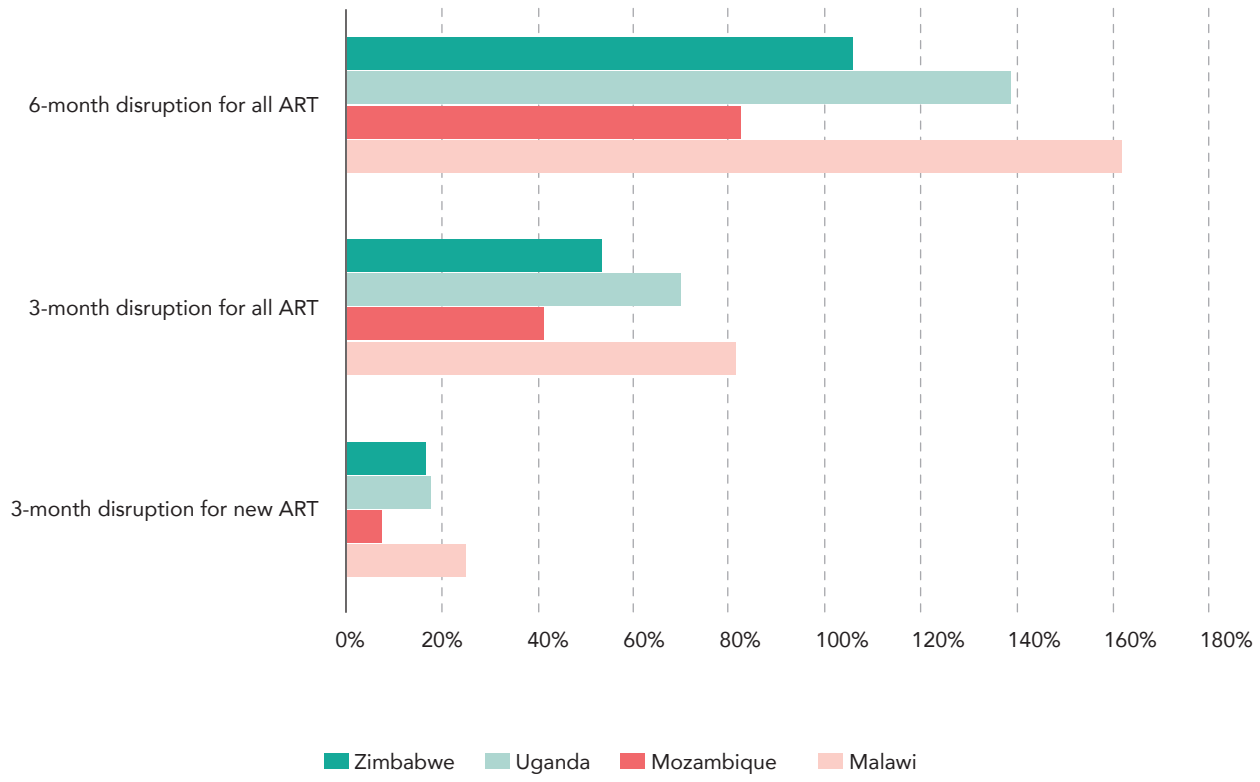
This model also predicted that COVID-19 restrictions could profoundly affect treatment services, doubling or even tripling the number of people dying from AIDS-related causes. However, data from the countries that are reporting to UNAIDS

through the UNAIDS COVID-19 Portal and sharing their HIV service disruptions data suggest that service interruptions have been more temporary, returning closer to normal, without causing drastic changes in the number of people dying from AIDS-related causes.

The model also addressed the potential impact of disruptions in programmes for preventing mother-to-child transmission. It calculated that completely ending programmes for preventing mother-to-child transmission could lead to significant increases in the number of children acquiring HIV in 2020. Figure 2 shows the increased percentage of children acquiring HIV calculated for different lengths of disruption in all ART and in ART for new people living with HIV in four countries *(49)*.

The current coverage of programmes for preventing mother-to-child transmission is high in most countries, resulting in few children acquiring HIV. Any disruption in services for preventing mother-to-child transmission could cause large increases,

Figure 2. Number of children acquiring HIV following disruptions in ART supply of three and six months in four countries



Source: Stover J, Chagoma N, Taramusi I, Teng Y, Glaubius R, Mahiane G. Estimation of the potential impact of COVID-19 responses on the HIV epidemic: analysis using the goals model. medRxiv. 2020 (https://www.medrxiv.org/content/10.1101/2020.05.04.20090399v1, accessed 24 March 2021).

from about 10% for disruption to new recipients only to 100% or more for six-month disruptions to all services for preventing mother-to-child transmission. The model did not account for disruptions in family planning services as a consequence of the COVID-19 restrictions, also projected to be significant. This could further exacerbate the effect by increasing unplanned pregnancies for all women, including those living with HIV, and increase the need for services for preventing mother-to-child transmission. An additional model estimated both the direct effect of disruptions in maternal and child health services, beyond family planning services, as well as decreased access to food *(83)*. Looking beyond disruptions in services for preventing mother-to-child transmission and family planning alone, this model projected devastating increases in the numbers of mothers and children dying.

Another modelling study drew on five well-described models of the HIV epidemic to investigate the potential impact of disruptions ranging from six months to one year affecting 20%, 50% and 100% of the population *(3)*. Potential disruptions included HIV prevention, testing and treatment services, and potential adverse outcomes included increased transmission and increased deaths. None of the models projected an increase in HIV mortality from disruptions in prevention services, except for a very minor increase resulting from a 100% disruption of services for preventing mother-to-child transmission in the GOALS model.

None of the models foresaw an increase in HIV incidence from disruption in voluntary male medical circumcision services. All models projected small increases resulting from 20% disruption of condom availability, with the disruptions increasing with the increased level and length of disruption. Two models (GOALS and Optima HIV) also projected small increases in mother-to-child transmission across the levels of disruption (the others did not include programmes for preventing mother-to-child transmission). All models projected small increases in HIV transmission resulting from ART interruption, ranging from 7% to 32%, with one model estimating a more than three-fold increase in new HIV cases resulting from complete disruption of ART. Specifically, the models estimated the following.

- Disruptions in voluntary male medical circumcision programmes would have only a small effect on HIV incidence.
- Disruptions to outreach and condom programmes for 50% of people may lead to a 19% increase in the number of people acquiring HIV over one year, but if reductions in sex with nonregular partners also resulted from physical distancing, the number of people newly infected may actually decrease.
- A six-month disruption affecting 50% of the people in PrEP programmes, which are currently small in most settings, could increase the number of people acquiring HIV but only slightly.

In similar fashion, a mathematical model estimating how COVID-19 disruptions of three, four and six months would affect gay men and other men who have sex with men in China was developed *(84)*. Using regional data that showed a 59% reduction in the number of gay men and other men who have sex with men receiving clinic-based testing, a 34% reduction in ART initiation, a 62% reduction in the number of sexual partners and a 25% reduction in the consistent use of condoms, the model predicted that observed reductions in condom use would increase the number of people acquiring HIV by 5-14%. Similar to the previous models, this increase could be offset by reductions in the number of sexual partners.

HIV service delivery disruptions and effect on access and coverage

Overview

Although the projections of the mathematical models present a sobering picture of the potential impact of the COVID-19 pandemic on the AIDS response, empirical data from countries is needed to assess what has actually taken place. This section presents data relevant to our assessment of HIV prevention services in the time of COVID-19. It draws primarily on the work of several organizations, including the Global Fund, PEPFAR and UNAIDS, that are actively tracking HIV service disruptions in the wake of the pandemic.

The Global Fund, for example, has put into place a mechanism to identify potential risks and disruptions in the 106 countries receiving its support and publishes regular updates *(85)*. UNAIDS has also been tracking the country-level impact of COVID-19 disruptions in essential HIV services through its COVID-19 Portal. This evolving data set is derived from monthly reports submitted by UNAIDS country offices. It is by no means complete, but several countries have submitted enough trend data to enable preliminary observations for the period from 1 January to 30 September 2020.

In general, currently available trend data suggest that disruptions to HIV treatment efforts may not be severe as feared and that their impact on AIDS-related mortality may be less than that suggested by the mathematical models. Where substantial treatment disruptions have occurred, they appear to have been quickly resolved, based on country reports, conveying the impression that the treatment systems that have been put in place are indeed resilient. The expansion of these treatment programmes has been slowed but, by and large, the loss of people on treatment has been limited. One notable exception is South Africa, where an estimated 300 000 people may have been lost to treatment, although this is still less than 5% of the total number receiving ART in the country. Retaining so many on treatment under the conditions of the pandemic is a tribute to South Africa's programme.

The picture that emerges for HIV prevention services, however, is more mixed, with variable degrees of disruptions across services and over time. Most programmes have been affected, as shown by Global Fund data documenting widespread disruptions to HIV, TB and malaria work as a result of COVID-19. The most recent Global Fund report *(85)* shows that most reporting countries had moderate, high-level or very-high-level disruptions to HIV (72%), TB (74%) and malaria programmes (53%) as of 15 December. On HIV, the survey identified significant disruptions to prevention programmes, which often depend on community and face-to-face interventions rendered impossible during lockdowns and other restrictions *(86)*. The pandemic has also resulted in supply chain disruptions for key HIV drugs and prevention supplies destined for some of the most vulnerable and highest-risk populations. Supply chains for antiretroviral drugs, drugs for pre-exposure prophylaxis and for opioid substitution therapy have all been threatened.

Disruptions in prevention services for key populations have been observed in various countries *(9)*. Disruptions in HIV prevention services more generally have also been detected. The effect in some countries has been sharp and profound. In Zimbabwe, for example, the COVID-19 response

Most programmes have been affected, as shown by Global Fund data documenting widespread disruptions to HIV, TB and malaria work as a result of COVID-19

(including a lockdown) contributed to sharp declines in the number of people living with HIV receiving services for the period April to June 2020, including a 59% decrease in the number of people receiving HIV testing, a 15% reduction in the distribution of self-test kits and a 49% reduction in people with sexually transmitted infections tested for syphilis *(87)*. Based on the selected countries reporting trend data, however, many disruptions to HIV prevention programmes encountered during the early months of COVID-19 pandemic appear to be resolving, as shown in the more detailed results shown below.

The data present challenges for interpretation, given the use of ad hoc measures to capture a new and rapidly developing challenge. However, these data and the reports from countries convey a sense of programmes struggling to maintain coverage in the face of difficult times. They also portray countries recognizing and responding quickly to the most visible challenges. These changes are many faceted, being devised and implemented across sectors by government programmes as well as civil society, which may enjoy more freedom of movement than civil servants and may have been quicker to adjust to the new circumstances. The disruptions to services are less than many feared, thus enabling the worst effects predicted by the mathematical models to be avoided. Most importantly, they suggest where the real threats for the future may lie and how a more effective response can be organized.

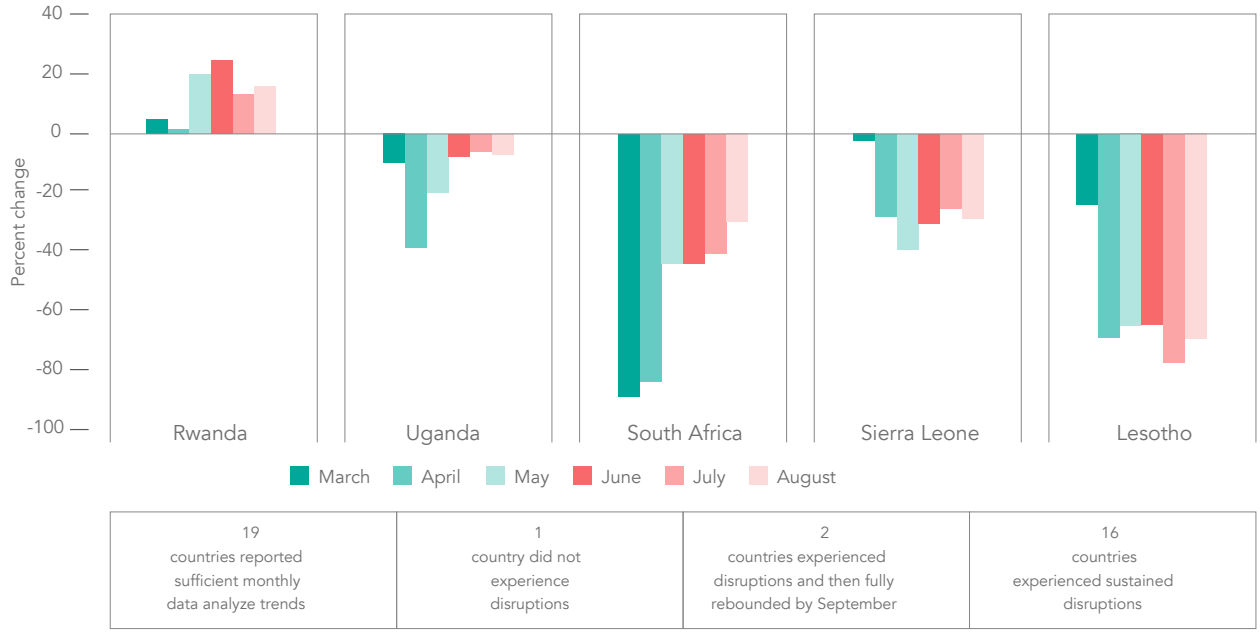
The data being tracked through mechanisms such as the UNAIDS COVID-19 Portal provide at best a partial picture of what has taken place in countries as a result of the pandemic. More detailed and contextualized analysis would be required to assess how coverage with different types of HIV prevention services has been affected and why. Inferring the effect of various COVID-19 responses may be difficult, since varying degrees of restrictions on mobility have been imposed in different settings, from curtailing of travel to strict lockdowns, and the situation remains very dynamic.

What is not apparent in these trend data is how COVID-19 has affected vulnerability and risk. The UNAIDS trend data, in particular, compare subsequent months to the level of service or coverage in January 2020. As the evidence presented above suggests, vulnerability has been increasing, especially for women and young girls and key populations such as sex workers, gay men and other men who have sex with men, transgender people, people who use drugs and people in closed settings. Any shifts in risk behaviour remain unclear. Increased vulnerability may offset advances in the rights for these most marginalized groups over the past decades and lead to increased risk of HIV infection. If vulnerability and risk have increased as a result of COVID-19, then comparing prevention services to a January 2020 benchmark may underestimate the future need for these services—since providing services at the January 2020 level may not be sufficient to meet the new COVID-19-affected level of need.

HIV testing services

Evidence indicates that COVID-19 restrictions have affected HIV testing services. As the gateway into other HIV prevention services such as preventing mother-to-child transmission, pre-exposure prophylaxis and voluntary medical male circumcision, reduced HIV testing resonate with declines in other prevention services for which knowledge of serostatus is essential and for initiating treatment. In many countries, levels of testing activity have not yet returned to those seen before the pandemic, especially in Latin America and the Caribbean and Asia and the Pacific. Figure 3 shows the impact on testing services reported to UNAIDS from five African countries.

Figure 3. Change in the number of HIV tests and results returned per month compared with the baseline for selected countries, 2020



Source: UNAIDS/WHO/UNICEF HIV services tracking tool, November 2020.
Note: The baseline is the average of January and February reports
Note: Selected countries fulfilled the following criteria: (a) provided data for January and February 2020; (b) reported on at least 50 people receiving services in January; (c) had a least 50% of facilities reporting during the month; and (d) had at least six months of data.

Source: UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database, November 2020.

Data reported by PEPFAR also show the decrease in testing services *(88)*. Comparing two countries, South Africa, which has experienced a strict lockdown in response to an expanding pandemic, and the United Republic of Tanzania, which was apparently less severely affected by COVID-19 and less confined in response, provides further insight (Table 3). The stronger restrictions in South Africa appear to contribute to South Africa falling short of its performance targets for 2020; the United Republic of Tanzania, in contrast, appears to have been less severely affected.

Table 3. Detecting the impact of COVID-19 on HIV testing services: comparison of progress toward targets in two PEPFAR countries with different responses

	South Africa		United Republic of Tanzania	
	Targeted number to receive testing and counselling	**Percentage of target reached**	**Targeted number to receive testing and counselling**	**Percentage of target reached**
2018	10 100 524	137%	8 274 790	162%
2019	13 058 216	126%	8 998 331	93%
2020[a]	10 078 668	74%	3 643 484	81%
	Target of newly tested HIV positive		**Target of newly tested HIV positive**	
2018	982 904	96%	393 020	82%
2019	1 214 629	73%	318 728	105%
2020[a]	1 088 371	42%	256 445	87%

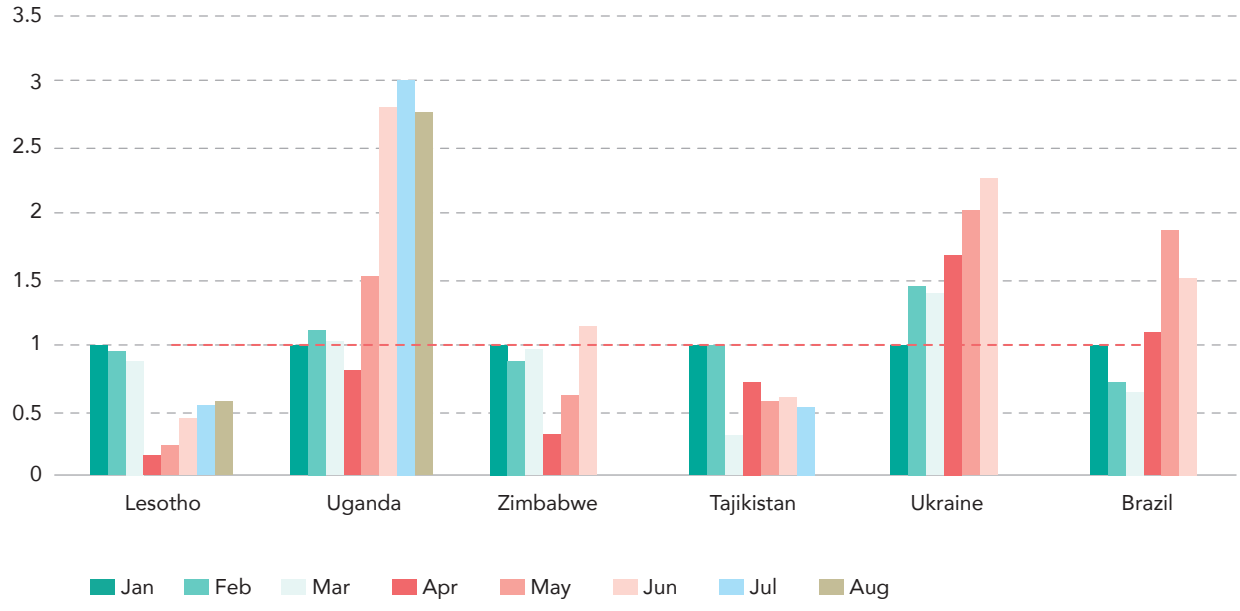
[a]*First three quarters.*

The decrease in clinic-based testing has been partly offset by increases in reliance on self-testing in some countries. Brazil, Uganda and Ukraine have scaled up self-testing during the period of restricted access to facility-based testing, and Zimbabwe in recent months has increased its provision of self-testing to pre-COVID-19 levels (Figure 4). In other countries, however, the access to self-testing appears to have declined along with access to facility-based testing.

Key population programmes

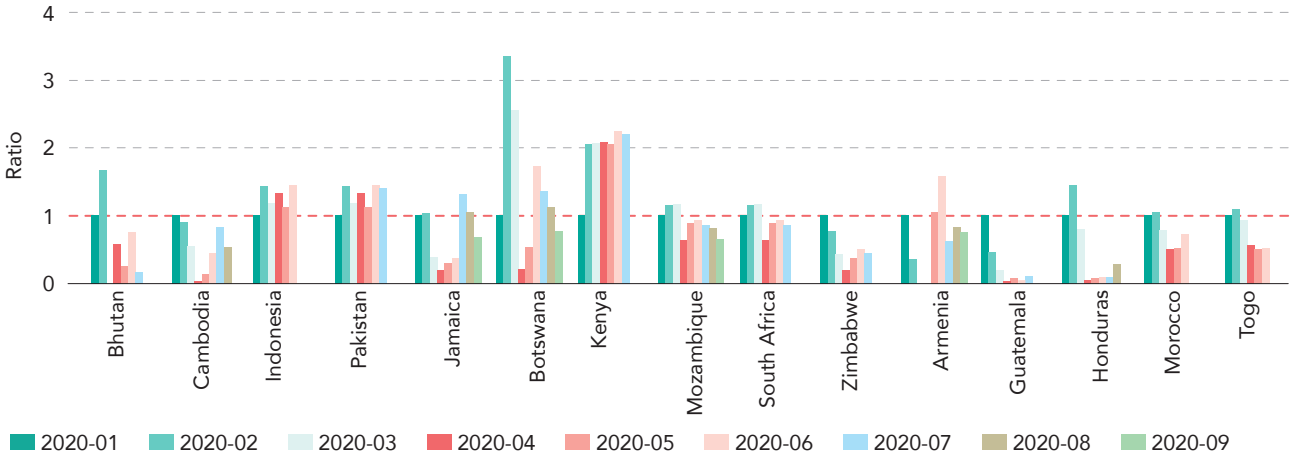
The disruptions to health and HIV services resulting from the COVID-19 crisis compound the challenges facing key and priority populations at greatest risk of HIV. HIV services for sex workers seem to have been especially severely affected by restrictions on mobility and the need for physical distancing and safe interactions. A global survey of sex workers in Asia and the Pacific, conducted online by the Network of Sex Work Projects, found that most sex workers reported decreased access to condoms and lubricants and to services for screening and treating sexually transmitted infections *(52)*. Through the UNAIDS COVID-19 Portal, 15 countries report trend data on the number of sex workers reached with prevention services (Figure 5). Thirteen of these experienced decreases in April or soon thereafter. Of these, only two have recovered to the levels seen in January. Two additional countries experienced no decrease in the numbers of sex workers reached during the worst of the COVID-19 period, however. The qualitative data from online surveys of sex workers, coupled with tracking data and reports to the Global Fund from countries receiving Global Fund support (not presented here) strongly suggest that Asia and the Pacific and, to a lesser extent, Latin America and the Caribbean have suffered a greater impact than the mostly African countries included in Figure 5. Coupled with the many reports of increased vulnerability among sex workers, including importantly the direct impact on earnings and livelihood, the emerging picture of the impact of COVID-19 on sex workers and services for sex workers is troubling.

Figure 4. Trends in HIV self-tests distributed expressed as a ratio compared with January 2020



Source: UNAIDS COVID-19 Portal.

Figure 5. Sex worker interventions, selected countries, January–September 2020

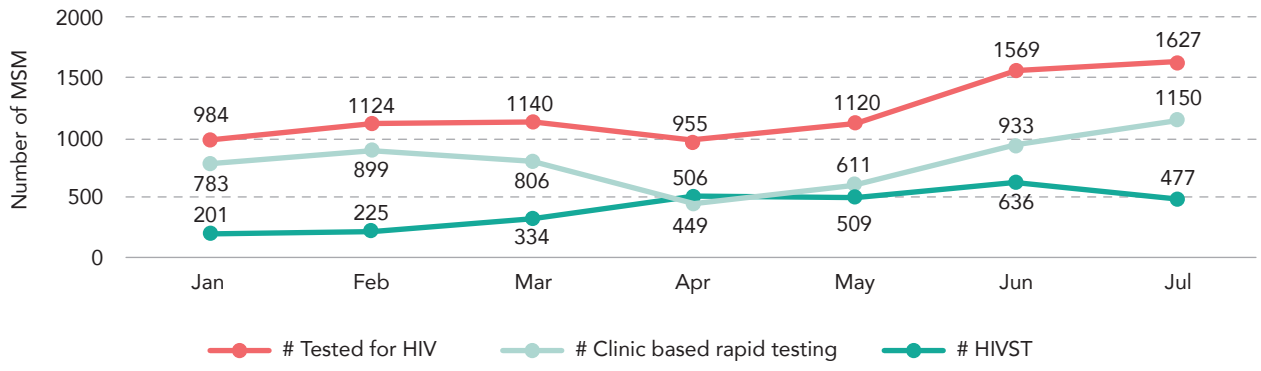


Source: UNAIDS COVID-19 Portal.

Services for gay and other men who have sex with men have also been negatively affected. In an online COVID-19 disparities survey implemented by the gay social networking app Hornet, more than 10 000 gay men and other men who have sex with men across 20 countries responded to questions about the strictness of a country's response to COVID-19 and the perceived disruptions in HIV prevention services offered *(89)*. Using the Oxford Government Response Tracker Stringency Index, which tracks and scores countries' actions taken on nine indicators, the researchers found that more stringent restrictions resulted in more reports of limitations of services available to gay men and other men who have sex with men: each 10-point increase on the stringency scale resulted in a 3% decrease in access to HIV testing, a 6% decrease in access to self-testing and a 5% decrease in access to PrEP.

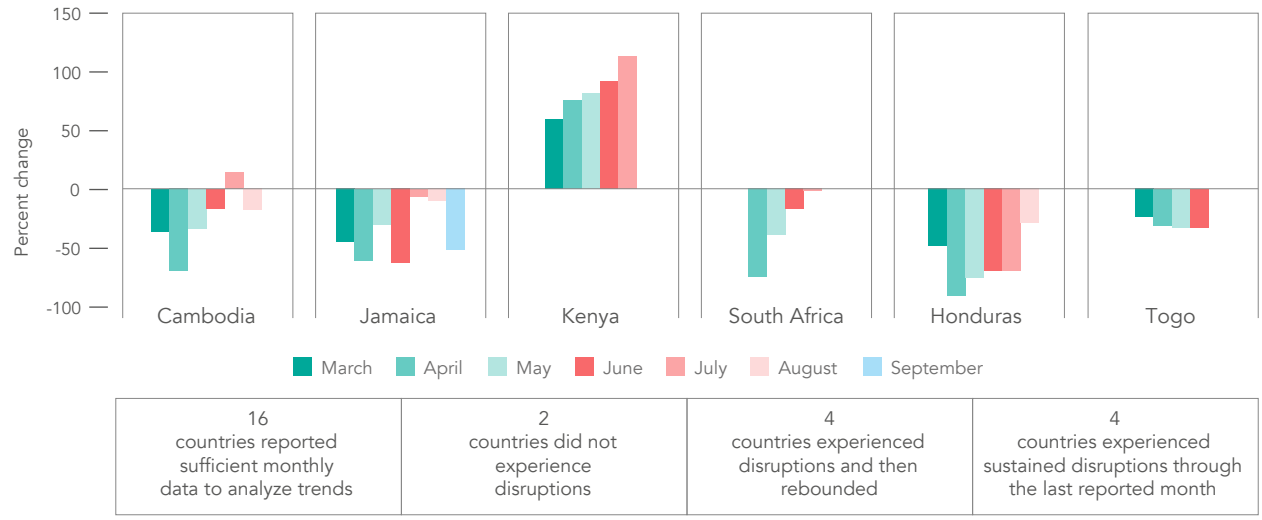
One detailed report from Kenya documents issues in HIV testing services for gay men and other men who have sex with men in three counties, resulting in decreased numbers of men being tested in April (Figure 6) *(88)*. Most affected was clinical rapid testing, which declined from March through May. Self-testing, however, continued to increase during this period of time, offsetting much of the decline in clinical rapid tests administered. As a result, despite the disruptions caused by COVID-19, the number of gay men and other men who have sex with men tested each month had increased by more than 50% in July compared with January.

Figure 6. HIV testing among gay men and other men who have sex with men, by type of test in three sites, January–July 2020



Source: Odinga MM, Kuria S, Muindi O, Mwakazi P, Njraini M, Melon M et al. HIV testing amid COVID-19: community efforts to reach men who have sex with men in three Kenyan counties. London: Gates Open Research; 2020 (https://gatesopenresearch.org/articles/4-117/v2, accessed 24 March 2021).

Figure 7. Interventions for gay men and men who have sex with men compared with the baseline for selected countries, March–September 2020



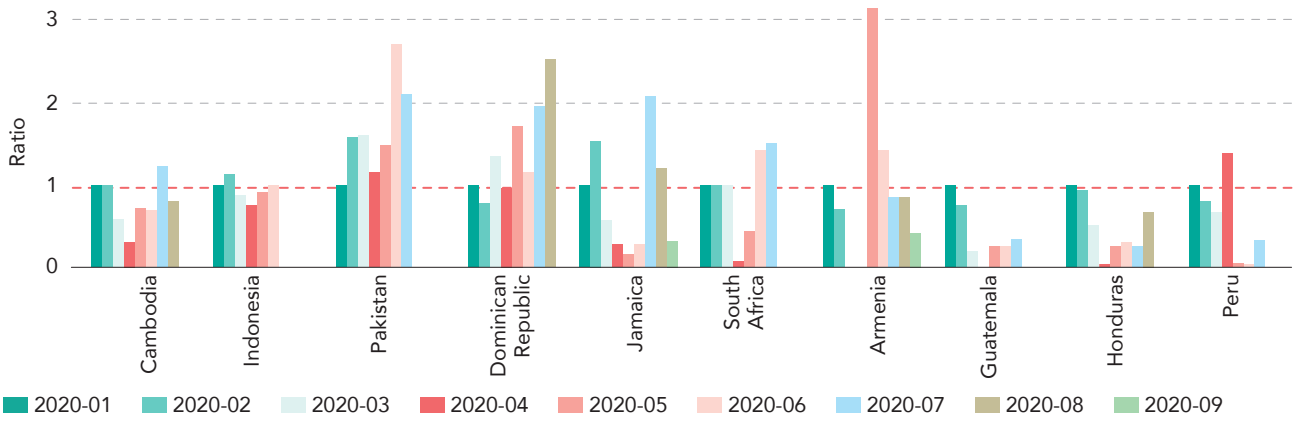
Source: UNAIDS/WHO/UNICEF HIV services tracking tool, November 2020.
Note: The baseline is the average of January and February reports.
Note: The six countries selected were among 13 that fulfilled the following criteria: (a) provided data for January 2020; (b) had no significant change in the number of facilities reporting; (c) provided monthly, not cumulative, data; and (d) had at least six months of data.

Source: UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database, November 2020.

Fifteen countries reported trend data to UNAIDS numbers of gay men and other men who have sex with men reached with prevention services (not shown). Twelve indicated that the number of men reached decreased in April or soon after. Of these 12 countries, nine are recovering and five have fully reached or exceeded the pre-pandemic levels of January. Three countries (Indonesia, Kenya and Mozambique) experienced no decrease in the numbers of men reached. Kenya in particular actually increased the numbers of gay men and other men who have sex with men (as well as other groups) served, reportedly by relying on extensive community-led efforts (Figure 7).

Ten countries have reported trend data to UNAIDS on the number of transgender women who have received prevention services each month. Three countries reported no decline in April (one country, Peru, declined the next month). Of the seven that reported decreased coverage, five had recovered to January levels by the end of September and two are still reporting disruptions in coverage. The regional difference in the spread of the pandemic can be seen in the later onset of disruptions in Latin America and the Caribbean in these data as well as in other indicators (Figure 8).

Figure 8. Interventions for transgender women in selected countries, January–September 2020



Source: UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database, November 2020.

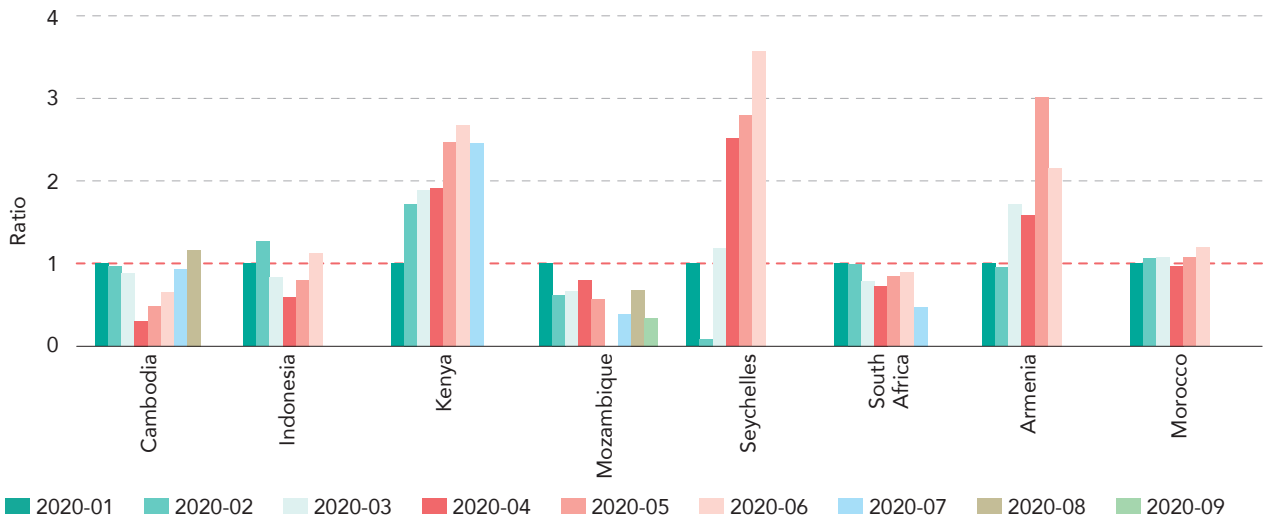
Harm-reduction services have not escaped COVID-19 disruptions. Most services have been able to adjust and maintain a level of service by adjusting hours and procedures. For example, most services in Spain were able to continue operating during the strictest period of lockdown, although comparison with 2019 service data show a decrease in the number of clients served and the number of needles and syringes distributed during the lockdown *(90)*. In the United States, some harm-reduction centres closed *(91)*, although many now seem to have reopened and resumed full services. In Europe, the confinement in response COVID-19 pandemic appears to have led to decreases in drug use, at least certain types of drugs *(92)*, although alcohol and cannabis use may have increased. In other places, however, the opposite seems to be happening: deaths from drug overdose are increasing in the United States of America, since people who inject drugs must do so in confinement, often alone and out of reach of emergency services *(93)*. According to Jessie Mbwambo of the Muhimbili University of Health and Allied Sciences, opioid substitution therapy services in Dar es Salaam experienced a sharp decrease in the number of people who use drugs who visited facilities and obtained therapy, although this now appears to have returned to earlier levels. In central and eastern Europe and central Asia, it was reported that most opioid substitution therapy and needle syringe programmes continued to operate during COVID-19 quarantine measures *(94)*. Adaptations were needed to make this possible, including providing for taking home buprenorphine and methadone for the first time.

Eight countries have reported trend data to UNAIDS on prevention services for people who inject drugs (Figure 9). Four of these countries reported no change in the monthly number of people who inject drugs reached since January. Four others reported decreases in April or later. Of these, two have recovered to the January level (Cambodia and Indonesia), and two others (South Africa and Mozambique) remain below the January benchmark.

Five countries have reported trend data on the number of needles and syringes distributed. One country, the Seychelles, reported basically no change since January. The other four countries have all recovered, three of these at or above the number of needles and syringes distributed in January.

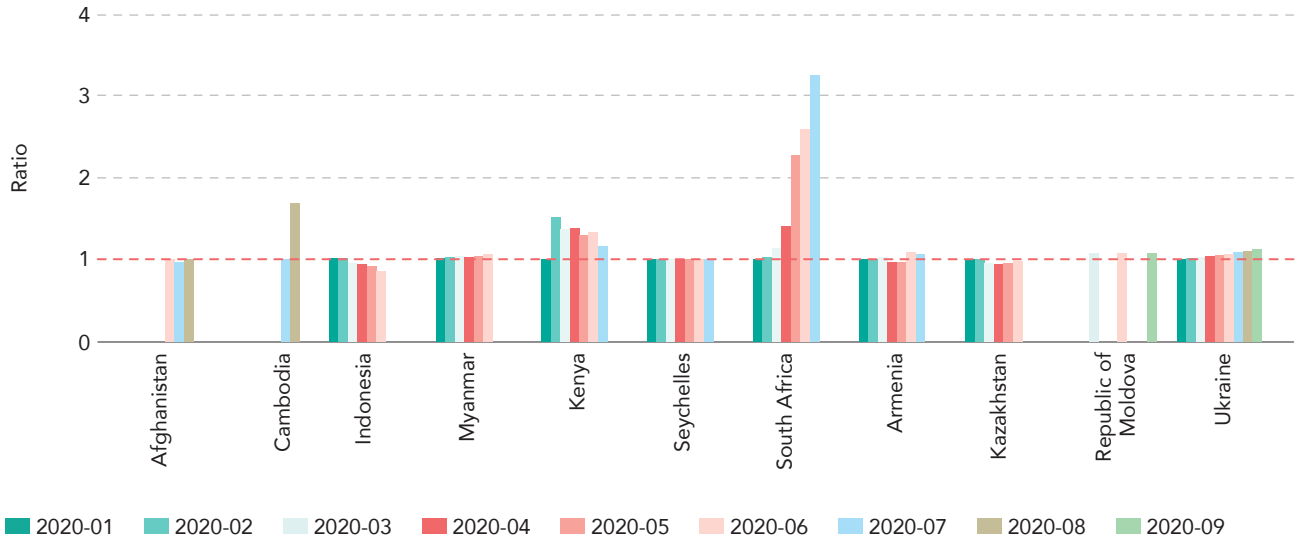
Eleven countries reported data on the use of opioid substitution therapy (Figure 10). Of these, eight presented multimonth trend data that included January and April and at least two subsequent months. None of these countries reported significant disruptions in the use of opioid substitution therapy in April, and most are at or above the levels of January.

Figure 9. Interventions for people who inject drugs in selected countries, January–September 2020



Source: UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database, November 2020.

Figure 10. Opioid substitution therapy for people who inject drugs in selected countries, January–September 2020



Source: UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database, November 2020.

Very little information is available on how COVID-19 has affected HIV services in closed settings. Only eight countries have reported trend data to UNAIDS on testing for prisoners. Seven of these experienced disruptions during April or later, with two of these reporting data suggesting that testing services for prisoners were beginning to recover. Seven countries reported trend data on ART distributed in prisons. Six countries reported little or no change. The one country (Dominican Republic) that reported a decrease in May has recovered to its pre-COVID-19 levels of ART distribution.

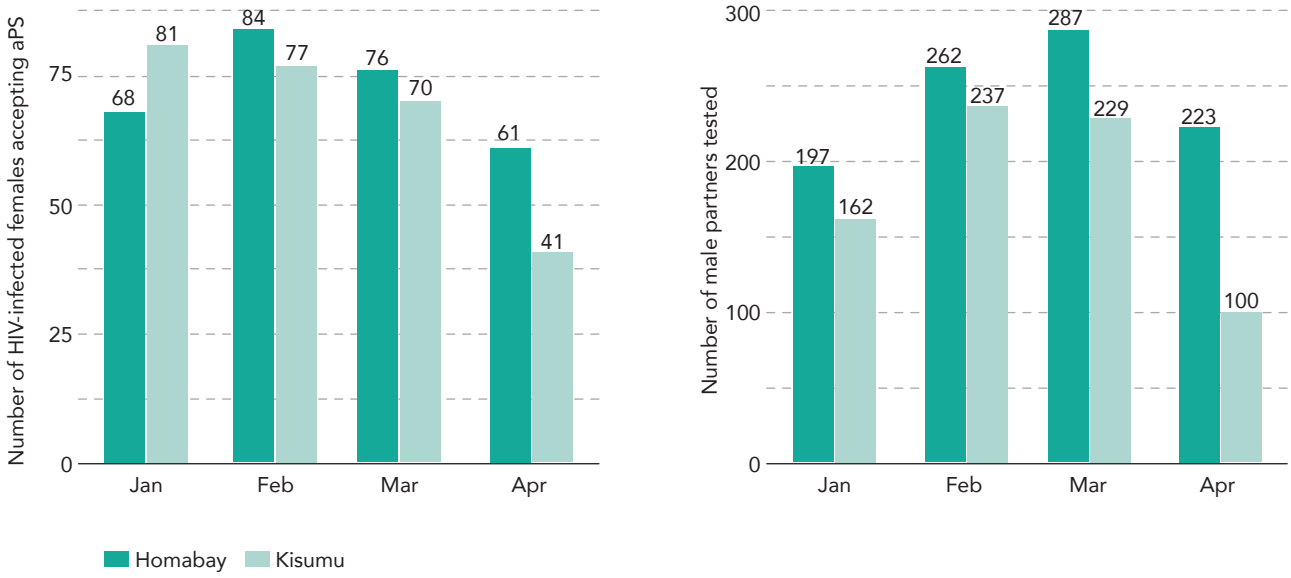
Programmes for adolescent girls and young women and their male partners

Little systematic information is available to assess recent changes across countries to programmes for adolescent girls and young women and their male partners during the time of COVID-19. Such programmes are usually site- and context-specific and multi-layered, seeking to reach vulnerable girls and women and their partners through various mechanisms. Where schools were closed, opportunities to deliver services such as comprehensive sexual education and peer-based counselling and support were severely affected, and even the delivery of community-based services was curtailed in many settings. In a broader sense, the pandemic has affected girls' access to sexual and reproductive health services, as evidenced in an online survey across 14 countries commissioned by Plan International *(13)*.

Only three countries reported to UNAIDS on the numbers of people receiving services in health facilities for sexual or gender-based violence. All experienced decreases in April, and all are recovering to the January levels. Sierra Leone has in fact exceeded the level of January, perhaps indicating that a greater need exists than has previously been seen. Sierra Leone has also reported on people receiving PrEP after experiencing sexual violence, although the numbers are small.

Assisted partner notification services is another intervention that is likely to be disrupted by COVID-19. An implementation research project in two counties in Kenya detected the effect of COVID-19-related disruptions by April on the number of women accepting assisted partner notification services and the number of male partners tested (Figure 11) *(95)*.

Figure 11. A. Number of female index clients living with HIV accepting assisted partner notification services per month from January to April 2020. B. Number of male partners of female index clients reached with HIV testing through assisted partner notification services per month from January to April 2020.



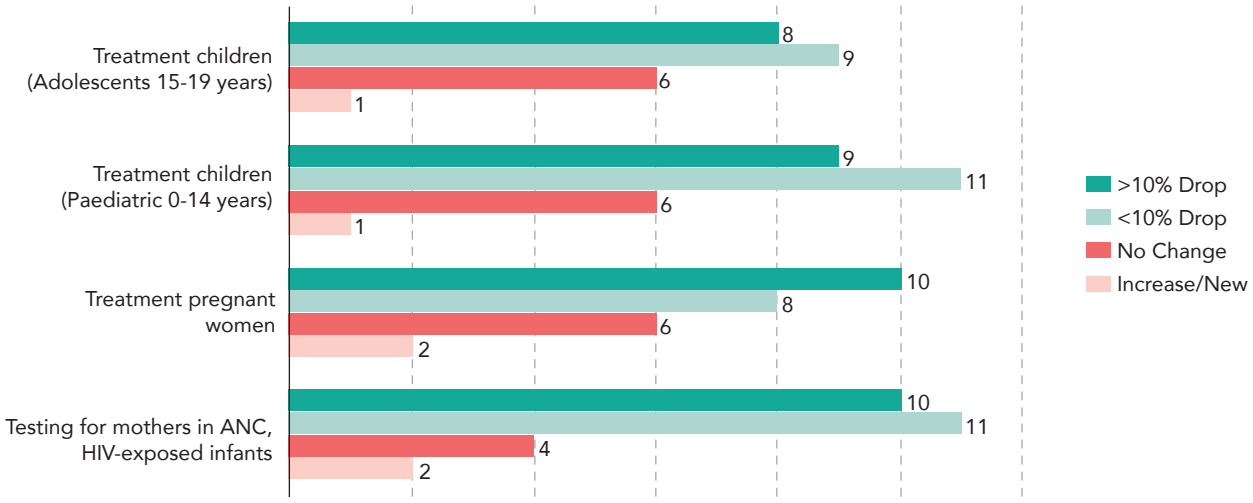
aPS: assisted partner notification services.

Source: Lagat H, Sharma M, Kariithi E, Otieno G, Katz D, Masyuko S et al. Impact of the COVID-19 pandemic on HIV testing and assisted partner notification services, western Kenya. AIDS Behav. 2020;24:3010–3.

Services for children and for preventing mother-to-child transmission

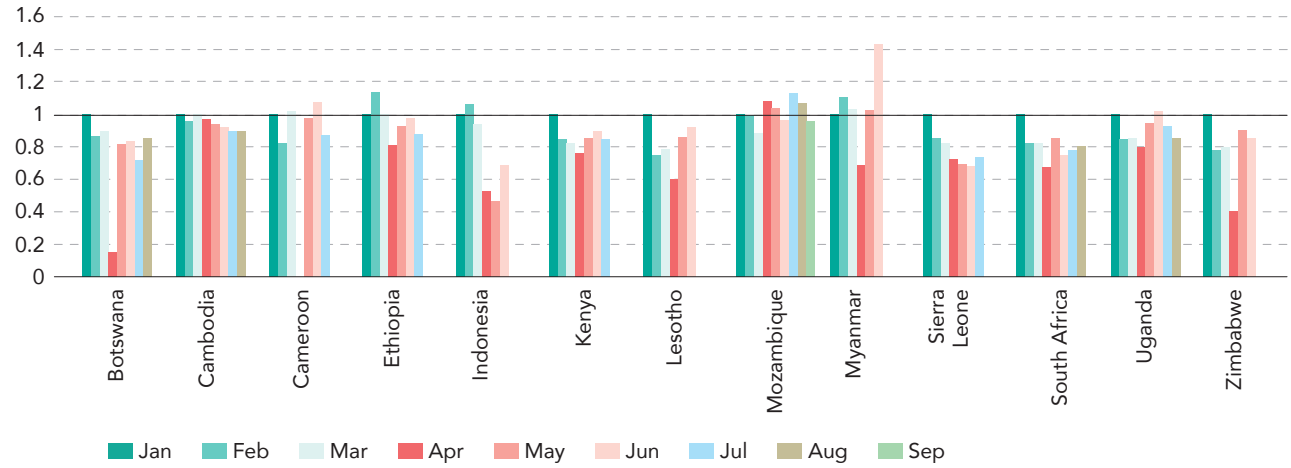
In a report on its priority countries, UNICEF has highlighted the effect of COVID-19 on treatment for adolescents, children and pregnant women and, most importantly for this analysis, on HIV testing for pregnant women in antenatal care *(96)*. This decreased in 21 of the 26 countries reporting compared with the same period a year ago (Figure 12).

Figure 12. Changes in key HIV services for children and pregnant women in 29 of 35 priority countries



Source: UNICEF Rapid Situation Tracking for COVID-19 Socioeconomic Impacts, October 2020.

Figure 13. Number of pregnant women tested for HIV in selected countries, January–September 2020

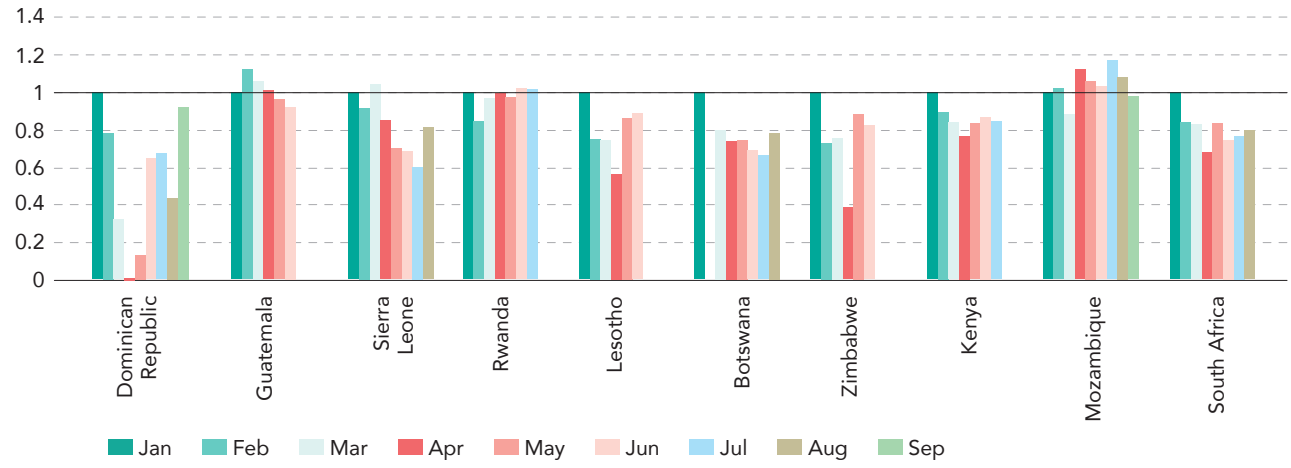


Source: UNAIDS COVID-19 Portal.

Ten countries provided multimonth data to UNAIDS on the services needed to prevent mother-to-child transmission of HIV. Nine of these reported important drops in the number of pregnant women tested in the March–May period of greatest COVID-19 impact (although in Mozambique, the number of pregnant women tested actually increased) (Figure 13). Following that difficult period, however, most countries are now trending back toward the levels of testing reported in the January levels; three countries have now reached that level again. However, the number of pregnant women tested in January was higher than average in most countries reporting. If comparisons are made to the pre-COVID-19 month of February instead, more typical of testing patterns throughout the year, the systems for testing pregnant women for HIV in nearly all countries have recovered to more normal operations.

Seven of the 10 countries reporting trend data to UNAIDS experienced declines in April 2020 in the number of pregnant women living with HIV who received antiretroviral drugs (Figure 14). One country (Guatemala) experienced this decline in May and June. Two countries (Mozambique and Rwanda) did not experience disruptions at all and are at or above their level of service in January. Of the seven that did report declines, six are now trending upward and show signs of fully recovering momentum. All except Guatemala and Sierra Leone equalled the level of performance in February (see note above).

Figure 14. Pregnant women receiving ART during pregnancy in selected countries, January–September 2020



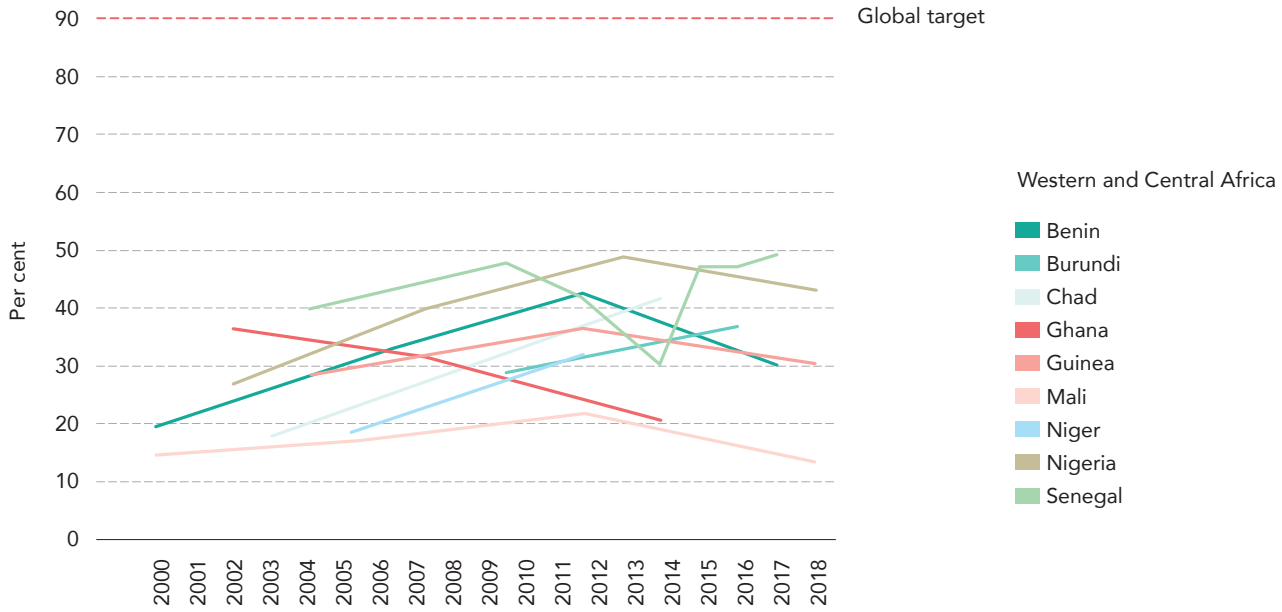
Source: UNAIDS COVID-19 Portal.

An additional indicator of programme disruption related to COVID-19 is the number of HIV- exposed infants who received HIV testing within two months of birth. After brief disruptions, most countries have recovered to the levels seen in February (see note above).

Condom promotion and distribution

Condom programming has been declining for years, since major funders have pulled back on their support for condom social marketing programmes (Figure 15). In Africa, this effect is stronger in western and central Africa than it is in eastern and southern Africa (Figure 16). Similar to other essential health products, COVID-19 has disrupted the manufacturing platforms and the supply chains for condoms and for lubricants. Worldwide ocean freight continues to be constrained, with some ports in destination countries working at limited capacity, while others are closed. Some countries have implemented quarantine for shipments, which means that the cargo is kept in a warehouse at the port, delaying the customs clearance process. Additional challenges include selective approval of cargo, numerous stranded containers, cancelled flights, increased and unpredictable transport prices, decreased freight options, the inability to quote for specific destinations, cargo waiting for open shipping slots and the first indications of congestion at ports and warehouses. These disruptions could lead to higher prices for condoms, as supply fails to meet demand.

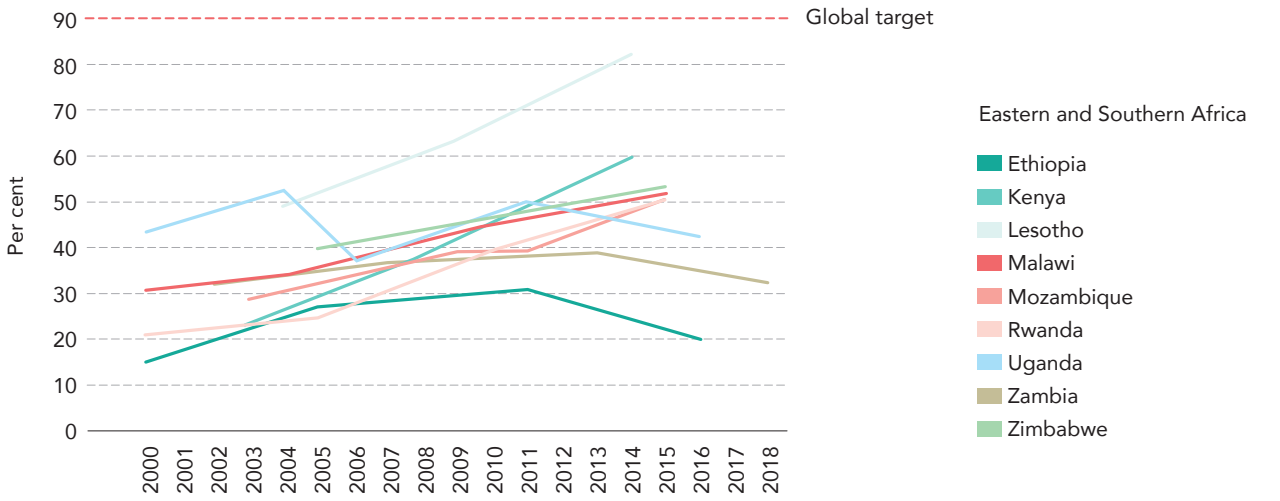
Figure 15. Condom use at last higher risk sex (women 15–24 years old) by region, 2000–2018, eastern and southern Africa



Source: Populatio-based surveys, 2000-2018.

Note: Condom use at last higher risk sex is defined as the percentage of respondents who say they used a condom the last time they had sex with nonmarital, noncohabiting partner among those who did have sex with such a partner in the last 12 months.

Figure 16. Condom use at last higher-risk sex (women 15–24 years old) by region, 2000–2018, eastern and southern Africa

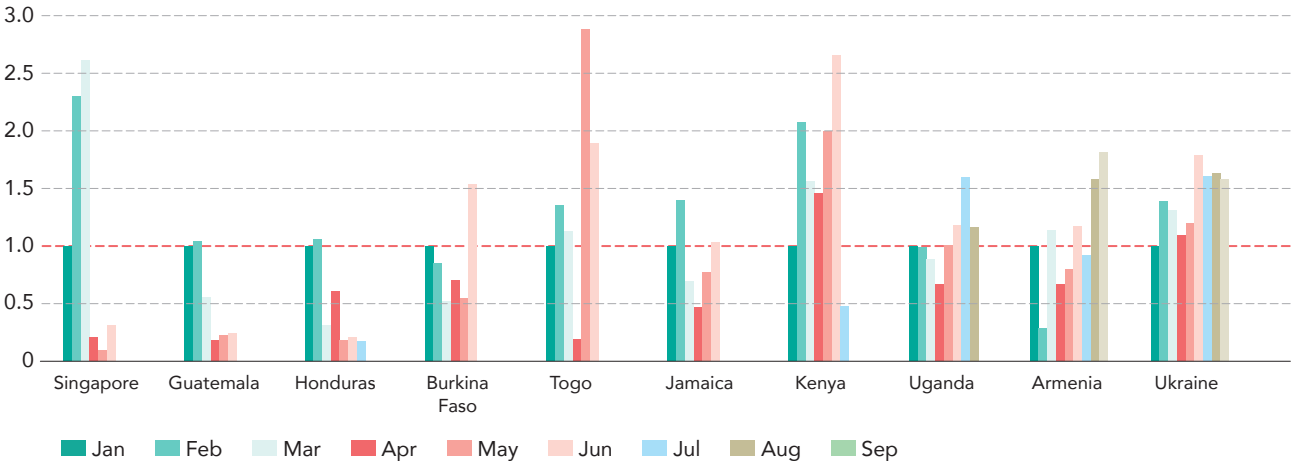


Source: Populatio-based surveys, 2000-2018

Anticipating the potential for the pandemic to disrupt the supply of condoms and lubricants, UNFPA has issued advice on how to avoid problems under these circumstances *(97)*. The Global Fund now recommends that countries receiving Global Fund support for HIV programmes consider these disruptions in manufacturing and shipping and allow for an eight-month procurement cycle for condoms *(98)*. According to the Global Fund, a survey in South Africa, undertaken by Durex, a major condom manufacturer, explored the effects of COVID-19 on the sex lives of respondents. Although the demand for condoms dropped in South Africa, the survey documented that the need decreased as well. The respondents reported decreased sexual activity, not surprising given the increased stress and decreased opportunity for social interaction the COVID-19 pandemic engendered.

Ten countries have reported multimonth data on the number of condoms distributed, enabling trends to be observed. Eight reported disruptions in April and afterwards (Figure 17). Of these eight, four have recovered to the January levels.

Figure 17. Trends in the number of condoms distributed in selected countries, January–September 2020



Source: UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database, November 2020.

11.7 Voluntary male medical circumcision

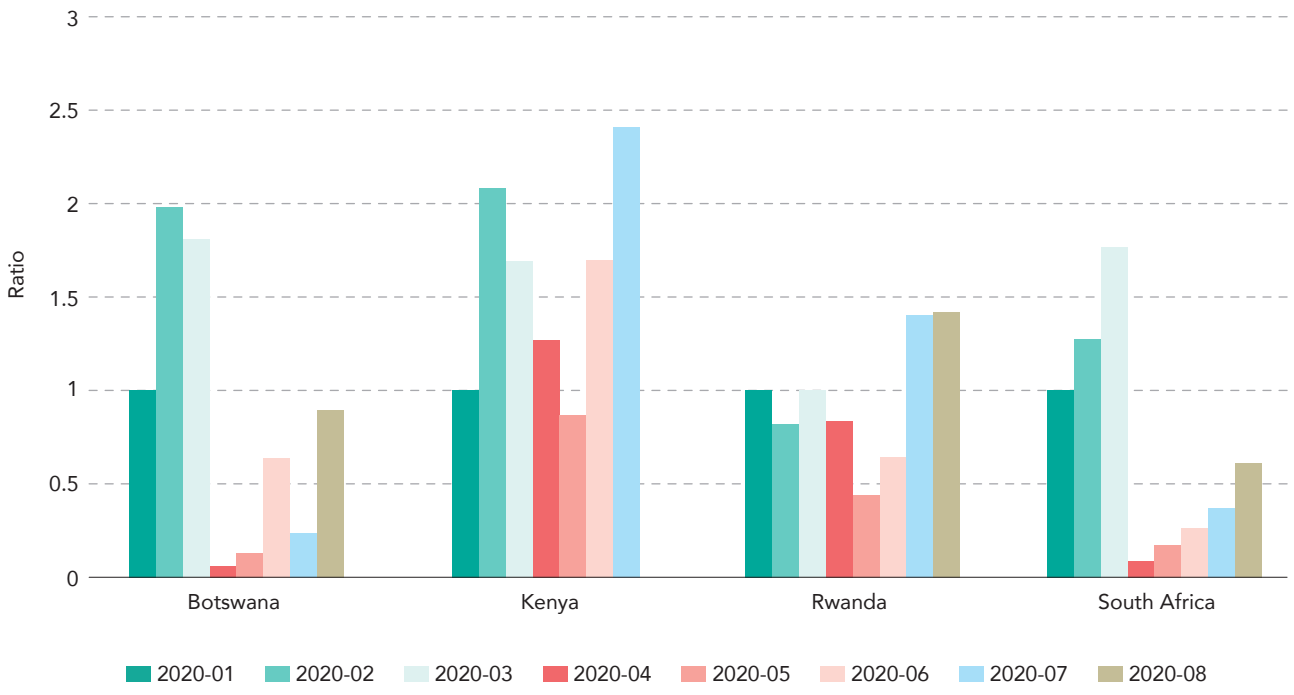
One priority prevention service for some countries in eastern and southern Africa, voluntary male medical circumcision, was discontinued for some months between April and June, with personnel in South Africa being redeployed to COVID-19 prevention and treatment efforts *(99)*. After full service resumed in June, four countries reported monthly increases, two of which have surpassed the number of circumcisions provided in January (Figure 18).

Pre-exposure prophylaxis

COVID-19 disruptions have also been documented in a PrEP programme for pregnant women in Cape Town, South Africa *(100)*. Before lockdown, 29% of women missed their first one-month visit and 41% missed the three-month visit. During lockdown, this increased to 63% for the first visit and 55% for the three-month visit. Sexual activity in the previous 30 days was unchanged, however. PrEPWatch, on the other hand, tracking data on new PrEP initiators by quarter, reported continued scale up during the first and second quarters of 2020 despite the COVID-19 pandemic *(101)*.

Nine countries reported trend data to UNAIDS on PrEP for first-time users. Of these, six reported decreases in new PrEP users in April. (New PrEP users declined in Zimbabwe before the COVID-19 pandemic, suggesting a different, non-COVID-19-related problem.) Provision of PrEP for first-time users has recovered in all countries that showed decreases, except Lesotho, where it remains depressed.

Figure 18. Number of voluntary male medical circumcisions conducted in selected countries, January–August 2020



Source: UNAIDS/WHO/UNICEF HIV Services Disruption Tracking Database, November 2020.

Conclusions

Inevitably, HIV prevention services have been disrupted, and supply chains for key prevention commodities, including condoms, lubricants and antiretroviral and other medicines, have been stretched

The COVID-19 pandemic has placed unprecedented pressure on global and country-level efforts to control the AIDS epidemic. The stresses on health systems have been acute, as health facilities and health personnel were mobilized to contribute to the pandemic response and refocused their energies on the urgent need to attend to related COVID-19 prevention, testing, tracing and care responsibilities. The demands on health-care workers and other containment and mitigation responses (including lockdowns and physical distancing mandates) have made continuing the face-to-face health encounters that have long been the backbone of HIV prevention, testing and treatment services difficult—or even impossible.

Inevitably, HIV prevention services have been disrupted, and supply chains for key prevention commodities, including condoms, lubricants and antiretroviral and other medicines, have been stretched. This is reflected in the early dips observed in the monthly numbers of people served by key prevention interventions, including those at high risk of HIV (such as sex workers) and priority groups such as adolescents and pregnant women. This picture could be worse, since a majority of countries did not report service disruption on the reporting portal, and the data that are available are at best suggestive from a subset of reporting countries.

In addition, the COVID-19 pandemic and the measures put into place to prevent its wildfire spread have triggered a sharp economic downturn, even in settings affected late or little by COVID-related infections, hospitalizations and deaths. This is having pervasive and devastating effects on national economies and people's livelihoods. Millions are being driven into extreme poverty and precarity, with sub-Saharan Africa and southern Asia hit the hardest *(8)*. Evidence indicates that the convergence of COVID-19 and HIV is deepening inequalities and sharpening the vulnerabilities faced by women and girls and many marginalized groups—the vulnerabilities that have long been recognized as the structural drivers of HIV transmission. The worsening of gender inequalities and gender-based violence and the erosion of human rights, with a surge in discrimination and exclusion of groups at higher risk in many settings, is likely to increase HIV risk in the coming years. Finally, there are fears that diminishing fiscal space in many countries will limit investment in the AIDS response in coming years. This state of affairs portends major challenges to HIV prevention programming in the longer term.

Although COVID-19 has vividly exposed and widened stark inequalities and health inequities, it has also emphasized the need to make health systems and other public institutions fairer and more inclusive. The response to the pandemic has drawn on decades of experience in pushing back AIDS, and HIV-concerned experts and communities have in many instances stepped up to the plate during the worst of the crisis. Communities most affected by HIV have long served leading roles in developing, piloting and evaluating differentiated HIV service delivery models tailored to the needs of individuals and communities. The lessons from community responses to HIV and investments into community systems have informed and bolstered the fight against COVID-19. Over the past year, HIV activists and communities have mobilized to defend the gains in the AIDS response, to protect people living with HIV and other key and vulnerable groups and to push

back COVID-19. They have taken bold steps, in the face of considerable adversity and with limited financial assistance, to assure continued HIV prevention services to community members, but also to support measures to prevent COVID-19 and manage its consequences. To overcome the constraints imposed by pandemic-related restrictions, they have campaigned for multimonth dispensing of medicines and supplies, organized their delivery and brokered financial support, food and shelter to marginalized groups at higher risk. They have innovated with the use of virtual platforms to continue to meet the multiple needs and concerns of beneficiaries. Country-level experiences documented in this report demonstrate how COVID-19 has catalysed the accelerated implementation of innovations that predate the pandemic but that have previously struggled to obtain traction. In most settings, these measures have managed to compensate for the breakdown of formal health services and enable a rapid rebound in delivering essential services to those in need. In some cases, they have even led to increases in service coverage compared with the pre-COVID situation.

The ability of HIV programmes to adapt to COVID-19 highlights their resilience and flexibility, especially in settings in which strong community systems exist and robust links have been built with the formal health system. It inspires confidence that, with the necessary resolve and investment, the negative effects of COVID-19 on the HIV prevention response could be short-lived.

Photo: Shutterstock

Propositions for the way forward

The HIV and COVID-19 pandemics and their responses have exposed the dangers of insufficient investment in pandemic response capacity at the national and global levels. They have also underscored the importance of increasing the resilience of societies and health systems and the importance of addressing underlying inequalities. They have also stimulated the acceleration of people-centred approaches to infectious disease prevention and control—approaches long called for by people living with HIV and other civil society activists. Collective global efforts that give priority to people can transform the COVID-19 crisis into an opportunity to accelerate both the HIV response and the efforts to achieve universal health coverage and the Sustainable Development Goals.
As countries and communities mobilize against COVID-19, the lessons learned from decades in pushing back on AIDS must continue to inform the latest pandemic response, and the HIV control programmes must be bolstered to prevent the world from falling further behind on its commitments to end AIDS as a public health threat by 2030. We have not yet seen substantial increases in country health budgets amidst the COVID-19 pandemic, which has so clearly highlighted the impact of decades of underinvestment in the health sector.

It is time to consider lessons learned and seize the chance to build back better in the coming period *(2)*. There is a call for a paradigm shift ensuring that all people can live with dignity; have access to basic health care, protection and a safety net in times of crisis; and do not experience violence, discrimination or oppression because of who they are, where they were born, the colour of their skin or their sex or gender.

New interim AIDS control targets have been set *(2)*. They link the present situation and the commitment to end the AIDS epidemic that is contained within the 2030 Agenda for Sustainable Development. These targets give greater prominence to scaling up people-centred service delivery strategies that integrate other important health and social services and to building an enabling environment. These strategies have shown to be feasible and practical even given the challenges created by lockdowns and other COVID-19-related restrictions. Building an enabling environment requires action at various levels. Service enablers include strategies that draw individuals in for services or bring these services to the people who need them, such as outreach and links or integrating services. System enablers address the infrastructure and systems that are critical to delivering services efficiently. They include facilities, equipment and systems for strategic planning, budgeting, human resources management, monitoring and evaluation and communication. Finally, societal enablers include the enabling laws, policies and public education campaigns that dispel the stigma and discrimination that still surround HIV, empower women and girls to claim their sexual and reproductive health rights and end the marginalization of people at higher risk of HIV infection.

The COVID-19 and HIV responses must build synergy to ensure that they address and do not exacerbate the inequalities and vulnerabilities that increase the risk of infection and disease, impede access to services and curtail programme impact. Restrictions to protect public health must be context-relevant, time-limited, proportionate, necessary and evidence-informed. In particular, education systems

must be protected, in view of the huge benefits, including health benefits, they bring to future generations, and the enduring effects of any disruptions, especially for girls and women. It is also time to heed the previous calls of the HIV community for strengthening the social protection of those most in need, for combating all forms of stigma and discrimination, for supporting and protecting health-care workers and for ensuring free and affordable access to diagnostic, preventive and therapeutic tools, with particular attention to the needs of the most vulnerable and hardest-to-reach people. In countries with a high burden of HIV infection, it is recommended that social protection schemes be made sensitive to the needs of people living with HIV, those at higher risk of HIV infection and others affected by the epidemic. Adequate investment must finally be made into community systems, which have been essential to assure the resilience and sustainability of the health system in the context of the spread of COVID-19 and will be necessary to finish the job, through advocating for and supporting the delivery of vaccines. Domestic funding must be directed towards strengthening mechanisms such as social contracting to support and sustain community-led service delivery.

In the meantime, some reprogramming of HIV prevention efforts needs to continue as necessary to achieve improvements, increase coverage and build efficiency, drawing on recent successes in adapting and refining service delivery approaches and new technological breakthroughs. These include existing strategies and technologies, such as multimonth dispensing and differentiated service delivery and self-testing approaches *(102)*, and innovations, such as the use of online platforms for reaching people at highest risk and young people, who are frequently missed by conventional programme delivery methods. These changes need to be scaled up, sustained and institutionalized. Attention must be placed on building capacity, strengthening links and ensuring the safety of frontline health-care workers (such as by providing personal protective equipment and mobile technologies as required). Procurement and supply systems need urgent attention as well, to fix the faults thrown up in the COVID-19 crisis. Finally, strategic information platforms need to be developed to monitor the impact of COVID-19 on programmes and make data-driven course corrections. HIV and COVID-19 data need to be triangulated and analysed as countries promptly respond to both pandemics. Guidance has been developed for taking forward key service delivery adaptations and innovations, examples of which have been provided in previous sections *(103–105)*.

In the longer term, specific efforts will be needed to ensure that the move towards universal health coverage reflects the key attributes of the HIV response (including community engagement, inclusive governance, accountability for results and a commitment to human rights and gender equality), that all services provided either in a facility or a community setting are free of stigma and discrimination and that service packages include essential HIV diagnostic, treatment and prevention services. In this context, key population services need thoughtful integration into health services or insurance schemes so that no one is left behind.

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