Silver linings: how COVID-19 expedited differentiated service delivery for HIV

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“In the rush to return to normal, use this time to consider which parts of normal are worth rushing back to.”
– Dave Hollis, author

As we write this Editorial at the beginning of July 2021, the World Health Organization (WHO) has reported that the African continent is experiencing its worst week of the COVID-19 pandemic and that COVID-19 cases are rising in all six of the WHO’s global regions [1, 2]. There is a serious imbalance in global distribution of COVID-19 vaccines with only 1% of people in Africa and low-income countries being fully vaccinated and 85% of doses globally having been administered in high- and upper-middle-income countries [1, 3]. Amid this recent surge of infections and the inequities in access to vaccines, it is increasingly clear that the cycles of COVID-19 waves are likely to continue until the virus that causes COVID-19 transitions from pandemic to endemic [4].

Africa is home to the largest number of people living with HIV – two-thirds of the 38 million people living with HIV reside in on the continent, with 20.7 million people living with HIV in East and southern Africa alone [5]. Many sub-Saharan African countries have experienced an increased strain on their existing health infrastructure, including on human resources for health, since the onset of the COVID-19 pandemic, prompting countries to move swiftly to ensure uninterrupted supply of antiretroviral therapy (ART) and limit visits to health facilities for people on ART [6]. As a result, many of the previous barriers to the implementation of differentiated service delivery (DSD) models for HIV treatment, such as a recent documented undetectable viral load [7, 8], were unlocked, at least temporarily. With the rapid adaptation of national policies on HIV delivery to the realities of COVID-19 restrictions and lockdowns, eligibility for entry in DSD for HIV treatment models was expanded, longer refills of ART were prescribed and dispensed, virtual models of care were innovated, and the role of community models for HIV treatment delivery was reinforced. Additionally, ways to expand DSD services beyond treatment to encompass HIV testing and prevention services were explored.

In November 2020, we published a call for abstracts for both quantitative and qualitative data on the impact of these adaptations with the intention of drawing attention to the changes made to DSD for HIV in response to COVID-19. Evidence was needed to understand the effect of the temporary measures being implemented on health outcomes among people living with HIV.

Since our call, data have emerged that alleviates some of the initial concern that COVID-19 would lead to interruptions in HIV treatment delivery and result in considerable increases in morbidity, mortality and HIV incidence [9]. The November 2020 UNAIDS global AIDS update emphasized that while COVID-19 had led to decreases in access to HIV prevention, testing and consequently ART initiation, the number of people on ART has continued to increase with 27.5 million people on treatment worldwide at the end of 2020 [10]. Similarly, data from the Kwa-Zulu Natal (KZN) province in South Africa found a 48% decrease in HIV testing and 46% reduction in new ART initiations but no marked change in the number of ART collection visits during South Africa’s first lockdown (April-July 2020) [11].

In March 2021, WHO launched updated recommendations on service delivery that expand eligibility criteria for access to DSD for HIV treatment, re-validate recommendations to extend ART refills and clinic visits for those who are established on ART, promote integration of family planning and non-communicable disease management within HIV programmes and encourage tracing and re-engagement for those in a treatment interruption [12]. These guidelines are based on data collected before COVID-19, and therefore, more recent evidence will be critical to inform future updates for DSD that go beyond HIV treatment.

This supplement includes 11 articles from the more than 50 submissions received and addresses many of the areas we highlighted as being of particular interest. In this editorial,
we summarize six key themes that emerge from this supplement and what this new data add to our understanding of what challenges in the supply chain.

4. COVID-19 has emphasized the importance of expanding access to community-based services

Data from the scale-up of DSD for HIV treatment in Nigeria describes enrolment numbers and client health outcomes between 2018–2020 [23]. Of five models that were implemented, more than half of all clients referred participated in a community ART refill club (53%) and the largest increase in enrolment corresponded with the first COVID-19 wave in Nigeria. In India, Pollard et al. facilitated discussions with gay men and other men who have sex with men, female sex workers and transgender women in two provinces to identify preferences for delivery of HIV prevention, testing and treatment services [24]. Community-based approaches that are flexible were identified as critical for HIV prevention, testing and treatment services for the key populations interviewed in this study. In Botswana, two individual out-of-facility models for ART refills were explored: home delivery and collection from private pharmacies [25]. A pilot of home delivery through a courier service found that 84% of clients accepted home delivery with 91% of ART refills successfully delivered. Both prospective users and private pharmacies were approached in assessing the feasibility of ART refills from private pharmacies; 61% of the prospective users indicated interest and willingness to pay approximately USD$4/refill for two refills per year.

5. DSD for HIV is also relevant in more highly resourced settings

Data from the United States VA highlight adaptations made in the United States parallel to those seen in less resourced contexts [15]. Adaptations included an increase in virtual follow-up and the duration of ART refills. In 2020, virtual visits (predominantly by telephone) increased to 68% compared to 27% in 2019 and 50% of ART refills were for 3-month ART refills or longer compared to 38% in 2019. Along with other published data from HIV providers in San Francisco [13], this VA data supports the acceptability of using virtual means to provide HIV services.

6. DSD is applicable for HIV prevention and tuberculosis treatment

While much of DSD has historically focused on differentiating HIV treatment for those established on treatment, COVID-19 has also accelerated adaptations to other parts of the HIV care continuum including prevention. In Zimbabwe, Matambanadzo et al. present data on how demand for pre-exposure prophylaxis (PrEP) among sex workers increased during COVID-19 lockdowns and was overcome through home delivery, extended PrEP dispensing and support via WhatsApp through providing mobile data and airtime [26]. Further, DSD must not be limited to HIV or HIV treatment alone. In the one commentary in the supplement, Tran et al. argue for the expansion of DSD for HIV treatment models to include tuberculosis treatment [27]. We agree—and while policy provisions were made in some countries to align HIV services and the delivery of other health commodities like family...
planning or medications for non-communicable diseases, very little data on the implementation of these policies are available [6, 28].

REMAINING GAPS IN THE EVIDENCE AND SCOPING THE FUTURE OF DSD FOR HIV AND BEYOND

Many of the remaining gaps require data from implementation science, such as the paucity of evidence available on the integration of HIV services with other disease areas [29]. Further analyses of routine data on how COVID-19 adaptations impacted outcomes are also encouraged, including the effect of earlier access to MMD, particularly from ART initiation as well as for specific populations namely children and adolescents, those who are pregnant and breastfeeding and migrant populations. More data would also be welcome describing the perspectives and experiences of both recipients of care and healthcare providers of COVID-19 adaptations to HIV service delivery. In addition, costing and financing data is missing—particularly relevant in making the argument for adaptations to be sustained.

In summary, the articles in this supplement contribute to a growing evidence base showing that modifications made in response to COVID-19 should not be temporary, but rather part of a better service delivery system going forward that meets the needs of recipients of care. Indeed, COVID-19 has quickened acknowledgement across diverse stakeholders that DSD is not just for people who are established on ART. Rather, COVID-19 has presented an opportunity for a shift toward scale up of self-care models in general—not just for HIV, but also for tuberculosis, chronic diseases like hypertension and diabetes, and routinely provided services like family planning. The key components of DSD for HIV treatment of reducing the number of clinical visits, separating them from a decreased frequency of drug dispensing and prioritizing out-of-facility models apply to all of these purposes. Constraints within many supply chains were compounded by COVID-19 but should not prevent wider implementation of MMD or DSD models in general.

Highlighted in this supplement are the important roles of community-based services and virtual platforms (telephone, SMS and videoconferencing) in decreasing barriers for accessing critical aspects of the clinical visits as well as the resources required to provide it. These shifts may indeed represent a silver lining to the pandemic—a renewed focus on leveraging improvements in health systems, including supply chain and information technology, to provide high quality person-centred care.

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COMPETING INTERESTS

AG is a Deputy Editor of the Journal of the International AIDS Society. PE is an employee of the Bill & Melinda Gates Foundation.

AUTHORS’ CONTRIBUTIONS

All authors were involved in the conceptualization of the article. AG wrote the first draft. All authors approved the final submission.

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REFERENCES

1. WHO. Weekly Bulletin on Outbreaks and Other Emergencies. Week 27: 28 June - 04 July 2021. Available from https://apps.who.int/iris/bitstream/handle/10665/342386/OEW27-280604072021.pdf.
2. WHO. WHO Coronavirus (COVID-19) Dashboard [18 July 2021], Available from https://covid19.who.int/.
3. Our World in Data. Coronavirus (COVID-19) Vaccinations Published online at OurWorldInData.org 2021. Available fro: https://ourworldindata.org/covid-vaccinations.
4. Phillips N. The coronavirus is here to stay—here’s what that means 2021 [13 July 2021]. Available from https://www.nature.com/articles/d41586-021-00396-2.
5. UNAIDS. AIDSinfo: UNAIDS; 2021 [13 July 2021]. Available from https://aidsinfo.unaids.org/.
6. Grimsrud A, Wilkinson L. Acceleration of differentiated service delivery for HIV treatment in sub-Saharan Africa during COVID-19. J Int AIDS Soc. 2021;24(6):e25704.
7. Malawi Ministry of Health. Guidance for HIV Services during COVID-19 pandemic (5th edition). 2020. Available from https://differentiatservicedelivery.org/Portals/0/ada.../20%20HIV%20services%20with%20COVID-19_5th%20Edition.pdf.
8. Mozambique Directorate of Public Health. Pacote de Serviços para Populações vivendo com o HIV no âmbito da resposta ao COVID-19. 2020. Available from https://differentiatservicedelivery.org/Portals/0/adam/Content/q1KfMdtDOW-bcJshOjyaA/File/Pacote%20de%20Servi%C3%A7os%20with%20COVID-19.PDF.
9. Jewell BL, Mudimu E, Stover J, ten Brink D, Phillips AN, Smith JA, et al. Potential effects of disruption to HIV programmes in sub-Saharan Africa caused by COVID-19: results from multiple mathematical models. Lancet. 2020;39(7):e629–e40.
10. UNAIDS. Prevailing against pandemics by putting people at the centre – World AIDS Day report 2020. Retrieved from https://www.unaids.org/en/resources/documents/2020/prevailing-against-pandemics2020
11. Dorward J, Khubone T, Gate K, Ngobese H, Sookrajh Y, Mkhize S, et al. The impact of the COVID-19 lockdown on HIV care in 65 South African primary care clinics: an interrupted time series analysis. Lancet. 2021;8(3):e158–e65.
12. WHO. Updated recommendations on service delivery for the treatment and care of people living with HIV April 2021. Available from https://www.who.int/hiv/topics/dsd/
13. Auchus IC, Jaradeh K, Tang A, Marzan J, Boslett B. Transitioning to telehealth during the COVID-19 pandemic: Patient perspectives and attendance at an HIV clinic in San Francisco. AIDS Patient Care STDs. 2021;35(7):249–54.
14. Amatawele S, Lujintanon S, Teeratkulpisarn N, Thitipatarakorn S, Seekaw P, Hanaree C, et al. Evaluation of the integration of telehealth into the same-day antiretroviral therapy initiation service in Bangkok, Thailand in response to COVID-19: A mixed-method analysis of real-world data, Thailand. J Int AIDS Soc. 2021;24(6):e25816.
15. McGinnis KA, Skanderson M, Justice A, Akgun KM, Tate JP, King JT, et al. HIV care using differentiated service delivery during the COVID-19 pandemic: A nationwide cohort study in the US Department of Veterans Affairs. J Int AIDS Soc. 2021;24(6):e25810.
16. Fatti G, Ngorima-Mabhena N, Tian M, Tukei BB, Tonderai K, Muzenda T, et al. Community-based differentiated service delivery models incorporating multi-month dispensing of antiretroviral treatment for newly stable people living with
HIV receiving single annual clinical visits: A pooled analysis of two cluster-randomized trials in Southern Africa. J Int AIDS Soc. 2021;24(S6):e25802.

17. Lewis L, Sookraj Y, Gate K, Khubone T, Maraj M, Mkhize S, et al. Differentiated service delivery for people using second-line antiretroviral therapy: clinical outcomes from a retrospective cohort study in KwaZulu-Natal, South Africa. J Int AIDS Soc. 2021;24(S6):e25802.

18. UNICEF. Prioritizing the Continuity of Services for Adolescents Living with HIV During the COVID-19 Pandemic. June 2020. Available from https://differentiatedservicedelivery.org/Portals/0/adam/Content/WYu2hrZfEuDbfr0OhDE4g/File/UNICEF_COVID_eng.pdf.

19. The Global Fund. COVID-19 Information Note: Considerations for Global Fund Support for HIV April 2020. Available from: https://www.theglobalfund.org/media/9512/covid19_hiv_infonote_en.pdf.

20. PEPFAR. PEPFAR Technical Guidance in Context of COVID-19 Pandemic. 23 June 2021. Available from https://differentiatedservicedelivery.org/Portals/0/adam/Content/r1zE2gL-20uTIg-_xadv5A/File/06.23.21%20PEPFAR%20Technical%20Guidance%20During%20COVID-final.pdf.

21. Bailey LE, Siberry GK, Agaba P, Douglas M, Clinkscales JR, Godfrey C. The impact of COVID-19 on multi-month dispensing (MMD) policies for antiretroviral therapy (ART) and MMD uptake in 21 PEPFAR-supported countries: A multi-country analysis. J Int AIDS Soc. 2021;24(S6):e25794.

22. Jo Y, Rosen S, Sy KTL, Phirie B, Huber AN, Mwansa M, et al. Changes in HIV treatment differentiated care uptake during the COVID-19 pandemic in Zambia: Interrupted time series analysis. J Int AIDS Soc. 2021;24(S6):e25808.

23. Sanwo O, Persaud N, Nwaokoro P, Iemudia A, Akpan U, Toyo O, et al. Differentiated service delivery models among PLHIV in Akwa Ibom and Cross River States, Nigeria during the COVID-19 pandemic: Descriptive analysis of programmatic data. J Int AIDS Soc. 2021;24(S6):e25820.

24. Pollard R, Gopinath U, Reddy YA, Kumar BR, Mugundu P, Vasudevan CK, et al. HIV service delivery in the time of COVID-19: Focus group discussions with key populations in India. J Int AIDS Soc. 2021;24(S6):e25800.

25. Mpiof M, Moyo T, Gilbert M, Dikobe W, Nishimoto L, Katiko G, et al. Distribution of antiretroviral therapy through private pharmacies and postal courier services during COVID-19 in Botswana: Acceptability and reach of two out-of-facility individual differentiated service delivery models. J Int AIDS Soc. 2021;24(S6):e25814.

26. Matambanadzo P, Busza J, Mafaune H, Chinyanganya L, Machingura F, Gertrude N, et al. “It went through the roof”: An observation study exploring the rise in PrEP uptake among Zimbabwean female sex workers in response to adaptations during Covid-19. J Int AIDS Soc. 2021;24(S6):e25813.

27. Tran CH, Moore BK, Pathmanathan I, Lungu P, Shah S, Obobo I, et al. Tuberculosis treatment within differentiated service delivery models in global HIV/TB programming. J Int AIDS Soc. 2021;24(S6):e25809.

28. Ehrenkranz P, Grimsrud A, Holmes CB, Preko P, Rabkin M. Expanding the vision for differentiated service delivery: a call for more inclusive and truly patient-centered care for people living with HIV. J Acquir Immune Defic Syndr. 2021;86(2):147–52.

29. Liu L, Christie S, Munsamy M, Roberts P, Pillay M, Shenoi SV, et al. Expansion of a national differentiated service delivery model to support people living with HIV and other chronic conditions in South Africa: a descriptive analysis. BMC Health Serv Res. 2021;21:463.