

# Rapid tenofovir-lamivudine-dolutegravir transition in Papua New Guinea: A virtual approach to antiretroviral prescriber refresher trainings during a global pandemic

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## BACKGROUND

With a population of more than nine million across 22 provinces, Papua New Guinea (PNG) has a complex HIV epidemic. There are an estimated 55,000 individuals living with HIV, of whom 35,840 (65.2 percent) are on antiretroviral therapy (ART).<sup>1</sup> Prevalence rates among key populations (KP), namely female sex workers (FSWs), men who have sex with men (MSM), and transgender (trans) people, are high.<sup>2</sup>

Interruption in treatment (IIT) continues to be one of the most important barriers to viral suppression in PNG, with high rates of IIT among people living with HIV and, in particular, KPs in most ART clinics across the country.<sup>3</sup>

The rates of pre-treatment HIV drug resistance (PDR) among first-line ART initiators in PNG have been alarmingly high at 18.4 percent.<sup>4</sup> In response, the National Department of Health (NDoH) planned a rapid transition of first-line ART to dolutegravir-based regimens in 2019–2020 to all high-burden provinces. When the COVID-19 pandemic reached PNG in March 2020, refresher trainings for ART prescribers on the revised treatment guidelines could not be conducted as planned. To ensure that patients could safely transition to new regimens, the NDoH, supported by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and partners, facilitated the development of a virtual training platform for country-wide prescriber trainings.

## LESSONS LEARNED

Despite initial concerns that virtual training would not be feasible in PNG due to limited connectivity and low computer literacy, free platforms such as Google Classroom and the widespread availability of smartphones allowed successful virtual training of health care workers in PNG.

Through this process, the country and the various stakeholders learned several valuable lessons:

- **Virtual training using Google Classroom was highly effective.** The widespread availability of smartphones and the low-bandwidth, asynchronous method of content delivery was successful in effectively delivering training for health care workers.
- **Discussion boards and continuous online engagement are critical.** By engaging participants on a daily basis, building in assessment materials with immediate feedback, and encouraging robust online discussions, complex training material was effectively delivered using a virtual approach.
- **Online training democratizes access.** Using an online approach significantly reduced overall training costs and enabled significantly wider participation that facilitated a rapid national transition to TLD.
- **Collaboration was critical.** Under the leadership of the national HIV program, all partners contributed to the TLD transition plan, from developing training content to supporting participant access through the provision of airtime. The support from USAID and Global Fund for TLD procurement and distribution was critical to the success of the approach.

## DESCRIPTION

The United States Agency for International Development (USAID) HIV Support in PNG project implemented by FHI 360 played a critical role in the development, facilitation, and implementation of the first virtual training for ART prescribers in PNG. This involved establishing a virtual training platform using Google Classroom and creating 21 video lectures with more than six hours of content covering all aspects of HIV care and treatment, including HIV epidemiology, the revised care-and-treatment guidelines, the use of tenofovir-lamivudine-dolutegravir (TLD), adverse drug reaction monitoring and HIV surveillance, and monitoring and evaluation.

Hosted over a two-week period (May 18–29, 2020) and led by teaching staff comprised of 20 individuals from across the HIV response sector in PNG, the virtual training adopted an asynchronous, low-bandwidth model that allowed participants to access the lecture content at their own convenience but also included virtual assessment materials with weekly deadlines to ensure appropriate engagement during the training. In addition, a discussion board was used to facilitate discussions with participants on a daily basis to ensure relevant questions could be raised and that robust discussions could take place. This discussion board significantly improved overall engagement.

The virtual training reached 108 prescribers (33.3 percent nursing officers, 30 percent health extension officers, 23.3 percent community health workers, 13.3 percent doctors) from all 22 provinces. Among the training participants, 76.7 percent had not attended an HIV refresher training in the previous three years; 83.4 percent rated the training as four (out of five) or higher, and training evaluation scores averaged more than 80 percent, indicating strong retention of core concepts.

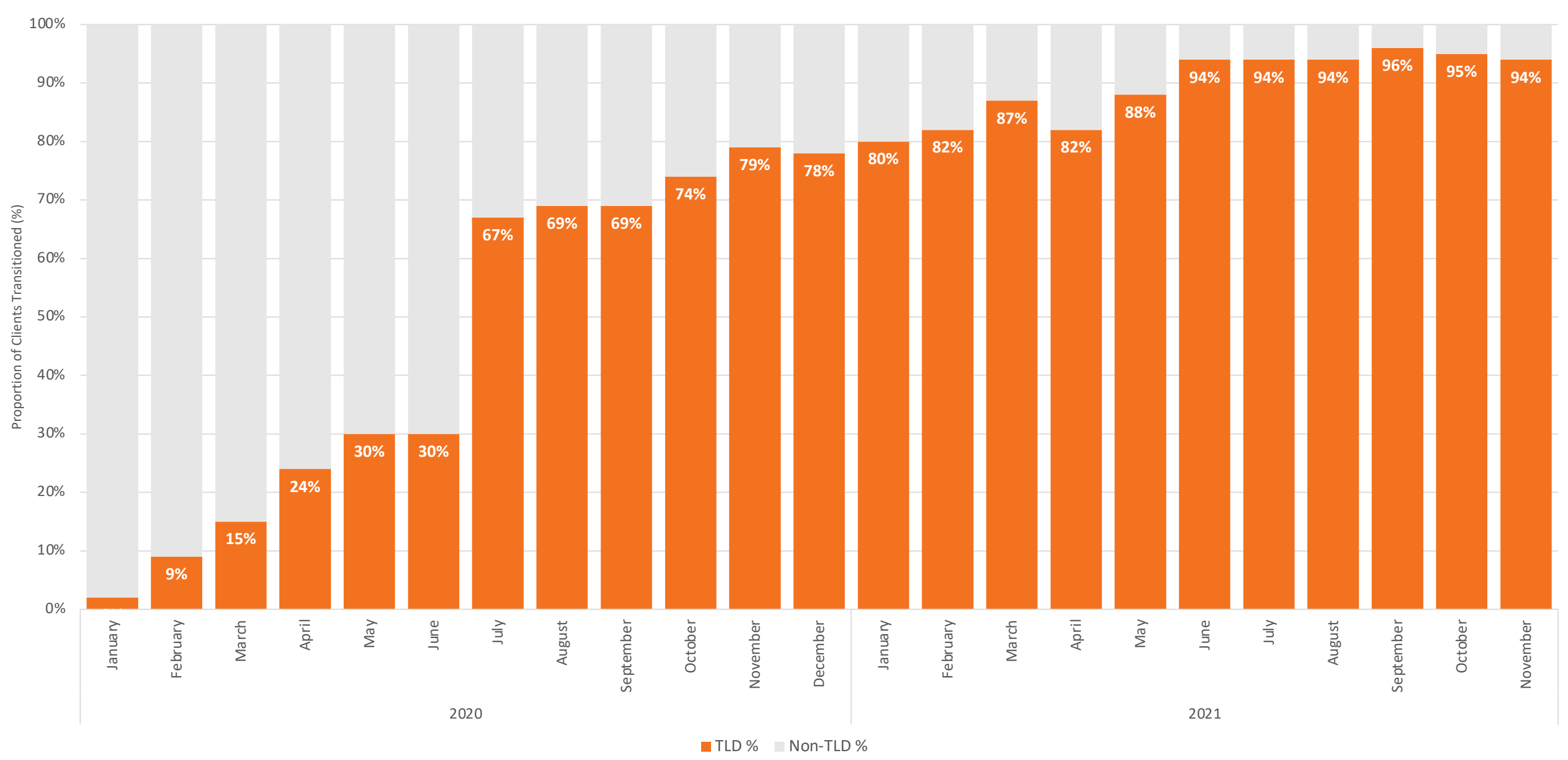
The result of the successful virtual prescriber training was the safe and rapid rollout of TLD in PNG. In May 2020, only 30 percent of all clients were on TLD. Within two months of the virtual training, almost 70 percent of ART clients had transitioned to TLD. Within one year of the training, almost 90 percent had transitioned, and as of January 2022, 96 percent of clients were on TLD (Figure 1).

This transition has also significantly improved viral load (VL) suppression rates across the country. Whereas in early 2019, national VL suppression rates were between 75 percent and 80 percent, after successful transition to TLD, suppression rates rose to higher than 90 percent. Since January 2022, national VL suppression rates have been maintained between 92 percent and 94 percent (Figure 2).



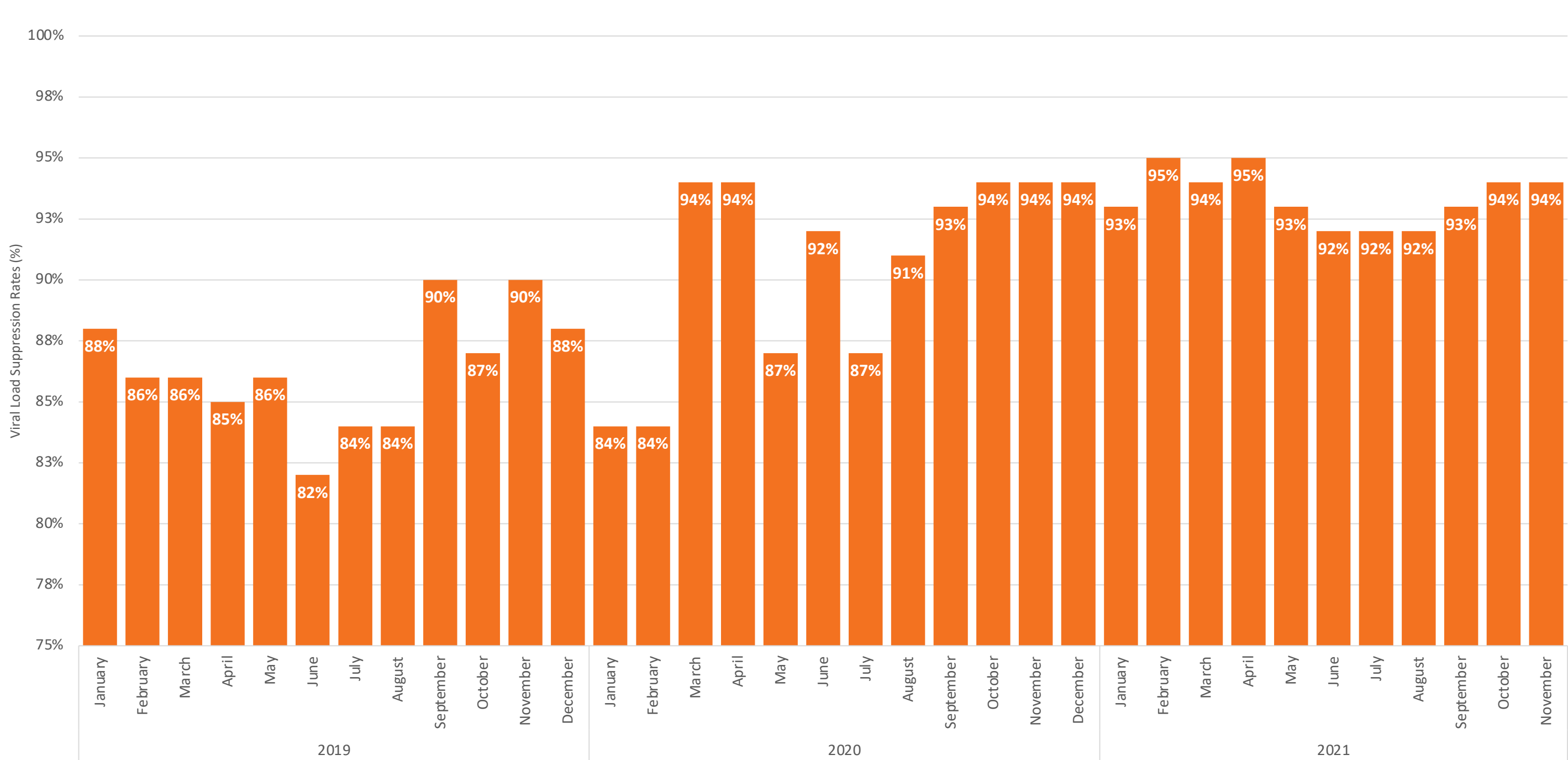
Health care workers use a smartphone to participate in virtual training.

FIGURE 1. National TLD transition, 2020–2021



Source: National HIV Patient Database, 2021

FIGURE 2. National viral load suppression rates, 2019–2021



Source: National VL Sample Management System, 2021

## CONCLUSIONS

Virtual training of health care practitioners was viable as highly effective, low-cost capacity building in resource-constrained environments during the COVID-19 pandemic. Similar approaches may be considered for other capacity-building initiatives instead of traditional in-person trainings.

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<https://www.fhi360.org/projects/covida-together-children>  
<https://www.fhi360.org/projects/capacity-development-and-support-program-cds>

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