

Impact of COVID-19 on HIV testing volume and case finding in 16 countries

Kayla Stankevitz,¹ Christa Fischer Walker,² Virupax Ranebennur³

PEMOE38

BACKGROUND

The COVID-19 pandemic presents many challenges to HIV service provision. In order to mitigate the spread of COVID-19 and reduce mortality, governments around the world have introduced various restrictions, including limitations on travel, stay-at-home policies and, at times, complete lockdowns. While these restrictions can reduce the spread of COVID-19, strict measures may also have an impact on HIV testing, prevention, and treatment programs, especially the delivery of services targeting groups who may already have considerable challenges accessing health services, such as sex workers, men who have sex with men (MSM), and people who inject drugs (PWID).

Meeting Targets and Maintaining Epidemic Control (EpiC) is a five-year global project funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and the United States Agency for International Development (USAID). Working in 35 countries, EpiC provides technical assistance and direct service delivery to achieve and maintain HIV epidemic control. EpiC's period of performance is 2019–2024, which allows us to have data on HIV service provision before and after the start of the COVID-19 epidemic in many countries. In this analysis, we aimed to describe the impact of COVID-19 and country-level COVID-19 stay-at-home policies on HIV testing services provided by EpiC.

METHODS

We performed a retrospective analysis of monthly HIV testing data in 16 countries from January 2020 through September 2021. Countries included in the analysis were Botswana, Burundi, Côte d'Ivoire, Democratic Republic of Congo, Dominican Republic, Eswatini, Lesotho, Liberia, Malawi, Mali, Nepal, Nigeria, South Africa, Tanzania, Thailand, and Vietnam. We analyzed the data both in aggregate as well as by population type for female sex workers (FSWs), MSM, transgender (trans) people, and PWID.

First, we examined changes in testing volume over time. To account for differences in testing volume across countries, we calculated each country's percentage reduction/increase in testing by month compared to the average monthly country-level HIV testing volume in the first three months of 2020 (January–March 2020, defined as the "pre-COVID-19" period).

Next, we compared HIV testing volume and case finding during periods when countries had national public health policies in place. National COVID-19 response policies over time were obtained from the Oxford COVID-19 government response tracker. Table 2 shows the four-level ordinal classification used in the analysis.

Regression analysis was used to quantify the relationship between HIV testing volume, HIV case-finding rates, and national stay-at-home policies by month.

CONCLUSIONS

While initial decreases in HIV testing were observed, focused testing strategies led to rapid programmatic recovery, and HIV testing volume ultimately returned to and surpassed pre-COVID-19 levels. Tighter stay-at-home orders were associated with decreases in testing, yet HIV case finding increased during these months. These results demonstrate the resiliency of HIV programs despite the challenges COVID-19 presented to routine service provision.

AUTHOR AFFILIATIONS

¹ FHI 360, Durham, NC, United States

² FHI 360, Kentucky, United States

³ FHI 360, Mumbai, India

CONTACT INFORMATION FOR LEAD AUTHOR

Kayla Stankevitz, Technical Advisor, HIV Programs - EpiC Health Informatics, kstankevitz@fhi360.org

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RESULTS

During the period under review, the project conducted a total of 1,056,827 HIV tests in the 16 countries. Number of tests completed and case finding by population type, sex, and testing location are shown in Table 1.

Figure 1 shows average change in HIV testing volume over time. Testing volume declined dramatically early in the pandemic, with countries averaging 37.8 percent and 33.1 percent fewer HIV tests per month in April and May 2020, respectively. Those months also saw the highest average case-finding rates, at 16.7 percent and 16.0 percent. In the ensuing months, programs adapted to the threats and restrictions of the pandemic and demonstrated a rebound in testing volume and an overall average case-finding rate consistent with the pre-COVID-19 comparator months.

More stringent stay-at-home policies were associated with decreased HIV testing (Table 2). Countries completed an average of 60.9 percent fewer tests during months when national policies required residents to not leave the house ($p < 0.001$). HIV case finding increased an average of 1.7 percent during those months ($p = 0.09$).

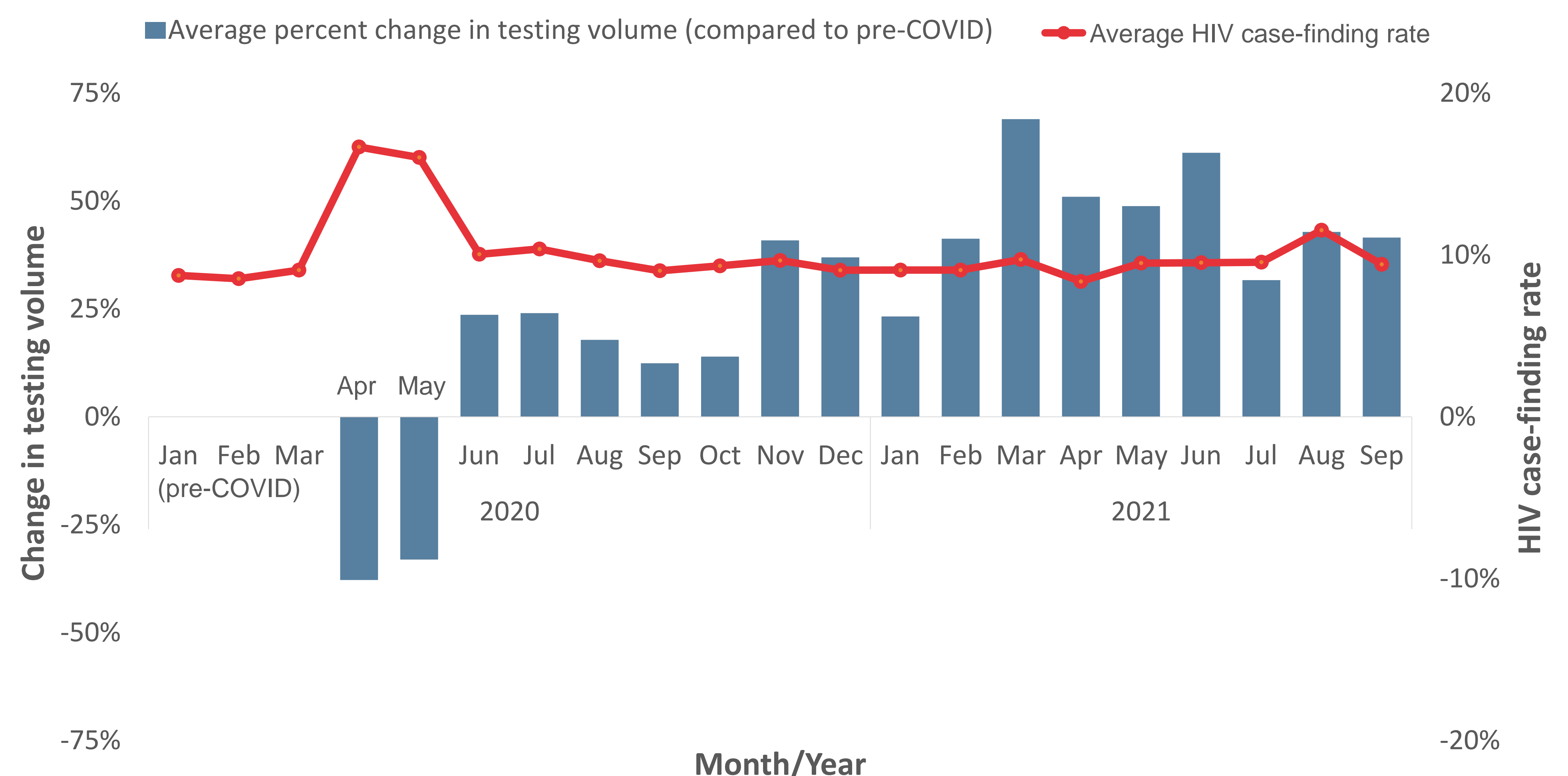
TABLE 2. Changes in HIV testing volume during different levels of national stay-at-home policies for COVID-19

Policy	Number of Months with Policy in Place	Change in HIV Testing Volume Compared to 3 Months Pre-Pandemic (%)	Coefficient	p-Value
0 No measures (reference)	65	70.50%	—	—
1 Recommend not leaving house	84	47.90%	-0.22	0.22
2 Require not leaving house, with exceptions for daily exercise, grocery shopping, and "essential" trips	133	-0.10%	-0.71	<0.001
3 Require not leaving house, with minimal exceptions (e.g., allowed to leave once a week, only one person can leave at a time)	6	-74.50%	-1.45	<0.001

TABLE 1. EpiC-supported HIV testing and case finding pre-COVID-19 (January–March 2020) and post-COVID-19 (April 2020–September 2021) in 16 countries

	HIV Tests Completed		HIV Tests per Month		Case-finding Rates	
	Pre-COVID-19	Post-COVID-19	Pre-COVID-19	Post-COVID-19	Pre-COVID-19	Post-COVID-19
Population Type						
FSWs	44,198	308,603	14,733	17,145	7.1%	9.3%
MSM	34,310	204,742	11,437	11,375	6.9%	7.7%
Trans	3,133	20,269	1,044	1,126	7.2%	9.8%
PWID	1,952	11,569	651	643	5.2%	9.4%
Sex						
Male	68,455	427,783	22,818	23,766	6.3%	8.4%
Female	62,594	527,354	20,865	29,297	6.4%	8.0%
Testing location						
Community	77,910	591,512	25,970	32,862	6.9%	9.8%
Facility	53,139	363,625	17,713	20,201	5.7%	5.5%
Total	131,049	925,778	43,683	51,432	6.4%	8.4%

FIGURE 1. Change in HIV testing volume and case-finding rates during the COVID-19 pandemic in 16 countries*



* 13 in sub-Saharan Africa, 2 in Southeast Asia, 1 in Latin America