

RESEARCH ARTICLE

Impact of the COVID-19 pandemic on provision of HIV/AIDS services for key populations

Ha Nguyen Thu¹  | Anh Nguyen Quynh¹  | Oanh Khuat Hai² |
Ha Le Thi Thanh² | Huong Nguyen Thanh³ 

¹Department of Health Policy and Health Economics, Hanoi University of Public Health, Hanoi, Vietnam

²Centre for Supporting Community Development Initiatives, Hanoi, Vietnam

³Department of Health Promotion, Faculty of Social and Behavioural Sciences, Hanoi University of Public Health, Hanoi, Vietnam

Correspondence

Huong Nguyen Thanh, Department of Health Promotion, Faculty of Social and Behavioural Sciences, Hanoi University of Public Health, Hanoi, Vietnam.

Email: nth@huph.edu.vn

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Abstract

The COVID-19 pandemic has aggravated the obstacles for HIV/AIDS programs in limited-resource countries like Vietnam to achieve the HIV/AIDS-related Sustainable Development target. The paper aims to evaluate the impact of the COVID-19 pandemic on the provision of HIV/AIDS services—a pathway to achieving universal health coverage for key populations (KPs). Employing mix-methods, we conducted a desk study, one focus group discussion, and ten in-depth interviews with participants from the Ministry of Health, Provincial Centres for Disease Control, and HIV/AIDS-related facilities. The results showed the reduced coverage of KPs with access to prevention (i.e., harm-reduction services, counselling), testing, and treatment services (i.e., antiretroviral therapy, isoniazid preventive therapy). It also showed the reduced coverage of quality essential services, mainly in skipping consultation and testing, delaying un-emergency services, and redirecting KPs to non-HIV-specialised facilities. There was a gap in providing support for mental health, violence/abuse, and reproductive health. Financial risk protection for KPs was reduced due to uncertain local budget allocation; decreasing their ability to pay for HIV/AIDS-related services and social health insurance premiums; and increased out-of-pocket payments to comply with the COVID-19 control measures. This paper provides recommendations for strategic planning to ensure universal health

coverage for KPs in the post COVID-19 era, especially for limited-resource countries like Vietnam.

KEYWORDS

HIV/AIDS, key population, limited-resource countries, the COVID-19 pandemic, universal health coverage

Highlights

- The pandemic has reduced access to HIV/AIDS services, essential services coverage, and financial risk protection among key populations (KP)
- HIV/AIDS services delivery should be re-arranged with the increased involvement of community-based organisations (CBOs)/peers and address KPs' demand for mental health services and special support for violence/abuse victims
- Local governments need to ensure subsidising health insurance premiums for KP
- Donors should prioritise funding for maintaining the CBOs/peers networks

1 | BACKGROUND

Like other countries, Vietnam has approved the National Strategy to end the AIDS epidemic by 2030.¹ The government expanded the 90-90-90 targets to 95%-95%-95% targets by 2030. The strategy's approval shows the commitment of the government to uphold the HIV/AIDS-related Sustainable Development Goal agenda and to leave no one behind towards the goals of universal health coverage. Before the coronavirus disease 2019 pandemic, Vietnam's national HIV/AIDS programme has achieved several remarkable successes, including comprehensive implementation of HIV/AIDS prevention measures (e.g., needle, syringe, and condom distribution, treatment of opioid dependence with substitution therapy, pre-exposure prophylaxis) and effective delivery of several services by CBOs and peers. The government has scaled up HIV screening in diversified forms, including facilities-based, community-based, and HIV self-testing. The government has also been decentralising and integrating HIV/AIDS treatment into the healthcare system and scaling up antiretroviral therapy (ART), for example, the number of people receiving ART increased from 500 in the early 2000s to 152,000 in 2019.² Scale-up of those activities was estimated to avert over 400,000 HIV infections between 2001 and 2017.³

However, the Vietnam National HIV/AIDS programme has been experiencing a challenging time with several changes in integrating HIV/AIDS services into the healthcare system during the early introduction of the Centre of Disease Control (CDC) model.⁴ The Vietnam healthcare system is generally divided into central, provincial, district, and commune levels. The central-level hospitals typically provide specialist services, technical support and training for the lower levels. Provincial and district health facilities provide general, less technical services. At the lowest commune level, community health stations deliver primary health care. With the establishment of the CDC model, lower-level hospitals were merged into CDC to provide both prevention and treatment (including HIV/AIDS prevention activities, treatment and care services). In contrast, higher-level hospitals are allowed to be separate from CDC.⁵

Moreover, it has also faced several obstacles in shifting the finance of HIV/AIDS services from external funds to the social health insurance (SHI) fund and the local government budget.⁴ Notably, when the HIV/AIDS epidemic is still highly concentrated among KPs in Vietnam,² it requires substantial effort to include KP towards the universal health coverage goals. Moreover, KPs face a greater risk of HIV/AIDS transmission and have limited access to preventive and curative health services.³ As for definition by the Global Fund, KPs include gay, bisexual, Men who have sex with men (MSM), transgender people, people who inject drugs (PWID) and sex workers.⁶

The escalation of the COVID-19 outbreak places several negative impacts on HIV/AIDS programme in Vietnam, other rapidly spreading countries, and all other countries. Key populations are more vulnerable to the COVID-19 pandemic because of the proven increased risk of COVID-19 mortality.⁷ Due to emerging variants and the global vaccination shortage, cases and deaths resulting from COVID-19 continue to climb worldwide.⁸ After successfully containing the COVID-19 pandemic in 2019 and early 2021, Vietnam faced the more severe third wave of COVID-19 from January until April 2021 and the fourth wave of COVID-19 since May 2021 (with up to 10,000 cases confirmed per day)⁹ similarly to the worsening situation of COVID-19 in Asia and South East Asia.

Mainly, available international literature has explained how the COVID-19 pandemic has impacted KP' access to HIV/AIDS-related services. From the providers' side, the overall reduction of their access to HIV related services¹⁰ was due to facility closure,¹¹ reduced staffing and clinic hours,¹²⁻¹⁵ cut down communication to promote care-seeking,¹¹ diverted health funds to the COVID-19 pandemic,¹⁶ mobilised health resources for the COVID-19 response.¹⁷ Fear of getting infected with COVID-19 from facility visits, lockdown, stay at home order,¹¹ and increasing discrimination against KP¹² were the main reasons from KP' side. Vietnam literature also provides similar evidence on reduced and suspended delivery of preventive services, for example, training or communication,¹⁸ reduced or suspended services provided by peers or CBOs,¹⁹ and reduced access of female sex workers to various health services.²⁰

Both international and Vietnam literature have only focussed on KPs' access to HIV-related services but have not shed light on the other aspects of universal health coverage, that is, services quality and financial protection. It is also needed to have more detailed evidence on how the COVID-19 pandemic has reduced KPs' access to healthcare services in a limited-resources context like Vietnam. Thus, this paper aims to analyse the possible impact of the COVID-19 pandemic on the provision of HIV/AIDS services based on three dimensions of universal health coverage, that is, access to HIV/AIDS-related services, quality essential services, and financial risk protection for KP. Evidence from this paper would be a benefit for local health authorities in effectively advocating for resources and allocating the resources to mitigate the impact of the COVID-19 pandemic on the HIV/AIDS programme, especially on KP, to ensure the achievement of the committed target to end HIV/AIDS epidemic by 2030. This paper would also suggest important options to ensure the provision of HIV/AIDS services toward the universal health coverage goals for KP for the post-COVID-19 era.

2 | METHODS

The study applied mixed methods, including desk study and qualitative interview. A desk study was employed mainly to summarise available quantitative data on KPs' access to HIV/AIDS services from the beginning of 2020 until June 2021. The study applied qualitative interviews to explore how the COVID-19 pandemic has impacted KPs' access to HIV/AIDS, coverage of essential, quality services, and financial risk protection for KP.

2.1 | Desk study

We performed a manual search on the websites of the related organisation, that is, the Vietnam Administration of HIV/AIDS Control (VAAC), the World Health Organisation, and The Global Fund for secondary data. Different technical and financial reports, as well as related documents provided by study participants, were summarised. We also collected related documents identified by study participants and had them clarified with them as necessary.

2.2 | Qualitative component

The research sample included key stakeholders related to HIV/AIDS programs at the national and provincial levels. The criteria for selecting the participants were experienced and knowledgeable in HIV/AIDS. Using a purposeful

sampling approach, we interviewed 12 leaders of VAAC, Provincial CDCs, the District Department of Health, and representative HIV/AIDS-related providers. We also conducted one focus group discussion (FGD) with 10 representatives from different KP throughout the country. A lead interviewer and a note-taker conducted in-depth interviews and FGD with pre-set open-ended questions. All interviews were conducted via Zoom (or phone call) and recorded. The study was granted ethical approval from the Ethical Review Board for Biomedical Research—Hanoi University of Public Health (Decision no 262/YTCC-HD3 dated 28 May 2021).

2.3 | Data analysis

Secondary data collected through desk study were imputed into prepared tables in Microsoft Excel. Quantitative data collected from different sources were compared to check for trustworthiness. In-depth interviews' records were transcript, and the data were analysed thematically. In the results section, identified themes of the statements were illustrated by direct quotations from the interviews, which were translated from Vietnamese. We applied the Health System Dynamic Framework (Olmen et al., 2012), well-known for analysing the health system's dynamics and developing strategies actions.²¹

3 | RESULTS

Figure 1 illustrates how the COVID-19 pandemic has impacted universal health coverage for KP to HIV/AIDS services using the Health System Dynamic Framework.

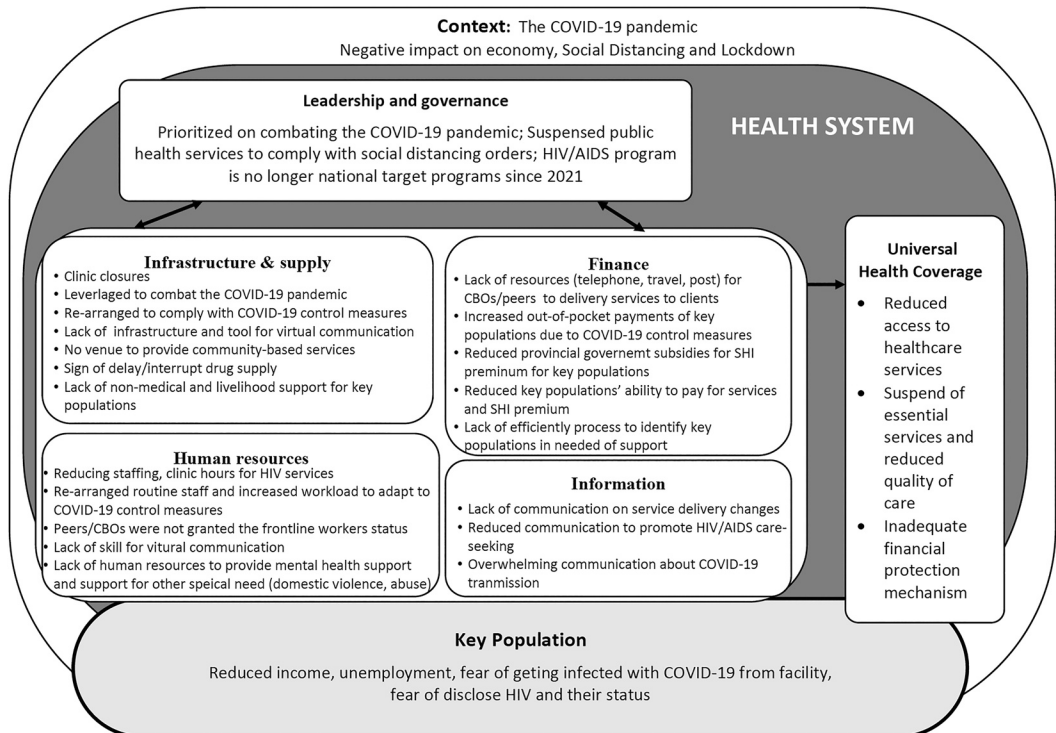


FIGURE 1 Summary of findings based on The Health System Dynamic Framework by Olmen et. al., 2012

Firstly, it depicts how the broader context (i.e., the COVID-19 pandemic's negative impact on the economy, social distancing, and lockdown policy, as well as other strategies to combat the pandemic in Vietnam) on the health-care system (in terms of governance, financing, human resources, infrastructure and supplies, information) as well as KP. Secondly, it traces how changes in the above functions are linked to three dimensions of universal health coverage, that is, all KP have access to the full range of essential, quality healthcare services without financial hardship. This detailed explanation is provided as follows (See Table 1 for the summary).

3.1 | Impacts of the COVID-19 pandemic on the access of kp to HIV/AIDS services

Table 2 depicts the reduced coverage of KPs with access to HIV/AIDS services at the national level. Indeed, Table 2 shows the reduction of *communication activities, number of PWID on methadone maintenance therapy, number of HIV counselling and testing, tuberculosis patients in all forms taking HIV tests, people starting isoniazid preventive therapy*. At the provincial level, data from selected provinces provided by participants also supported the reduction trend in KPs' access to HIV/AIDS services. Indeed, Table 2 shows the reduction in the *number of people on antiretroviral therapy (ART), the proportion of PWID accessing needle exchange programme, the proportion of people knowing their HIV status, and the proportion of patients remaining on first-line treatment after 12 months*. Results from in-depth interviews and FGD confirmed several impacts on KP's access to HIV/AIDS services and explained its mechanisms.

3.1.1 | Interrupted in services delivery due to clinic closure in compliance with COVID-19 control measures

Qualitative interviews showed that KPs were unable to access several treatment services, such as testing, ART, and methadone maintenance therapy delivered in clinics located inside hospitals due to closures during the COVID-19 outbreak:

"Once there is a positive (COVID-19) case in the hospital, the hospital will be in lockdown. Hence key populations could not access their regular services" (IDI1)

Even though there was no positive case of COVID-19, rehabilitation centres for PWID were received ordered to close temporarily (e.g., close four in seven rehabilitation centres in a case study province). This order prevented KP from accessing the services:

"We referred people who inject drugs to the rehabilitation centre, but the centre refused to admit them. It is dangerous since they could return to their drug addiction or break the law any time" (FGD)

3.1.2 | Delayed delivery of services and care-seeking due to quarantine and other COVID-19 control measures

Several public health activities that require travelling and population attendance (e.g., education and communication, screening programme, surveillance, monitoring, and evaluation) have been delayed from the services providers' side due to quarantine and other COVID-19 control measures. It was confirmed by the temporary reduction in expenditure of budget lines, including the cost of organising workshops, training, and travel significantly reduced between March and 20 July 2020.¹⁸ The social distancing orders mostly suspended the HIV/AIDS care-seeking promotion campaigns. There were different levels of social distancing orders, such as Directive 15/CT-TTg (no more than

TABLE 1 Summary of key findings

Universal health coverage domains	Detailed explanations
<p>Reduced access to HIV/AIDS services among key population</p>	<p>Services providers suspended and delayed services delivery due to COVID-19 control measures</p> <p>Key population delayed their care-seeking behaviours due to quarantine and other COVID-19 control measures</p> <p>Healthcare staff, facilities, infrastructure, equipment, and related medical supplies for HIV/AIDS services were leveraged more often to combat the COVID-19 pandemic</p> <p>Increased barriers for peers and CBOs (i.e., lacked adequate resources; were not granted the status of frontline healthcare workers) to provide services for key populations</p> <p>Lacks updates in changes in HIV/AIDS services delivery</p> <p>Overwhelming communication about COVID-19 transmission</p> <p>The remaining stigma and discrimination issues related to key population increased during the COVID-19 pandemic (e.g., fear of declaring HIV status)</p>
<p>Reduced coverage of essential HIV/AIDS services</p>	<p>Skipping consultation, testing, and delaying un-emergency services for people living with HIV/AIDS due to staff and laboratory facilities were leveraged to combat the COVID-19 pandemic</p> <p>Disrupted antiretroviral drugs supply</p> <p>Increased workload and changes in routine staffing for delivering HIV/AIDS services</p> <p>Lacks psychological support and special support for domestic violence and abuse during the COVID-19 pandemic</p> <p>Lacks essential education and communication services provided for key populations due to lack of capacity and infrastructure for virtual communication/education</p>
<p>Reduced financial risk protection for key populations</p>	<p>Reduction of government expenditure to subsidise social health insurance premiums for key populations</p> <p>Reduction of key populations' ability to pay for social health insurance premiums and HIV/AIDS related services (e.g., methadone, tuberculosis treatment)</p> <p>Increased out-of-pocket payment on COVID-19 related control measures (e.g., COVID-19 testing, additional payment for transportation)</p>

20 people in a closed area and no more than 10 people in an open area) and Directive 16/CT-TTg (no meetings in a closed area and no more than two people in an open area).

"Due to quarantine and COVID-19 control measures, we could not hold the meeting for more than 100 persons as ordered by Directive 15, so all of the resources for training, education, field visiting, travelling, meetings..." (IDI 6)

TABLE 2 Changes in some indicators relating to HIV/AIDS programme at the national and provincial level, Vietnam, 2019–2020

National-level data [†]	The year 2019	The year 2020
New cases detected (cases)	10,000	13,000
Number of communications (visits)	578,804	415,175▼
Number of PWID on methadone maintenance therapy (cases)	53,000	52,725▼
HIV counselling and testing (visits)	3,535,636	3,262,462▼
Number of people on ART (cases)	142,242	152,116
Tuberculosis patients in all forms taking HIV test (Reported/Planned)	89,110/103,857	84,533/65,075▼▼
HIV (+) patients started isoniazid preventive therapy treatment (Reported/Planned)	8771/10,272	8341/13,955▼▼
Data from a case study province (province 1) [‡]		
Successful case referred to ART (Reported/Planned)	422/238	383/367▼▼
New cases on ART (Reported/Planned)	396/334	366/336▼▼
Current cases on ART (Reported/Planned)	2053/1964	2318/2353▼
Counselling and testing (Reported/Planned)	-/-	15,544/16,589▼
Number of cases having viral load testing (Reported/Planned)	1645/1765	1962/2438▼
Data from a case study province (province 2) [§]		
The proportion of PWID (%) accessing needle exchange programme (Reported/Planned)	83.0/-	67.6/10.0▼▼
The proportion of FSW (%) accessing condom programme (Reported/Planned)	26.0/-	44.6/10.0
The proportion of MSM (%) accessing condom programme (Reported/Planned)	1.0/-	6.4/15.0▼
Number of PWID on methadone maintenance therapy (Reported/Planned)	260/-	227/300▼▼
The proportion of the general population aged 15–49 (%) having adequate knowledge of HIV/AIDS (Reported)	-/-	0.0/60.0▼
The proportion of the general population aged 15–49 (%) showed no stigma on PLWH (Reported/Planned)	-/-	0.0/60.0▼
The proportion of PLWH (%) know their HIV status (Reported/Planned)	60.8/-	55.4/90.0▼▼
The proportion of new-borns of HIV+ or suspected HIV mothers (%) having early HIV testing (Reported)	100.0/-	73.0/100.0▼▼
The proportion of PLWH on ART (%)	64.7	62.8/90.0▼▼
The proportion of people on HIV treatment have a suppressed viral load after 12 months of treatment	4.9	17.9/60.0▼
The proportion of patients remaining on first-line treatment after 12 months of treatment (%)	100.0	97.0/85.0▼▼
The proportion of PLWH having healthcare services reimbursed by social health insurance	92.0	89.4/80.0▼▼

Note: ▼ reduction compared to 2019; ▽ reduction compared to plan.

Abbreviation: PWID - people who inject drugs, ART-antiretroviral therapy; MSM—Men who have sex with men, FSW—Female sex worker; PLWH—People living with HIV/AIDS; - no information.

[†]Annual report of National HIV/AIDS programme (2019, 2020).

[‡]Presentation on provincial HIV/AIDS programme (provided by study participants).

[§]2020 report of Provincial HIV/AIDS programme (provided by study participants).

Moreover, mainly due to social distancing and quarantine policies, the study showed difficulties in implementing community-based HIV services. Indeed, peers could not *"find a private place to deliver HIV tests for clients to start their pre-exposure prophylaxis treatment"*. In another case, a CBO failed to provide enough accommodation for *"abusive victim children"* and for *"unwanted pregnancy women living with HIV"* due to the COVID-19 control rules.

Regarding reasons for delayed care-seeking from the KP, they might comply with stay-at-home order or be in a strict quarantine area to not travel to get their treatment refills (e.g., antiretroviral (ARV), methadone, tuberculosis drugs). It is more difficult for migrants to travel across provinces to get their treatment refills during the quarantine period:

"In some districts, we do not have methadone facilities, so our clients must go to other places to get the treatment. Because of the lockdown, we could not go to other places to have the medication refills anymore"
(FGD)

3.1.3 | Healthcare staff, facilities, infrastructure, equipment, and related medical supplies for HIV/AIDS services were leveraged to combat the COVID-19 pandemic

Participants observed that regular healthcare staff, facilities, equipment, and associated medical supplies for HIV/AIDS services, have been reduced since they were leveraged to combat the COVID-19 pandemic. Thus, it decreased the opportunities for KP to have their diagnosis tests for HIV as well as receive other preventive services during the COVID-19 pandemic:

"... laboratory staff and the laboratory are all mobilised for COVID-19 testing by increased 300%-400% workload...so only basic services are ensuring for clients. No consultation, no viral load testing..." (IDI 2)

In Vietnam, HIV/AIDS-related facilities are usually located inside the department of communicable diseases of hospitals at different levels or provincial CDCs. Thus, HIV/AIDS-related healthcare staff are leveraged more often to combat the COVID-19 pandemic than their counterparts in other departments. Consequently, HIV/AIDS staff faced more pleasure in maintaining service delivery.

"We are used to belonging to the department of communicable diseases. So, it is normal when some of us are mobilised to combat the COVID-19 pandemic. Another remaining team must work harder to maintain all activities..." (IDI5)

Besides, the COVID-19 control strategy requires the remaining healthcare staff to perform several preventive activities (i.e., cleaning and disinfecting facilities, screening patients for COVID-19, ensuring social distancing rules) and reduce clinic hours for HIV/AIDS services. Therefore, it tightened the opportunity for KP to access HIV/AIDS services:

"We need to implement all the COVID-19 control measures like temperature measure, epidemiological investigation, channel clients based on their epidemiological risks, keep the social distancing rules. We need to increase the cleaning and sanitising frequency. It leads to reduce our clinic hours for serving clients. We could not afford to serve more clients..." (IDI 5)

3.1.4 | Increased barriers for peers/community-based organisations to stay in contact and efficiently provide services for key populations

Peers and CBOs are considered a very efficient mechanism to reach KP in Vietnam. However, they lacked adequate resources to support their clients during the quarantine period. The resources included telephone and Internet bills to communicate to their customer, paying for transportation and travel or post services to deliver diagnosis tests, medication, and other preventive products. Thus, the coverage of KP reached by peers/CBOs were reduced:

"The number of new clients is decreasing because clients are mostly referred and served by peers during the last two years in our province. The COVID-19 pandemic costs peers a lot to approach and serve their clients" (IDI 2)

The other reason for reducing the KP reached by peers/CBOs was that only frontline healthcare workers were allowed to travel across quarantine areas during the lockdown. However, peers/CBOs have not been granted the status of frontline workers.

"We are doing it all by ourselves (buying personal protective equipment, asking for an official document to enter the quarantine area, transportation and food for the trip). It is exhausted, but if we stop, our clients will not meet their needs" (FDG, KP)

3.1.5 | Increased barriers for key populations to access HIV/AIDS services due to COVID-19 related stigmatisation

Qualitative interviews showed the **increased stigmatisation against healthcare facilities due to the COVID-19 pandemic** among KP. Overwhelming communication about COVID-19 transmission and *"its danger for people with immunodeficiencies"* was discussed as the main reason for increasing fear of getting infected with COVID-19 from health facility visits. These *"over-worried"* thoughts, paired with a lack of information on COVID-19 control measures and **lack of updates in HIV/AIDS service delivery** during the COVID-19 pandemic, create more barriers for KP to access HIV/AIDS services:

"Most of my clients are fear of getting infected with COVID-19 from health facilities and healthcare staff" (FDG)

Besides, the remaining stigma and discrimination issues related to People living with HIV/AIDS (PLWH), transgender people, MSM, PWID, and female sex workers increased in the context of the COVID-19 pandemic. That creates more barriers for them to access healthcare services:

"They are fearful of discrimination while declaring their status. Identity documents are obligatory to travel and use health services during the lockdown" (IDI6)

3.2 | Impacts of the COVID-19 pandemic on services quality

The qualitative interview revealed the impacts of the COVID-19 pandemics on reducing essential, quality services for KP.

3.2.1 | Skipping consultation, testing, and delaying other un-emergency services for PLWH due to staff shortage and laboratory facilities were leveraged to combat the COVID-19 pandemic

As mentioned above, reduced staffing and clinic hours (due to staffing shortage, and the increased workload to comply with COVID-19 control measures) were cited as the main reasons for lowering essential services for KPs, such as skipping consultation and testing for clients during outpatient visits. Participants also discussed that healthcare staff actively cut consultation, testing, and other un-emergency services for PLWH to minimise the waiting time of a client at health facilities to minimise the risk of COVID-19 transmission:

"The staff only focus on the core activities; they have no time to deliver consultation carefully as usual. They have no time to do so, and they do not want to keep their clients for too long to avoid the risk of COVID-19 transmission" (FDG)

3.2.2 | Sign of disrupted drug supply

Focus group discussion showed the sign of interrupted drug supply, that is, ARV during the COVID-19 pandemic, that directly impacts the essential treatment services for KP. It was explained as short-term scarcity due to planning and disruption in transportation. Although it was not systematically throughout the country, it could finally lead to the increasing non-adherence rate among PLWH, as shown by qualitative interviews:

"I saw the impact of the COVID-19 pandemic on the supply of ARV. My clients are used to getting ARV for one to three months. But now, if they are lucky, they can have it for three weeks to one month. One of my clients must wait for four days until having ARV drugs. They told us that they would stop for a while until the drugs were in a normal distribution. It is too risky for the whole community..." (FGD)

3.2.3 | Increased workload and change in regular staff arrangement in compliance with COVID-19 control measures

Participants demonstrated the re-arranging of the healthcare staff to comply with the COVID-19 control measures. This re-arrangement led to a reduction of routine staffing for delivering HIV/AIDS services, increasing the workload of the remaining staff, as mentioned in the above section. Suppose the COVID-19 pandemic continues to spread throughout the countries rapidly. In that case, it will pose increasing challenges to maintaining the quality level of services delivery since HIV/AIDS-related staff are believed to be well-trained and experienced in serving KP:

"Our regular staff for serving key populations are well trained and their clients familiar with their doctors. But now, once the communicable departments in hospitals are lockdown, the clients are redirected to other facilities and meet other doctors, they might not understand the clients well..." (IDI3)

Besides, the patients might also be redirected from HIV/AIDS specialised facilities to others for several reasons during the COVID-19 pandemic, such as re-arranging healthcare facilities to comply with COVID-19 control measures and hospital closures, healthcare facilities were leveraged to treat COVID-19 patients. Thus, there were concerns about the quality of HIV/AIDS services since the non-specialised facilities were not well prepared for HIV/AIDS service delivery.

"We must transfer all of the patients to a district hospital because the initial hospital was closed due to a positive (COVID-19) case. We have no time to prepare for these issues. The care could not be the same, but we have no other solution" (IDI4)

3.2.4 | Lack of psychological support and special support for domestic violence and abuse during the COVID-19 pandemic

Opinions from both KP and services providers emphasised the lack of psychological support for the key population during the COVID-19 outbreak. Indeed, KP were stated to experience increasing stressors of economic insecurity due to loss of income and jobs, isolation due to quarantines, staying inside low-standard shelters for a long time, and lacking food and live-hoods support. Because attention from the healthcare system was diverted to COVID-19 control measures, psychological support from healthcare staff was unable to provide for KP despite their increasing need.

"We (peers) must call our clients more frequently. If nobody calls them, they could return to drug addiction. Before, they could go out to feel better, but now they need to stay at home all the time. It is difficult for all of us, especially them" (FGD)

Besides, qualitative interviews also revealed their unmet need for special support for domestic violence and abuse during the outbreak. Domestic violence and abuse seem to increase during the lockdown because *"they stay at home more"*. Meanwhile, CBOs could not provide this kind of service for KP during the outbreak due to different social distancing orders:

"Support for our clients (children) by separating them from their abusive family during this time is complicated because of social distancing rule. Our safe houses cannot afford many children like they used to be... We support unwanted pregnant women living with HIV... Normally before COVID-19, we could manage to have places for them to stay for the last 3-4 months of their pregnancy. But it is impossible during COVID-19" (FGD)

Lastly, the COVID-19 pandemic leaves women more vulnerable and more in need of quality healthcare services and supports relating to unwanted pregnancy:

"It is a sensitive issue. Staying at home together a lot, having nothing to do, women are easier to get unwanted pregnancy. They must go to the clinics to have an abortion, but it is impossible during the clinic's closure. Meanwhile, they could not afford qualified private care. They may go to unsafe places... They must experience many disadvantages" (FGD)

3.2.5 | Lack of essential education and communication services provided for key populations due to lack of capacity and infrastructure for healthcare staff and peers/ community-based organisations in reaching their clients virtually

Although CBOs/peers, and with lower frequency, healthcare staff, are getting used to reaching their clients virtually, qualitative interviews showed that they lack the capacity and infrastructure to communicate with KP effectively. Without effective digital communication channels and infrastructure, essential education and communication services could not provide virtually despite increasing needs from KP:

"The clients need basic information; if the staff could not do it, they need to tell us so we can help the clients. Normally, we (peers) contact our clients via Zalo (a popular internet-based communication application in Vietnam). However, sometimes I feel it is hard to talk to them via Zalo. We may need some support to do it (virtual communication) better" (FGD)

3.3 | Impacts of COVID-19 pandemic on financial risk protection for key populations

There is no quantitative data at the national level on financial risk protection for KPs in the field of HIV/AIDS. Data provided by a participant showed a reduction in the proportion of PLWH having healthcare services reimbursed by SHI (Table 2). Indeed, before COVID-19 struck, the proportion of people with HIV/AIDS having healthcare services reimbursed by SHI was 92% (in 2019). It reduced by 89,4% in 2020. Qualitative interviews provided the rest of the evidence on the impact of the COVID-19 pandemic on financial risk protection for KPs.

3.3.1 | Possible reduction of government expenditure to subsidise social health insurance premiums for people living with HIV/AIDS and the ability to pay for social health insurance premiums of key populations

Participants predicted the possible reduction of the provincial government budget on subsidising SHI for PLWH. In general, the local government might struggle to fully subsidise SHI premiums for PLWH as committed because of budget constrain due to the economic impact of COVID-19.

"It depends on the provincial budget to pay for SHI for people living with HIV/AIDS and other social security beneficiaries. Rich provinces could mobilise enough funds to do so, but it is challenging for poor provinces and provinces in which the financial sustainability plans are not approved" (IDI 4)

The provincial budget for subsidising SHI for PLWH would be more uncertain in case of provinces having no official commitment from the local People's Committee and People's Assembly (through approving the Provincial Financial Sustainability Plan for HIV/AIDS programme).

"In my province, People's Committee approved the financial sustainability plan for ending AIDS by 2030. It is risky for other provinces without the approval" (IDI 2)

Besides, qualitative interviews suggested that the number of people who needed to be subsidised increases. People living with HIV/AIDS are already included in the beneficent list for receiving subsidies for SHI. However, other KPs such as PWID, sex workers and transgender who are impoverished by the COVID-19 pandemic might be far eligible to be subsidised.

"The problem is that many vulnerable groups are not eligible to be financially supported for health insurance. They are not in the list of beneficences; meanwhile, they may be poorer after the outbreak" (FGD)

Finally, participants discussed the reduced KP' ability to pay SHI by themselves due to loss of income and jobs. It could leave them to lack financial protection in accessing healthcare services shortly.

"During this time (affected by the COVID-19 pandemic), they (KPs) have no money to buy SHI. Even for those who are used to having a job. When they are furloughed because of COVID-19, their employees stop paying for their premium" (FGD)

3.3.2 | Increased out-of-pocket payment on COVID-19 related control measures but decreased ability to pay for HIV/AIDS services

Qualitative interviews showed that the COVID-19 control measure increased KP' out-of-pocket payments. Indeed, they must have additional payment for COVID-19 testing before hospitalisation, additional charge for being institutional quarantined, additional payment for transportation due to cross-provincial quarantine, or due to closures of health facilities:

"They (KPs) need to return several times to have the medicine. It costs more since they need to travel more frequently, especially for migrants to travel cross-provinces during lockdown... they also must pay for COVID-19 screening test before hospitalisation or paying for their institutional quarantine..." (FGD)

By contrast, due to economic difficulties during the COVID-19 outbreak, the KP reduced their ability to pay for healthcare services that they regularly use, such as fees for methadone services, supportive medications for tuberculosis treatment:

"My clients usually have unskilled jobs. During the COVID-19 outbreak, the economy slowed down, so they lost their jobs. My clients also depend on their siblings or parents to pay for methadone maintenance therapy. Now their relatives also lost their jobs. They do not have money to pay for treatment anymore" (FGD)

According to qualitative interviews, KP could neither pay for HIV/AIDS-related services nor their basic needs. Lack of nutrition products, food, livelihood, and other non-medical support left KP more vulnerable:

"Many of my clients and their caregivers could not afford food and travelling during hospitalisation. The COVID-19 pandemic worsens the situation so that they require support for food, for travelling to stay in treatment" (FGD)

4 | DISCUSSIONS

Our study has the advantage of providing evidence on KP' access to essential, quality healthcare services and their financial risk in the COVID-19 pandemic era.

Our findings on **reducing KP' access to HIV/AIDS services** due to the COVID-19 pandemic align with other reports.^{12,20} For example, female sex workers were reported to have limited access to various health services, including access to condoms (75%), testing and treatment for sexually transmitted infections (48%), HIV/AIDS treatment (20%), and reduced access to support for sexual and gender-based violence (19%).²⁰ Although core HIV/AIDS treatment services were believed to be maintained during the outbreak, the reduction trend of ART services, especially for new cases starting ART, was observed in Vietnam, similarly to other countries. It could lead to an increased risk of HIV transmission due to delay and interrupted HIV/AIDS-related public health service delivery and increased HIV/AIDS death due to interrupted treatment service delivery as suggested by literature.^{22,23}

This study and other published studies¹¹⁻¹⁵ showed that several HIV/AIDS-related public health activities considered "less important" were severely interrupted. This interruption of HIV/AIDS-related services led to the reduced

coverage of KP with access to services during the pandemic and the post-pandemic period. Without a strategic plan, the consequences of this interruption could be long-term, and the interruption could be unrecovered worldwide, especially in Vietnam. Firstly, it is uncertain for the resource allocation from the government budget for HIV/AIDS programme in the upcoming period,⁴ mainly due to the negative impact of the COVID-19 pandemic on Vietnam's economy.²⁴ Secondly, from 2021 onward, HIV/AIDS programme is no longer one of the projects under the National target programme on health and population as it used to be in 2016–2020. It reflects the changes in the priority setting of the government.^{25,26} Thirdly, it seems to be more difficult for selected provinces in which their provincial People's Committees have not approved their financial sustainability plan for ending HIV by 2030.

Although the services mentioned above provided by the healthcare system might return to their normal pace after the pandemic, community-based services might be unrecoverable. Another document in Vietnam¹⁹ shared similar concerns of increasing unmet resources needed by peers and CBOs for services delivery (e.g., COVID-19 vaccination, personal protective equipment, telephone, transportation, postal) and livelihood. In the worse scenario, there is an ability to disperse of CBOs. Without urgent support from donors and the government, a worse scenario could happen. It is supported by results from a survey, in which 6% out of 101 surveyed Civil Social Organisations across Vietnam were on permanent closure while the other 40% were seriously affected.²⁷ A similar problem could be observed in other countries.¹²

Our study only provides limited evidence on the COVID-19 pandemic's **impact on the second dimension of universal health coverage**, that is, **the coverage of essential, quality health services**. This study only touched on the concept of essential health services rather than investigating the entire concept of quality health services, including effectiveness, safety, people-centred care, timeliness, equity, integration and efficiency as defined by the World Health Organisation.²⁸ Indeed, the coverage of essential services was reduced mainly in the form of skipping consultation, testing, and delayed un-emergency services for PLWH due to staff shortage, leveraged laboratory facilities, and willingness to minimise clients' waiting time at health facilities. Besides, the "quality of services" was not the same once clients were redirected to other non-specific facilities and staff. The HIV/AIDS programme might face more pressure to maintain essential, quality services since HIV/AIDS-related facilities are usually located inside the communicable diseases department of hospitals at different levels or provincial CDCs. Thus, HIV/AIDS-related healthcare staff are more often leveraged to combat the COVID-19 pandemic than their counterparts in other departments. Although HIV/AIDS control strategy was addressed as a chronic disease for more than a decade,²⁹ HIV/AIDS is seen only as a communicable disease as ever in developing countries like Vietnam. In the upcoming period with the co-existence of COVID-19, it is better to urge the adaptation process to live with HIV as a chronic illness.³⁰ It is necessary to invest in community-based differentiated services delivery models of both curative and preventive services¹⁵ and increase investment in virtual support and communication³¹ as recommended by literature to maintain the coverage of essential, quality healthcare services. Other increasing KP' demand for "specific" services, including mental health services, support for domestic violence and abuse victims, productive health services (e.g., contraception, safe abortion), need to be considered to ensure the efficient coverage of services in the "new normal" as also suggested by other studies.³²

Finally, our study also details how the COVID-19 pandemic led to the reduction of financial risk protection for KP. As the negative impact of the COVID-19 pandemic on the economy, the local government might find it difficult to fully subsidise SHI for KP due to decreasing fiscal space for health. Besides, decreased KP' ability to pay for HIV/AIDS services and SHI premiums due to their declining earnings and increased out-of-pocket payments to comply with the COVID-19 related control measures contributed to reducing the level of financial risk protection for KP. The impact of the COVID-19 pandemic on financial risk protection for HIV/AIDS KP has not been well investigated. Only one similar observation on the COVID-19 poverty trap was described.³³

Like the context of external funding reduction for HIV/AIDS programs in other countries, Vietnam HIV/AIDS programme is shifting its financing source from external funding to the SHI fund, increasing the contribution of the local government budget and diversifying other domestic sources.⁴ However, Vietnam, and other limited-income countries might be struggling to find adequate financial resources to ensure the SHI coverage among KP as the negative impact of the COVID-19 pandemic.

People living with HIV/AIDS are eligible for full-subsidised SHI premiums in Vietnam. Moreover, they are somehow included in a substantial social protection package (i.e., cash support for the poor during the COVID-19 pandemic). However, marginalised populations, including MSM, female sex workers, PWID and transgender may not be eligible. The remaining limitations of implementing this package to reach vulnerable and disadvantaged people include: administrative bottlenecks and a complicated beneficiary identification process; duplication of beneficiaries; application processes that require multiple documents and certificates; a lack of local-level budgets, and a delivery mechanism that heavily relied on post office and face-to-face exchanges that impeded payments during the social distancing and movement restriction period; female sex workers and transgender people often lack legal identities and residence registration as well as informal occupations not legally recognised.²⁰ KP might not have basic documents such as birth certificates or identity cards to prove their identity, legal status, and citizenship. It could create barriers for them in accessing COVID-19 vaccination and other related healthcare services.

Although this is the first attempt to address this issue in Vietnam, this study has some limitations. Firstly, the study might underestimate the impact of the COVID-19 pandemic. The data collection was carried out from May 2021 until Jun 2021, during the third wave of the COVID-19 pandemic in Vietnam. The impact of the COVID-19 pandemic might be more apparent from the fourth wave onward since there were up to 10,000 new COVID-19 cases per day. All 63 provinces have reported COVID-19 transmitted cases (from 27 April 2021, up to date) compared to only up to 40 new cases per day during 2020 and up to 3000 new cases per day (in only nine provinces) during the third wave (from January to April 2021). Secondly, the key informants came from the national level organisation (i.e., the Vietnam VAAC) and only four provinces. Thus, it might not capture all the opinions from other provinces. Thirdly, due to the unavailability of national-level quantitative data on KP' access to HIV/AIDS services, coverage of HIV/AIDS essential services, and financial risk protection for KP, we could not emphasise the impact of the COVID-19 on those dimensions in a more qualitative approach. Fourthly, the study mainly touched on essential health services rather than the broader concept of health service quality (i.e., effectiveness, safety, people-centre, timeliness, equity, integration, efficiency²⁸).

5 | CONCLUSIONS

The COVID-19 pandemic and its control measures have caused direct impacts on the access to HIV/AIDS services, coverage of essential, quality services, and financial risk protection among KPs. The main reasons from the service providers' side for the reduced coverage of KPs with access to HIV/AIDS services were clinic closure, delayed service delivery, leveraged healthcare resources, and increased barriers for peers/CBOs to provide services. Delayed care-seeking behaviours of KP due to quarantine and other COVID-19 measures, fear of getting infected with COVID-19 from healthcare visits, and lack of information for changes in services delivery were the main reasons for the reduction from KPs' side. The coverage of essential, quality services was reduced mainly by skipping consultation, testing, delayed un-emergency services due to staff shortage, leveraged laboratory facilities, willingness to minimise clients' waiting time, and redirecting KPs to non-HIV-specialised facilities. There was also increasing unmet demand for specific services such as mental health support, support for domestic violence and abuse victims and reproductive health services during the pandemic. Uncertain local budget allocation, especially for subsidising SHI for KPs, causes the reduction of financial risk protection. Increased financial risk among the KPs was also created by their decreased ability to pay for HIV/AIDS-related services and SHI premium and increased out-of-pocket payments to comply with the COVID-19 related control measures.

To keep the right path to end the HIV epidemic by 2030, local governments need to develop a strategic plan during and after the pandemic. The plan should address the provincial government's commitment to subsidising SHI for KP, social protection system strengthening to reach KP, services re-arrangement to ensure the coverage of essential, quality HIV/AIDS services, and increase the involvement of CBOs/peers. Donors may need to prioritise funding for maintaining networks of CBOs/peers; providing them with adequate support for effectively reaching KP

both in-person and virtually; and meeting their increasing demand for special services (e.g., mental health services, reproductive health services, special support for violence and abuse victims).

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CONFLICT OF INTEREST

The authors report no conflicts of interest.

ETHICS STATEMENT

The study was granted ethical approval from the Ethical Review Board for Biomedical Research—Hanoi University of Public Health (Decision no 262/YTCC-HD3 dated 28 May 2021).

AUTHOR CONTRIBUTION

Ha Nguyen Thu and Huong Nguyen Thanh contributed equally to the design and implementation of the research. All authors contributed to the analysis of the results and the writing of the manuscript.

DATA AVAILABILITY STATEMENT

All data relevant to the study are included in the article or uploaded as supplementary information.

ORCID

Ha Nguyen Thu  <https://orcid.org/0000-0002-9822-3688>

Anh Nguyen Quynh  <https://orcid.org/0000-0003-2961-7971>

Huong Nguyen Thanh  <https://orcid.org/0000-0002-9493-9590>

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