


BMJ Open 'We are not going anywhere': a qualitative study of Kenyan healthcare worker perspectives on adolescent HIV care engagement during the COVID-19 pandemic

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ABSTRACT

Introduction Adolescents living with HIV (ALHIV) may be vulnerable to widescale impacts of the COVID-19 pandemic and to health system responses which impact HIV care. We assessed healthcare worker (HCW) perspectives on impacts of the COVID-19 pandemic on adolescent HIV care delivery and engagement in western Kenya.

Methods We performed in-depth qualitative interviews with HCW at 10 clinical sites in the Academic Model Providing Access to Healthcare in Kenya, from January to March, 2021. Semistructured interviews ascertained pandemic-related impacts on adolescent HIV care delivery and retention.

Results Interviews were conducted with 22 HCWs from 10 clinics. HCWs observed adolescent financial hardships, unmet basic needs and school dropouts during the pandemic, with some adolescents relocating to rural homes, to partners or to the street. Marked increases in adolescent pregnancies and pregnancy complications were described, as well as barriers to family planning and antenatal care. Transportation challenges and restrictions limited access to care and prompted provision of multi-month refills, refills at local dispensaries or transfer to local facilities. Adolescent-friendly services were compromised, resulting in care challenges and disengagement from care. Clinic capacities to respond to adolescent needs were limited by funding cuts to multidisciplinary staff and resources. HCW and youth peer mentors (YPMs) demonstrated resilience, by adapting services, taking on expanded roles and leveraging available resources to support adolescent retention and access to care.

Conclusions ALHIV are uniquely vulnerable, and adolescent-friendly services are essential to their treatment. The combined effects of the pandemic, health system changes and funding cuts compromised adolescent-friendly care and limited capacity to respond to adolescent needs. There is a need to reinforce adolescent-friendly services within programmes and funding structures. Support for expanded YPM roles may facilitate dedicated, scalable and effective adolescent-friendly services, which are resilient and sustainable in times of crisis.

Strengths and limitations of this study

- This study investigated Kenyan healthcare worker (HCW) perspectives regarding impacts on health services for adolescents with HIV, and retention of adolescents in HIV care, during the COVID-19 pandemic.
- Multidisciplinary HCWs, including youth peer mentors, were included from a range of clinical sites across a health system in western Kenya.
- In-depth qualitative interviews followed an interview guide using an adapted socioecological framework for factors underlying adolescent HIV care engagement.
- Interviews assessed clinic-level and system-level challenges, adolescent vulnerabilities and experiences related to adolescents disengaging from HIV care during this period, whose barriers to care may otherwise be difficult to ascertain.
- Some challenges described may be programme specific, such as specific funding cuts or relocation of an adolescent-dedicated clinic. Meanwhile, findings highlight how funding cuts related to global funding structures may impact HIV care for vulnerable populations, particularly during a crisis period.

INTRODUCTION

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has had dramatic impacts on economies, healthcare systems, education and social life across the globe. Adolescents are greatly influenced by the social determinants of health and may be vulnerable to structural impacts of the pandemic.¹⁻⁴ They may also be particularly affected by health systems changes impacting their healthcare for complex or chronic conditions such as HIV.

There are 1.7 million adolescents living with HIV (ALHIV, ages 10–19) globally, with

the majority living in sub-Saharan Africa.⁵ Adolescents have poorer HIV outcomes compared with other age groups, including lower rates of retention.^{6–8} This vulnerability results from complex psychosocial challenges and specific developmental and healthcare needs.^{6–8} ALHIV require dedicated approaches and adolescent-friendly health services.⁹ Growing evidence has shown that peer support, friendly providers and financial resources facilitate ALHIV retention in care.^{10–14} Disruptions to HIV services have been described across settings during the COVID-19 pandemic, with disproportionate impacts on vulnerable or marginalised populations.^{15–22} ALHIV rely on adolescent-friendly services and non-medical supports that may be specifically impacted amid the pandemic,²¹ threatening adolescent HIV care and retention.^{1 23 24}

Kenya implemented multiple mitigation strategies during the COVID-19 pandemic, including border closures; a ban on international travel; restrictions against social gatherings; closures of schools, places of worship, bars and restaurants; movement restrictions; and a curfew.²⁵ Restrictions began to be lifted in June 2020; however, some were reinstated in March 2021 amid a surge in cases.^{25 26} Adolescents may have specific vulnerabilities resulting from pandemic-related challenges, such as educational closures or disruptions, economic challenges and depending on others for basic needs, and potentially needing to work and/or to leave their education as a result of the economic crisis.²³

Like other health systems globally, the Academic Model Providing Access to Healthcare (AMPATH) in western Kenya faced challenges in the pandemic that have included healthcare worker (HCW) illnesses and deaths, obtaining personal protective equipment and tests, and institution of infection control procedures. In addition, the stand-alone Rafiki Center for Excellence in Adolescent Health at Moi Teaching and Referral Hospital (MTRH) was converted into an isolation ward, and adolescent health services were temporarily relocated to MTRH AMPATH Centre. Several longstanding Rafiki staff were recalled to other departments. Programmatic funding cuts instituted in late 2019 also decreased the support staff and resources available during this time.

Given that adolescents have developmentally specific challenges and require adolescent-friendly health services to meet their needs, it is critical to examine the specific impacts of the pandemic on HIV services and engagement for this group, as well as the HCW-level and clinic-level efforts to mitigate them. In this study, we examined the impacts of the COVID-19 pandemic on adolescent HIV service delivery and care engagement in western Kenya. We used in-depth qualitative inquiry with HCW regarding clinic-level and system-level changes, as well as broader economic and social impacts of the pandemic, to examine these intersecting challenges and the ways in which HCW endeavoured to sustain adolescent HIV care during this time.



Figure 1 Clinical sites included in this study. Clinical sites from which healthcare workers (HCWs) were enrolled in this study (starred). (1) Moi Teaching and Referral Hospital (MTRH): Clinic modules 2–4, Rafiki Center of Excellence in Adolescent Health; (2) Mosoriot Rural Health Training Center; (3) Burnt Forest Sub-District Hospital; (4) Turbo Health Center; (5) Webuye District Hospital; (6) Kitale District Hospital; (7) Chulaimbo Sub-District Hospital. Figure courtesy of AMPATH.

METHODS

Setting and study population

This qualitative study was performed at AMPATH, a partnership in western Kenya, established by Moi University, the Kenyan Ministry of Health (MOH), and an international consortium of academic institutions,^{27–29} that provides an HIV care system, as well as a model for comprehensive health delivery, including adolescent-friendly health services. The Rafiki Center for Excellence in Adolescent Health was established at MTRH in Eldoret as a comprehensive adolescent health centre, providing adolescent-friendly services to adolescents with and without HIV infection. This has included peer support groups, social activities and adolescent-friendly care through a team that includes clinical officers, nurses, social workers, outreach/retention workers, youth peer mentors (YPMs) and a psychologist. As a standalone space, it provided a less stigmatising environment for adolescents to access HIV testing, prevention, treatment, and sexual and reproductive healthcare.¹² At other AMPATH sites co-located with MOH facilities throughout western Kenya, adolescents have had access to YPM, support groups and receive care in dedicated clinic days or times.

Recruitment and enrolment

HCWs were recruited from 10 AMPATH clinics and were purposefully sampled to include a range of roles and sites (figure 1). We purposefully sampled HCWs across the range of care team roles highlighted above, representing both clinical and non-clinical multidisciplinary staff, including YPM. Sites represented a variety of geographical and clinical settings serving ALHIV, and of availability of adolescent-friendly services. These ranged from the standalone adolescent-dedicated clinic at the Rafiki

Center, while others had dedicated adolescent clinic days or times within a general HIV clinic, with variable access to peer support during this time across sites. Integration of sexual and reproductive healthcare or family planning services with adolescent HIV care was also variable across sites. HCWs were included if they worked with ALHIV during the COVID-19 pandemic. To minimise the potential for exposures to COVID-19, interviews with HCW based outside of Eldoret were conducted by phone. HCWs were interviewed from January to March 2021. Recruitment continued until saturation was reached regarding the primary research questions, and when new interviews did not appear to introduce new themes.^{30 31} We found that thematic saturation was well achieved with the in-depth interviews performed in this sample.^{30 31}

All participants provided informed consent and standard human subjects protections were implemented. For those participating by phone, standard verbal phone procedures for informed consent were used. These included making prior arrangements with potential participants to query preference or feasibility of in-person or phone interview. Participants in phone interviews were asked to choose a suitable time and private location in preparation for consent and interview procedures. A standard consent document was used and was read aloud in its entirety by study personnel. On provision of verbal consent by participants, the consenting study personnel printed the participant's name on the consent form and indicated that consent was obtained via phone. Procedures for phone consent and specific consent forms for this were approved by the appropriate ethical review boards for this study.

Patient and public involvement

This project benefitted from partnership with adolescents and youth living with HIV throughout the development and conduct of the study. This included through previous interviews and focus groups with ALHIV, their caregivers and YPM, which informed our approach,^{12 32} the composition of the research team; the establishment and engagement with an adolescent and youth community advisory board; and the inclusion of YPM in research interviews.

Semistructured Interviews

A semistructured interview guide was developed querying impacts of the pandemic on adolescent HIV care delivery and engagement (online supplemental file 1), using a socioecological framework adapted by our team, which considers environmental and developmental factors influencing ALHIV care trajectories.^{12 32} Questions were developed and discussed among multiple team members to ensure clear interpretation and sensitivity. Questions were open-ended and investigated potential impacts of the pandemic across socioecological levels on adolescent retention in HIV care; clinic-level and programme-level impacts; and adaptations supporting care engagement.

Interviews were conducted by research staff fluent in Kiswahili and English, with training and extensive

experience in qualitative interviews, and in ALHIV care. The interviewer had prior interactions with some participants in previous research interviews querying their perspectives on barriers and facilitators to adolescent retention in HIV care. Interviews were conducted in English and/or Kiswahili, audio-recorded and translated into English as needed. Each transcript was verified by a second team member. The full research team included members from Kenya and the USA; men and women; an experienced YPM; and expertise in qualitative research, adolescent HIV care, infectious diseases, global public health, and healthcare sector labour conditions and security.

Analysis

We used a thematic analysis approach. A codebook was developed and organised around the research questions and our socioecological framework, and further elaborated and refined through discussion of initial transcripts reviewed by multiple team members. Several transcripts were then coded by multiple independent coders and discussed together to establish consensus around the codes. All transcripts were then coded by multiple team members using the Dedoose platform (SocioCultural Research Consultants, LLC, Los Angeles, USA). Analytic memos were used to reflect on emerging themes. Reports of codes were generated for further interrogation of the data. Through close reading and re-reading of the data, and constant comparison, major themes emerged. These were synthesised and summarised, and representative excerpts were selected to illustrate themes. We followed the Standards for Reporting Qualitative Research to compose this report.³³

RESULTS

In total, 22 HCWs (68.2% female) were enrolled from 10 clinics across western Kenya. These included nine clinical officers, four outreach workers, four YPM, three nurses, a social worker and a psychologist. For YPM, median age was 25, and they had a median of 2 years' experience supporting HIV care. Among other staff, median age was 35, and they had a median of 9.5 years' experience in HIV care.

Several key themes emerged from HCW interviews, with several areas of intersecting challenges for adolescent HIV care (table 1). Regarding the impacts of the COVID-19 pandemic on adolescent well-being and engagement in HIV care, major themes centred on the acute vulnerabilities of adolescents amid the financial crises of the pandemic; the impacts of school closures and of some adolescents needing to abandon their education; impacts of stigma, discrimination and violence; trauma and mental health burdens; and amid all of these challenges, the specific burdens on adolescent females related to unplanned pregnancies, stigma and violence. All of these challenges, as well as fears of exposure to COVID-19, were a detriment to adolescent well-being and engagement in

Table 1 Themes and sub-themes for areas of inquiry in in-depth interviews with HCW**Impacts of the COVID-19 pandemic on adolescent well-being and engagement in HIV care**

<i>Acute vulnerabilities amid financial crisis</i>	<ul style="list-style-type: none"> ▶ Lockdown and travel restrictions ▶ Financial challenges, loss of work and income for families ▶ Food insecurity, challenges meeting basic needs ▶ Increased cost of public transportation due to social distancing rules ▶ Adolescents moving to rural homes or to relatives ▶ Adolescents moving to partners, to the street or going missing ▶ Transactional sex ▶ Conflicts, abuse or violence
<i>School closures and dropouts</i>	<ul style="list-style-type: none"> ▶ School closures and disruptions to education ▶ Inability to pay school fees ▶ Abandoning education to earn income ▶ Engagement in high-risk activities while schools closed
<i>Experiences of stigma, discrimination and violence</i>	<ul style="list-style-type: none"> ▶ Anticipated stigma from relatives or partners in new living situations ▶ Enacted stigma and discrimination ▶ Abuse and violence
<i>Trauma and mental health burdens</i>	<ul style="list-style-type: none"> ▶ Loss of previous supports (school, peers, clinic-based supports) ▶ Traumatic experiences ▶ Isolation ▶ Depression
<i>Adolescent female vulnerabilities to unplanned pregnancies, stigma and violence</i>	<ul style="list-style-type: none"> ▶ Gender inequity and intersecting stigma ▶ Sexual risk and transactional sex ▶ Sexual assault and violence ▶ Limited access to family planning ▶ Unplanned pregnancies ▶ Stigma surrounding adolescent pregnancy ▶ Stigma surrounding engagement in health services for family planning or PMTCT ▶ Pregnancy loss or abortion
<i>Fears surrounding COVID-19</i>	<ul style="list-style-type: none"> ▶ Fear of exposure to SARS-CoV-2 ▶ Concern for increased risk for severe COVID-19 for people with HIV

Changes to adolescent HIV care at clinic sites during the pandemic

<i>Concurrent funding cuts impacting response</i>	<ul style="list-style-type: none"> ▶ Decreased funding for non-medical support and assistance ▶ Staff shortages, turnover and taking on new roles ▶ Limited resources for home visits after loss to follow-up
<i>HCW stressors</i>	<ul style="list-style-type: none"> ▶ Stress on HCW related to staff shortages, turnover, lack of social work or outreach support ▶ Stress on HCW from lack of resources to assist adolescents in need
<i>Loss of dedicated adolescent space</i>	<ul style="list-style-type: none"> ▶ Challenges from loss of dedicated space for adolescent clinic ▶ Adolescents deterred by general HIV clinic space and loss of adolescent-friendly supports ▶ Adolescents deterred by turnover of familiar staff out of adolescent clinic
<i>Threats to adolescent-friendly services</i>	<ul style="list-style-type: none"> ▶ Loss of adolescent clinic days ▶ Loss of peer support groups ▶ Loss of social activities or social days ▶ HCW shortages and turnover ▶ Longer waiting times at clinic ▶ Loss of non-medical support or assistance ▶ Limited access to sexual and reproductive health education, family planning ▶ Longer follow-up times, limitations to counselling and close follow-up for adolescent HIV care

Clinic efforts to support adolescent HIV care during the pandemic

<i>Adaptations in care management</i>	<ul style="list-style-type: none"> ▶ Multi-month ART refills ▶ Refills at local dispensaries as needed ▶ Labs performed at local facilities as needed ▶ Lack of adolescent-friendly services or discomfort accessing care at local facilities
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Continued

Table 1 Continued

Impacts of the COVID-19 pandemic on adolescent well-being and engagement in HIV care

<i>Adaptations to provide adolescent-friendly care</i>	<ul style="list-style-type: none"> ▶ Frequent follow-up by phone ▶ Remote phone support for care needs, ART refills, labs ▶ Leveraging WhatsApp support groups to give advice and information ▶ Increasing adolescent-dedicated clinic days ▶ Provision of in-person counselling for adolescents with acute needs ▶ Re-establishment of peer support groups ▶ Leveraging available support from local organisations
<i>HCW resilience and commitment to ALHIV</i>	<ul style="list-style-type: none"> ▶ HCW taking on additional roles ▶ HCW adapting care to meet adolescent needs ▶ HCW ensuring access to sexual and reproductive health education and family planning
<i>Critical roles for YPM in sustaining adolescent HIV care</i>	<ul style="list-style-type: none"> ▶ Leveraging YPM in multiple roles ▶ YPM provision of counselling ▶ YPM delivery of ART ▶ YPM moving into outreach/retention staff role

ALHIV, adolescents living with HIV; ART, antiretroviral therapy; HCW, healthcare worker; PMTCT, prevention of mother-to-child transmission; YPM, youth peer mentor.

HIV care. At the same time of increased needs, clinic-level or programme-level changes presented challenges for adolescent HIV care. These included concurrent funding cuts impacting the response to adolescent needs and provision of non-medical supports; stressors on HCW; loss of a dedicated adolescent clinic space; and specific threats to adolescent-friendly services. In this setting, HCW described several efforts to support adolescent HIV care during this period. These included adaptations in care management and in provision of adolescent-friendly care; demonstration of HCW resilience and commitment to ALHIV; and leverage of YPM in critical roles for sustaining adolescent HIV care. These major themes and select excerpts are presented in detail.

Impacts of the COVID-19 pandemic on adolescent well-being and engagement in HIV care

HCW observed factors across socioecological levels which greatly impacted adolescent well-being and increased vulnerability to care disengagement.

Acute vulnerabilities amid financial crisis

Adolescents faced significant financial challenges due to loss of family incomes and inability to find work, which led to food insecurity and challenges meeting basic needs. Higher costs of public transportation to accommodate social distancing compounded this challenge, particularly for those who lived far from clinic or had moved to their rural homes given financial hardships. Further, HCW reported that some adolescents stopped taking antiretroviral therapy (ART) when there was not enough food at home. Some adolescents moved to the street, to partners' homes, or engaged in transactional sex to meet their needs. HCW described strains in family relationships, increased family conflicts and vulnerability of adolescents living with abusive caregivers or partners during lockdowns or school closures. They described ways

that orphaned adolescents were particularly vulnerable, including closures of children's homes, being forced out by relatives or facing abuse.

(They) didn't have money to come to clinic, because they depend on the caregiver... some of them are total orphans... These children's homes, most of them discharged most of the children. So you find most of them going to the streets, which contributes to our numbers of lost to follow-ups.—Clinical officer

Our biggest challenge was for those children... who go missing totally... There are some who haven't gone back to school, because they're still missing... But we are still hopeful that one time they will come back to their parents.—Clinical officer

We have quite a number for those children who have backgrounds where there is violence... for example, the orphans. An orphan, maybe the mother died, the father remarried, so the new wife will abuse the children who are remaining and they will not be allowed to come to clinic. We have such cases which increased during Covid, because now they are at home fully, maybe their economic status is down. So, they are being assaulted physically.—Clinical officer

School closures and dropouts

HCW noted that school closures led some adolescents to abandon schooling altogether, given needs to earn income. They observed that school closures contributed to adolescents running away from home and engaging in high-risk activities, including unsafe sexual behaviours.

Because they're not schooling, they ended up maybe getting boyfriends. We experienced those who contracted pregnancy... There are those adolescents, I think, who stopped schooling completely. ... Because of the initial [shutdowns] and also, ... the social work

department, some would support [school fees]... but now when it was closed you see it was hard for them to move on. They had to discontinue [their education].—Clinical officer

Experiences of stigma, discrimination and violence

The pandemic presented challenges related to stigma. Some adolescents moved in with relatives or partners who were unaware of their status; the need to keep their status private contributed to decreased adherence and retention. HCW described inadvertent disclosures and enacted stigma, discrimination and violence.

Those who ran away from home without [ART], ... they had gone to new places and there was no disclosure to the new environment, [to the] people around them. So, what they could do is just to stop taking medication.—Clinical officer

There is a girl who was telling us that once their relatives knew of their status, they have given her own cup, plate, her own bed to sleep on, and she is not mingling with anybody. So that girl has given up and it has become [depressed] and she doesn't want to come to clinic again.—Clinical officer

Some went cohabiting... One day [a partner found] the medication... And the man wanted to kill that [adolescent] at night. Now things were red. She gave out my number so I had to intervene... We had to talk through the phone because they were in a far place and then Corona issue... The man opted to release the girl to go home. Recently, the man was... telling me, 'thank you because I could have slaughtered her that night'.—Nurse

Trauma and mental health burdens

Adolescents faced multiple traumas and challenges to their mental health, which contributed to care disengagement. HCW described that adolescents lost access to previous social supports in school, in their communities and at clinic. Some faced isolation at home, due to strained relationships, enacted stigma or abusive caregivers.

When you have a traumatized child, their minds are occupied in such a way that they have given up already. They don't see the reasons as to why they come to clinic and as to why they are taking drugs, because they are giving up in life.—Clinical officer

The aunt chased her away when she found out she was pregnant. She had to go to their grandparent's home. So, she went and she delivered, then unfortunately, the baby passed on... Because of the depression, she stopped coming for her clinic appointments... The only parents she knew was her aunt... Probably she didn't have any other relative or any other friend to fall back to. Plus, the boyfriend also denied the whole saga ... I think she was in a traumatic experience.—Clinical officer

Adolescent female vulnerabilities to unplanned pregnancies, stigma and violence

A major theme centred on adolescent females' vulnerabilities from intersecting challenges and stigmas. HCW described that adolescent females experienced sexual assault, violence and unplanned pregnancies during this time. This included adolescents who cohabited with or depended on partners to meet basic needs, and also assaults in the community. Access to sexual and reproductive health education and to family planning were limited.

The moment Corona came in, the services [that] used to be offered reduced... For example, 90% of it decreased, offering the services for family planning or contraceptive reduced.—YPM

Pregnancies have been there... Most of them are [orphans]... The way the economy was not stable and maybe at home they couldn't be provided [for]. I have one who got pregnant by a motorbike [taxi driver], and she's now living with them. She said she lacked means of survival. And that's why she got pregnant and decided to settle with the guy.—YPM

HCW across all sites observed a sharp increase in adolescent pregnancies, and challenges for pregnant adolescents adhering to ART, engaging in prevention of mother-to-child transmission (PMTCT) services and sustaining viral suppression. They described that pregnant adolescents encountered anticipated and enacted stigma in their families, relationships and accessing antenatal care. Some experienced complications from induced abortions or pregnancy losses.

The challenge we got after pandemic is high rate of pregnancy... Then there are those who procured abortions. In fact, we had one last week who almost died... She came from a very poor family that no one could take care or bring her to the hospital... The other times it used to be one or two [adolescent pregnancies] in two years. But this time the rate is higher... more than 10 in just a couple of months... And then there are so many incidents of gender-based violence... during Covid.—Nurse

Meanwhile, HCW observed that adolescents feared coming to clinic to access family planning or PMTCT, due to anticipated stigma, and that this contributed to their disengagement.

I doubt [they engage in family planning services] because in the reproductive health clinic, they have mixed population and the majority are older women. So, I think they judge you harshly if you're young, and you've gone for family planning. I wish if they would integrate the services here.—Clinical officer

When they are pregnant, they don't want to be seen coming to the hospital because they feel people see them going to the hospital daily, so they get lost.—Clinical officer

Fears surrounding COVID-19

Finally, HCW described concerns for risk of severe COVID-19 given underlying HIV infection, and hesitancy for adolescents to return to clinic due to possible exposure to SARS-CoV-2. By contrast, some HCW described this fear as a motivator for adolescents who previously faced challenges to become more adherent to ART or re-engage in care.

You know now that you are HIV-positive,... that you are at higher risk. So you would prefer even maintaining your health... so that you don't get infected.—
Outreach worker

Changes to adolescent HIV care at clinic sites during the pandemic

Multiple intersecting challenges impacted clinics during this period. These related to staff, services and resources for supporting adolescent HIV care and retention.

Concurrent funding cuts impacting response

HCW across sites emphasised ways in which recent funding cuts, particularly to social work and retention departments, had restricted their capacity to respond to the needs of vulnerable adolescents during this crisis. Adolescents lost key supportive figures to their care when social work, retention workers or YPM were cut. HCW faced staff shortages, needed to take on additional roles and did not have resources for home visits for close follow-up.

You cannot just talk about adherence... You will not get a true picture unless you go on the ground and assess and get exactly what happens... Especially when it comes to those who are not doing well, who are failing treatment. When it comes to home visits, it is really important, that's where we were really hit.—
Clinical officer

Funding cuts also impacted other resources to support adolescents, including emergency resources for transportation costs, school fees and nutritional support, as well as adolescent social activities and peer support groups.

Now that the social worker is not there to assist with the medication, so they go home with the same problem and they will come back with the same problem.—Nurse

Once we removed the incentives, it was hard to retain them. Because maybe they would argue, like, 'we don't have transport, we don't have food, we are struggling, we don't have jobs during this Covid-19 period, and then you still insist that I should come for my clinic'.—Clinical officer

HCW stressors

Amid these challenges, HCW described significant stressors related to changes to their practices, needing to take on roles previously managed by social work or outreach and not having the resources to support patients

during a crisis. HCW described using their own funds to help adolescents who could not afford basic needs.

I have had several adolescents coming they say 'I have run out of fare, I don't have fare to go back home, I am hungry,' so we just facilitate out of your own heart... Out of our own pocket.—Clinical officer

We don't have a social worker. So they tend to use me now as a social worker and as a nurse. So when they give you so many [social] issues, it becomes difficult because you don't have funds to assist them. Yeah, so it affected the staff who are handling also the adolescents.—Nurse

Loss of dedicated adolescent space

There were specific challenges from the Rafiki Center relocation. HCW reported that ALHIV were deterred from seeking care in a general clinic space, given anticipated stigma. Adolescents were significantly impacted by relocation of familiar staff; some sought out staff in their new hospital roles in order to access care. Further, HCW expressed that adolescents felt targeted by the loss of dedicated space.

Most of them feel as, 'why target us as the adolescents and yet the hospital is wide?... Why the adolescent clinic?' They feel they are denied their rights to come to clinic because of the changes. Some of them they have refused to come, or when they come in here, they don't feel satisfied, they feel they have been denied services... They don't have space for support groups... Such services they are not accessible right now.—Clinical officer

Threats to adolescent-friendly services

Further pandemic-related challenges to provision of adolescent-friendly care occurred across sites. These included losses of adolescent-dedicated clinic days, peer support groups and youth social activities, as well as HCW shortages and turnover. Adolescents also experienced longer waiting times when staffing was low, which deterred them from returning to clinic.

When COVID set in, that is when we discouraged crowding, so the music was stopped. Before... at least they could take tea and snacks during their clinic day. It was also stopped. That is when I realized some will just come because of that music and some will come because of that tea.— Clinical officer

As a result of losing youth peer support and social days, there were fewer opportunities for sexual and reproductive health education. Others described clinical settings in which family planning services were not integrated, and stigma limited adolescent access to these services.

The information they used to be given every time the school were closed, they used to come here, they were taught, even if it is family planning, protection,

but now those lessons are no longer there.—Social worker

Finally, HCW described how changes in HIV service delivery, particularly longer follow-up times, limited support for adolescent mental health and coping with HIV, including reduced counselling on adherence, disclosure and retention in care.

When the pandemic was not there, [adolescents experiencing challenges] could be given a shorter return date, so as to monitor the adherence and also to continue with disclosure process. But now... you will not be able to give a closer return date... as much as we were giving them [ART], there is not that clinical monitoring of adherence to these drugs.—Outreach worker

Clinic efforts to support adolescent HIV care during the pandemic

Adaptations in care management

Clinic adaptations included provision of multi-month ART refills and refills at local dispensaries to ensure continuity of ART. HCW recognised that not seeing patients in-person could increase the potential for missing clinical concerns or adherence challenges, but that it was necessary to maintain care.

We're issuing multi-month [ART], as much as sometimes it's difficult when you are afraid of how adherence will be... But amazingly, we made it. And we were doing this even for children who had high viral loads, just to ensure that they don't miss their drugs in case things go south.—Clinical officer

While many ALHIV formally transferred care locally, barriers included a lack of adolescent friendly services, anticipated stigma and unfamiliarity with providers.

Most of the families relocated... because of Covid and the economic status... So when [adolescents] reached there, they are not free to go to another clinic,... because they are not used to [it].—Clinical officer

Adaptations to provide adolescent-friendly care

HCW frequently used phone follow-ups to determine adolescent needs for refills or to seek care locally, to follow-up viral loads at local facilities and to provide counselling. They also connected with ALHIV on social media.

We have WhatsApp groups for those who have [access to] mobile phones... We chat with them, we advise them, we give them advice on what to do. —Nurse

At some sites, they increased adolescent-dedicated clinic days for in-person counselling with adolescents experiencing challenges. HCW worked to re-establish support groups, with precautions in place. They recognised a need for intensive counselling with some ALHIV and caregivers.

We just had to look for the guardian and maybe counsel them,... actually, just begging them to come back. Because we don't have those funds to give them as we used to, so we just talk to them, tell them the importance of coming to the clinic.—Nurse

HCW strove to support vulnerable ALHIV by leveraging the limited available social work support from community-based organisations.

In areas where we cannot support, we refer to the nearest organization that can support.—Social worker

HCW resilience and commitment to ALHIV

A major theme emerged regarding the resilience and commitment of HCW to respond to adolescent needs, working in concert with adolescents and caregivers. This included HCW taking on additional roles, being flexible, and adapting to ensure that adolescent needs were met.

We keep telling them that we are here for you people, we are not going anywhere.—Clinical officer

Because acute needs were identified related to adolescent reproductive healthcare and pregnancies, one clinic described that a nurse had taken on a specific role in providing sexual health education and family planning for adolescents at their routine clinic visits.

It forced one of our nurses to help especially the girls get family planning... because we were worried... We saw so much happening. For the sake of, these girls have to continue with schooling – what do we do, how much, how can we help them?... There are quite a number of adolescents who got pregnant during that pandemic. And they are already having children. So, we tried to help these ones who had not yet gotten pregnant... Whenever they could come to clinic, she could... educate them on issues of sexuality, and those ones who were willing to be given a family planning method, she could communicate with their caregiver.—Outreach worker

Critical roles for YPM in sustaining adolescent HIV care

HCW further noted the importance of YPM contributions during this crisis, including providing psychosocial counselling, helping deliver ART when needed and taking on the retention staff role. They noted that YPM thrived in these roles, given their capacities to relate to and communicate with adolescents, and to assist them in navigating challenges.

It has really helped, especially the ones who had disengaged... The peers visited some of them and brought them back to the clinic and they are continuing with the clinic. Actually, it is even improving our retention.—Nurse

I'm one friendly person who likes to just poke, make jokes and laugh, just to disturb you if you are not

talking to me, so that you at least feel free... They are seeing that [Self] is here, he's living with, he's on care but he's just okay. So, I'll also be there. You are giving them hope.—YPM

DISCUSSION

The COVID-19 pandemic presented numerous challenges for ALHIV in western Kenya and for the HCW serving them. We describe multiple ways in which adolescent-friendly care was specifically compromised during a time of crisis, as a result of mitigation efforts, other health system responses to the pandemic and funding cuts. ALHIV are a uniquely vulnerable population, and having access to quality adolescent-friendly services is essential to their treatment.^{9 11 12} We observed that adolescent-friendly care was dismantled in several ways during the pandemic, and that this had direct impacts on adolescent well-being, HIV care, and retention. The concerning picture illustrated by these data highlights the need to reinforce adolescent-friendly services within programmes and funding structures so that they are not lost when funding cuts or major events shift priorities.

An important factor supporting ALHIV in care during this time was the existence of trained YPM at AMPATH sites. YPM took on multiple expanded or adapted roles, including in-care retention after this department was cut. We observed that the ability of the care system to adequately respond to the needs of adolescents during the pandemic was rooted in the resilience of all HCW, and specifically the YPM, who either work on a stipend or on a volunteer basis. This study further strengthens the evidence that YPM provide critical support within adolescent HIV care.^{12-14 32 34-36} YPM should be supported with adequate training, support and remuneration, as they can provide essential support to adolescent HIV care, including when health systems are strained.^{37 38} Given observed gaps in adolescent access to sexual and reproductive healthcare and family planning, unplanned pregnancies, and experiences of stigma and mental health challenges, programmes can further train and leverage YPM to lead work with adolescents in these areas.³⁹⁻⁴¹

While HCW adaptability and resilience were central to ensuring adolescent HIV care during this period, we observed multiple stressors placed on them, related to staffing shortages, limited financial resources to support adolescents, and witnessing adolescent hardships. Further impacts of the pandemic on HCW stress, mental health and burnout have been described, including risking SARS-CoV-2 infection and witnessing the illnesses and deaths of colleagues.⁴²⁻⁴⁶ HCWs in Kenya have had multiple strikes in recent years due to health system stressors which preceded the pandemic.⁴⁷⁻⁵¹ COVID-19 presented further extraordinary stressors on HCW, the impacts of which have not been fully elucidated. The ability of health systems to respond to crises is dependent on the health of the HCW workforce. It will be critical to learn

from HCW experiences during the pandemic to prioritise HCW support, well-being and mental health.^{43 45 46 52}

HCW described supporting ALHIV through multi-month refills, and transfers-out to local facilities, resulting, effectively, in a sudden decentralisation of care. While ALHIV were able to maintain access to ART, many lacked adolescent-friendly services or familiar staff at outlying clinics, and consequently, some appear to have abandoned care. These challenges highlight a need for adolescent-friendly care across the health system. Decentralisation of adolescent HIV care requires broader scale-up and expansion of YPM support, in particular.³⁵⁻³⁸ Planning and scaling-up peer-supported differentiated care models may build resiliency against ongoing and future crises.^{35 36 53}

This study demonstrated major adolescent vulnerabilities during the COVID-19 pandemic, particularly related to financial challenges, school dropouts, gender inequity, unplanned pregnancy and access to family-planning. Unintended adolescent pregnancies presented a major challenge prior to COVID-19, which HCW noted was greatly exacerbated amid school closures and economic crises of the pandemic.^{54 55} Education, employment and economic factors are important to adolescent female agency and decision-making around pregnancy, and these factors were suddenly and specifically eroded during the pandemic.^{54 55} HCW presented concerning trends in how economic and food security challenges negatively affected adolescent education, pregnancies, ART adherence and care engagement—all of which speak to the potential for acute crises to have both immediate and long-term impacts on adolescent trajectories into adulthood, including for their children. Food insecurity has been described as a prevalent barrier to ART adherence, through multiple pathways including exacerbation of medication side effects and hunger on ART, and competing needs.⁵⁶⁻⁶⁶ Further, food insecurity increases sexual risk among women living with HIV, through transactional sex and inability to negotiate for safer sex.⁶³ Urgent measures are needed to address the needs of adolescents, particularly for food access or assistance, financial interventions, and improved access to family planning and PMTCT care, including through YPM interventions.^{39 41 67} Further research is needed to understand the full extent of impacts of the COVID-19 pandemic on the adolescent HIV care cascade and on perinatal HIV transmission.^{22 68}

A limitation of this study is that some challenges described may be programme specific, such as specific funding cuts or relocation of an adolescent-dedicated clinic. Meanwhile, the validity of our findings is supported by interviewing multidisciplinary HCW across a range of sites in western Kenya. Further, findings highlight how funding cuts related to global funding structures may impact HIV care for vulnerable populations, particularly during a crisis period. We note that this study focused on the perspectives of HCW on adolescent HIV care delivery and engagement. This limits our scope to HCW perspectives on adolescent HIV care during this crisis, as we were unable to include adolescent interviews for their own perspectives. A strength of this study is the examination

of HCW insights across 10 clinics, regarding clinic-level and system-level challenges, adolescent vulnerabilities and observations related to ALHIV disengaging from care, whose barriers to care may otherwise be difficult to ascertain.

CONCLUSIONS

ALHIV are a uniquely vulnerable population, and having access to quality adolescent-friendly services is essential to their treatment. The combined effects of the pandemic, health system changes and funding cuts resulted in compromises to adolescent-friendly care and limited HCW capacity to respond to acute adolescent needs. There is a need to reinforce adolescent-friendly services within programmes and funding structures to better serve ALHIV in times of crisis. Support for expanded YPM roles may critically contribute to this objective, in providing dedicated scalable, sustainable and effective adolescent-friendly services.

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