HIV IN THE TIME OF COVID-19:

Improving HIV Care with Telehealth

GILEAD

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1 Introduction

The COVID-19 pandemic has dramatically altered the way that people living with HIV (PLWH) and at-risk groups access care around the world. A transition from in-person care to telehealth services has accelerated changes in the delivery of HIV care, providing many PLWH a variety of options to interact with healthcare in a simpler, safer and more independent way.[1] The changes healthcare providers were forced to make at speed to their models of care in response to COVID-19, such as clinic closures and implementation of social distancing measures, has demonstrated the potentially transformative impact of telehealth platforms in HIV care.

High levels of satisfaction with telehealth among clinicians and patients during the pandemic suggest it is here to stay.[2] The potential benefits include increased comfort, convenience, and savings for individuals; and improved engagement and retention in care. Telehealth can also help empower patients to manage their own health, supported by a new generation of smartphone applications that facilitates more convenient access to care. Digital solutions for managing health can also reduce demand on health providers, reducing pressures of overburdened health systems, and allowing clinicians to focus more on complex patients who will continue to require in-person visits or are unable to access telehealth services.

To ensure successful, longer-term uptake of telehealth, some challenges need to be addressed. Provision of telemedicine is far less progressed in upper-middle, lower-middle, and low-income countries than in high-income countries.[3] Complex and varied regulations and limited reimbursement from public and private health insurers has inhibited broader uptake.[4,5] Many patients face barriers to accessing telehealth, including limited access to technology, lower levels of digital literacy, and limited access to reliable internet coverage. Broad implementation of telehealth must also take account of the continuing needs of patients with clinically complex conditions and may require in-person visits.

At the core of this effort must be the preservation of patient choice to the many service options available for people living with or at risk of HIV.

This paper explores the potential for telehealth to transform HIV service delivery while supporting individual choice. Broad adoption of telemedicine will help maximize the full benefits of innovative prevention and treatment measures. Policymakers will need to adopt a committed program to remove barriers to telehealth's uptake while supporting integrated and updated HIV care models that fully leverage this technology. The potential to transform HIV care is in reach and, if implemented effectively, could improve patient care, and reduce the costs associated with preventing and treating HIV.

Telehealth has Enabled Essential HIV Services to Continue during COVID-19

According to UNAIDS, the COVID-19 pandemic has caused significant disruption to traditional ways of accessing HIV testing, prevention and care services on a global scale.[6] However, whilst there has been a lack of in-person consultations,[7,8] HIV services have responded at speed and with agility by utilizing new technologies, such as telehealth, to ensure continuation of essential HIV services that can be conducted virtually.[1]

During the pandemic, U.S. health providers were given guidance to increase telehealth use for delivering HIV care. The health providers who used telehealth observed an increase in the number of virtual HIV clinic visits and more frequent viral load testing compared to those who did not.[9]

By accelerating the uptake of telehealth, the COVID-19 pandemic has created novel opportunities for more people living with HIV and at risk for HIV to access HIV treatment and prevention services, respectively. Beyond the pandemic, telehealth can empower people living with HIV by providing more options for diversified engagement outside traditional healthcare settings, resulting in additional flexibility and ownership over their management of care. But it also raises important questions about how best to ensure that telehealth benefits patients and is supported effectively by governments, particularly for patients from disadvantaged communities. While recognizing that telehealth will not be the preferred option of having access to healthcare services for everyone, it affords patients choice and clinicians the opportunity to focus on more complex patients that require in-person consultations.

2 Telehealth is a Valuable Mainstay in HIV Care

Telehealth encompasses a range of healthcare education, prevention and treatment services provided via video and phone calls, mobile phone apps and social media platforms. These services allow for the reimagination traditional models of care, empowering patients to manage their health outside of traditional settings and lowering costs. Despite long-term promise, global adoption and interoperability of telehealth systems and tools had been limited before the COVID-19 pandemic, in part due to complex and varied regulations, such as ability for clinicians to practice across jurisdictions, as well as limited policies around funding and reimbursement of telehealth from national and private health insurers.[4,5]

In the United States, 43.5 percent of Medicare primary care visits were provided through telehealth in April 2020, compared to less than 1 percent (0.1 percent) in February.[10] A Health HIV survey also revealed that in 2020, 81 percent of the 256 health centers that responded were currently providing HIV services via telehealth.[11] In the U.S., following the rise of the COVID-19 pandemic, telehealth visits were reimbursed at parity with in-person visits (previously, telehealth visits were reimbursed at lower rates than in-person ones). To maintain the uptake of telehealth post-COVID-19, it will be important for policymakers at both national and sub-national levels to implement policies that allow reimbursement to occur at parity for both telehealth and in-person visits.

For HIV and other conditions, telehealth provides many benefits that traditional, in-person offerings cannot. In the U.S., telehealth has helped overcome transportation barriers to care, both for those living in rural areas who are required to drive for long distances to access in-person care and for those in urban areas who take convoluted journeys via public transportation to access in-person care. Telehealth also offers workers flexibility and convenience, saving them the need to take an entire day or half a day off work for an in-person appointment.

Furthermore, telehealth affords patients wider access to specialists, who may not be near enough for them to visit in person.

Given stigma that continues to surround HIV, telehealth also provides patients, who may be uncomfortable discussing the condition in-person, with an alternative and potentially less threatening option for engaging in care. Furthermore, when paired with effective therapy, telehealth can support individuals maintain an undetectable viral load with minimal in-person appointments. Those with higher perceived HIV-related stigma were more likely to use telehealth, suggesting it may play a key role in retention for patients who may not attend in-person appointments. New incentives rolled out by payors encouraged the use of these services to prevent lapses in non-urgent care. For example, the U.S. Department of Health & Human Services (HHS) Office of Inspector General (OIG) provided flexibility for health care providers to reduce or waive cost-sharing for telehealth visits.[12]

According to the U.S. Centers for Disease Control and Prevention (CDC), the first quarter of 2020 saw an explosion in the number of telehealth visits; a 50 percent increase compared with the same period in 2019.[13] This rapid uptake was also witnessed around the world, whereby three quarters of medical specialists across the U.S., Europe, the UK, had increased their use of telehealth during the COVID-19 pandemic.[14] According to Japan's Ministry of Health, the number of medical institutions offering telemedicine in Japan has been jumped up from only 970 in July 2018, prior to the pandemic, to 16,100 in July 2020.[15] This remote services approach has worked well for people living with HIV and at-risk groups who have been advised to avoid in-person care settings in order to minimize risk of exposure to COVID-19.

Tailoring telehealth services to people living with HIV has shown to be both an effective and cost-efficient method of reaching people, further breaking down barriers to care. Implementation of the EmERGE Project, a mobile health management platform rolled out in several European countries, reduced annual HIV-associated costs in Belgium, Croatia, Spain, Portugal and the UK and was also linked to a reduction in the use of outpatient services.[16] Extending similar programs to all people living with HIV who choose it and whose clinicians recommend it, could create further efficiencies in health systems.

The EmERGE Project

Action
The platform provides patients with a secure interface and relevant medical data to facilitate remote access to healthcare providers

Outcome
PLWH and clinicians from 5 European countries are currently testing the service for its ability to reduce the total cost of care through fewer in-person visits, while also providing patients direct access to their health information and medication lists.

Source: EmERGE. 2021. EmERGE mHealth Platform. Last accessed via https://www.emergeproject.eu/about in June 2021.

Telehealth based care models, if designed effectively, can help empower patients[17] and allow them to take control of their HIV care. In one HIV center in Northern Italy, 67 percent of all HIV visits (1,162) were conducted through a telehealth program initiated at the start of the COVID-19 pandemic. Preliminary impressions were that telehealth can be a useful tool, particularly in terms of more efficient communication with certain groups of patients.[18] Throughout the COVID-19 pandemic, telehealth has demonstrated it provides an effective approach to reach people living with HIV who may have concerns pertaining to in-person consultations.

Supporting Telehealth for the Long Term

Beyond the COVID-19 pandemic, it is critical for governments to put in place more robust, longer lasting and more equitable policy changes to ensure telehealth can be accessed by people living with HIV and at-risk groups, where appropriate. The U.S. government has demonstrated how the expansion of reimbursement for telehealth services under federal and regional programs can rapidly increase its provision and uptake.[19] Since the beginning of the COVID-19 pandemic, the U.S. government added Medicaid coverage for 144 telehealth services (e.g. emergency department visits, initial inpatient and nursing facility visits, and discharge day management services). According to preliminary data between mid-March and mid-October 2020, more than 24 million out of 63 million beneficiaries and enrollees have received a Medicare-reimbursed telemedicine service.[20] In both rural and urban areas, these services have the added benefit of reducing the additional geographical and access barriers to care. Supporting the large upfront investments necessary to implement telehealth services for providers, such as technology, design and staffing will be critical.

NHS Scotland – Attend Anywhere

Action
In 2017, NHS Scotland implemented their 'Attend Anywhere' application, a platform where patients could receive secure video consultation from home after completing blood work at their own convenience at a general medical practice

Outcome
Provided PLWH in remote areas (e.g. Orkney, Shetland Islands) with a wider range of health services and care that they would usually have needed to fly elsewhere to access

Source: Pham C, Badowski ME. The role of telemedicine in infectious diseases. EMJ Innov. 2019 [epub ahead of print].

Innovative HIV Prevention & Treatment Options to Support Remote Care

Over the last 30 years, advances in HIV prevention and treatment have meant a broader range of options is potentially available, some of which may be more suitable for a particular patient than others, and have helped people living with HIV live longer, healthier lives than if they were not adhering to HIV prevention and treatment. Newer innovations are not only more effective in making long-term viral suppression achievable, but they offer more convenience, improved safety, and tolerability, and ultimately, better health outcomes compared with older innovations.[21]

Uniting innovative HIV prevention and treatment options with remote monitoring through telehealth promotes efficient use of healthcare resources. It creates an opportunity to remove barriers to accessing healthcare services, both for individuals in rural areas and people facing stigmatization, while also enhancing patient empowerment and supporting shared decision-making. In turn, this can help improve the health outcomes of people living with HIV and reduce the risk of HIV transmission.

The improved safety profiles for some innovative HIV treatment regimens provide an opportunity to support a shift to less frequent in-person care, supported by virtual health appointments. These developments offer the opportunity for governments and payors to shift how HIV services can be provided. Research conducted during the COVID-19 pandemic suggests almost 3 in 4 (74 percent) of physicians and patients of healthcare providers were highly satisfied using telehealth and would like to see it moving forward in their health care provision.[2]

Furthermore, innovative HIV treatment options can support telehealth options, creating new pathways and methods of care.

Telehealth is ideally placed to effectively manage patient needs while providing low-touch, more cost-effective care across health systems without sacrificing quality of care. Therefore, in partnership with innovative HIV prevention and treatment options, it can help end the HIV epidemic. In England, the 2020 HIV Commission report called for HIV care systems to be more robust in adopting innovation, whilst considering digital exclusion to ensure inequities are not exacerbated, to achieve an end to HIV transmissions in England by 2030. The report recommends the adoption of new technologies as an addition to, not a replacement for, face-to-face services, to ensure the most marginalized are not left behind.[22]

3 New Risks & Vulnerabilities From Telehealth to Consider

While telehealth holds enormous potential to transform HIV care delivery, a one-size-fits all approach risks leaving vulnerable individuals behind. Close coordination between technology companies, government and healthcare professionals will be required to address the unique risks and vulnerabilities associated with applying this technology to HIV care models.

Mitigating Patient Concerns around Privacy

With an increased shift to virtual health settings, ensuring data privacy and security of healthcare information must be a priority. Despite progress made to-date, there remains stigma associated with a positive HIV status. The individual's privacy must be placed at the front and center of new service offerings. In a recent study of patients with diabetes using telehealth services, participants (a population who face less stigma than individuals with HIV) reported feeling rushed, less involved, and less comfortable answering sensitive questions due to privacy concerns when using telehealth services.[23] Especially in countries where sexuality, sexual behaviors, and HIV/sexually transmitted infections (STIs) are highly stigmatized, people living with HIV may be disinclined from using online services.

Preventing Fraud & Abuse

Enhanced security measures should also be integrated into existing efforts to overcome fraud and abuse of sensitive health information. Since April 2020, security companies have seen an increase in searches for telehealth on the dark web, suggestive of the potential threat of data breaches.[24] One such incident occurred in June 2020, when UK-based telehealth app Babylon Health experienced a breach of its platform that allowed users to access videos from other patients' appointments.[25] Privacy and security risks must be addressed to ensure protection of individuals' privacy with new models of care.[26]

Bridging the 'Digital Divide'

In addition to the regulatory barriers around telehealth outlined earlier in this paper, one of the most formidable challenges to expanding telehealth services is the 'digital divide,' in which certain groups are excluded from accessing modern communications technologies due to a series of potential barriers such as limited internet connectivity and lack of video chat/webcam.[27] These groups include low-income individuals (often racial and ethnic minorities), people in non-urban areas with less access to technology – including high speed broadband – older populations and those with low tech literacy.[28,29]

U.S. Medical Advocacy and Outreach (MAO)

Action
MAO, a community-based organization has successfully used telemedicine services to address the shortage of HIV providers in rural Alabama

Outcome
The telehealth network currently provides rural patients in 12 state counties with HIV testing, education, and secure video chats with primary care doctors, food bank and translation services

Source: Rural Health Information Hub. Medical Advocacy & Outreach's telehealth services. Available at: https://www.ruralhealthinfo.org/project-examples/775 Last accessed June 2021. Rural Health Information Hub. Telehealth and Use of Technology to Improve Access to Care for People Living with HIV/AIDS. Available at: https://www.ruralhealthinfo.org/toolkits/hiv-aids/2/improve/technology Last accessed June 2021.

The digital divide impacts not only individuals within these communities, but also HIV service providers who may not have the technical and financial resources to adapt to technological change. If the benefits of telehealth are to be felt broadly across the HIV community, it is essential that implementation strategies reflect the needs and situation of the communities they are designed to serve. The rollout of new services must ensure impact assessments capture and address any disparities in access to new methods of care. Failure to invest in infrastructure for adoption of telehealth services within marginalized populations will only widen the health disparity gap.[30]

Confronting Persistent Regulatory Barriers

The COVID-19 pandemic fast-tracked telehealth policy changes in the U.S. and put in place interim regulatory waivers which allowed more people to have access to these services under their insurance coverage.[31] Regulatory barriers can vary by country, but in the U.S., the ambiguous and ever-changing regulations around reimbursement of doctors and licensures have impacted the uptake of telehealth. Federal reimbursement policies are focused on Medicare, there are limitations on where telehealth services may take place, both geographically and by facility. In addition, each state has different Medicaid policies, creating a patchwork of regulations related to telehealth in the U.S.[32] Furthermore, licensure to provide telehealth differ by state, effectively limiting which clinicians patients have access to. A patchwork of state medical licenses effectively limits telehealth services offered to those in the same state.[33] Reimbursement for telehealth visits need to be at parity with in-person visits to help incentivize uptake of telehealth.

In Italy, it has been reported that many hospitals lack the infrastructure to run effective telehealth systems, due to supply-chain limitations and insufficient internet access. As well, Italy does not include telemedicine as an "essential item" to patients within its national health service, despite the Italian Health Council implementing telemedicine guidelines in 2012 to help increase telehealth uptake.[33]

Government support will likely be required to scale adoption of telehealth to broader audiences. Recently launched initiatives demonstrate opportunities to connect people in need of HIV care, such as prevention and treatment services,[34] with doctors. This helps track the ways that various combinations of drugs and treatments interact to help inform optimization of patient health outcomes.[35] HIV healthcare providers will require educational support to understand the data privacy, regulatory responsibilities and adaptations to their services and billing models to ensure best practice and allow the community-at-large to access these services.

By continuing to drive permanent policy changes that increase access to telehealth, governments could provide increased access to acute, chronic, primary and specialty care during and after the pandemic while ensuring that no group is left behind.

4 Policy Recommendations

To increase and improve patient empowerment and care in the long-term, policymakers must fully realize the potential of telehealth innovations that have been fast-tracked during the pandemic. Ensuring telehealth innovations can benefit people living with HIV and at risk of HIV infection will require the right regulatory environment, government support and adoptions of other best practices. These include:

» Develop both short-term measures and long-term frameworks:
Telehealth implementation plans should be developed at both the national and sub-national levels to increase adoption of telehealth-enabled HIV prevention, treatment, and care services. Rollout of telehealth and enabling digital infrastructure to disadvantaged communities and vulnerable populations should be given specific focus, with consultation from the public and private sector to build out a lasting infrastructure.

» Identify and scale up best practice models:
Governments should partner with educational institutions and private healthcare providers to test combinations of digital technologies with pathway redesign in real-world settings to help improve delivery of HIV care.

» Update clinical guidelines to reflect telehealth-enabled care:
Data from telehealth impact assessments in key disease areas such as HIV should be used to inform updated national clinical guidelines to reflect the value of telehealth in delivering patient-centered care and improving the overall quality of care.

» Expand reimbursement options for telehealth:
Governments and payers should implement transparent reimbursement policies and extend existing COVID-19 measures to encourage adoption of telehealth-enabled HIV services as a viable option post-pandemic. Reimbursement pathways should integrate patient reported outcomes and patient activation measures to reflect the additional value that new technologies by lowering in-person interactions and healthcare system costs.

» Develop telehealth medical education:
Guidelines and investment in continuing medical education programs are needed to ensure that all healthcare professionals involved in HIV care management receive training on remote care delivery. This is particularly important in low- and middle-income countries where HIV experts and care facilities may be less accessible, and therefore telehealth services have the potential to have even greater impact on outcomes for those who need to access prevention, testing and care services.[36]

» Standardize data privacy and security measures:
Establish robust healthcare data privacy and security principles for future regulation of telehealth services. Set clear controls around access to sensitive health data and requirements for authentication, encryption, and data storage.

5 Conclusion

In response to the COVID-19 pandemic, healthcare providers modified their models of care by utilizing new technologies, such as telehealth, to minimize in-person interactions with the traditional healthcare system. Telehealth has been important in overcoming the current challenges faced by people living with HIV and at risk for HIV; however, they also have the potential to improve care delivery in a post-COVID-19 world and should be supported by policymakers and the wider HIV community.

To protect and promote health equity, it is critical to ensure that the adoption of telehealth does not exclude certain groups, including low-income individuals, people in non-urban areas with less access to technology, older populations and those with low health or technology literacy. Programs should be designed with the concerns and potential limitations of these groups to ensure that telehealth is appropriately utilized, understanding it affords patients with choice rather than replacing the existing healthcare infrastructure and care offerings.

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