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METHODOLOGIES (CIM)

DHRP
Digital Health & Rights Project

Paying the Costs of Connection

Human rights of young adults in the digital age in Colombia, Ghana, Kenya and Vietnam.

GNP+ GLOBAL NETWORK OF PEOPLE LIVING WITH HIV
KELIN Reclaiming Rights, Rebuilding Lives
RESTLESS DEVELOPMENT
STOP AIDS.
Universidad de los Andes Colombia
VNP+
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Contents

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Contact
Digital Health and Rights Project
Centre for Interdisciplinary Methodologies
The University of Warwick
Coventry, CV4 7AL
United Kingdom
Website: digitalhealthandrights.com Email: dhrp@warwick.ac.uk

Executive Summary

The digital transformation is revolutionising health systems and access to health information globally. While these advances have improved healthcare access in low- and middle-income countries (LMIC), socio-economic, gender and other inequalities have created “digital divides”, gaps in access that leave many without access to essential information and services.

Efforts to regulate technology and online platforms have struggled to keep up with the pace of innovation, and to ensure accountability for harms. This is a particular concern for growing youth populations, many of whom are frequently online; and for groups that are socially and economically marginalized. However, their voices are rarely heard in digital governance discussions.

This study—the largest of its kind—focused on Colombia, Ghana, Kenya and Vietnam, and highlights how barriers such as stigma, poor infrastructure, digital exclusion and online abuse are blocking access to essential health information and services online. We interviewed 302 young adults ages 18-30 who were either living with HIV, sex workers, gay men and other men who have sex with men, transgender or gender diverse, or cisgender women. The discussions were led by trusted national community members who were able to reach diverse communities and engage them in frank conversations, including people in remote rural areas. We also interviewed 41 experts from UN agencies, government and civil society. This study builds on our two previous studies and on ongoing policy advocacy.

Findings include

- Many participants described struggling to get online, due to cost of smartphones and data bundles, lack of Wi-Fi, lack of digital skills, or lack of ability to assess reliable health information. Young women talked more about these issues than young men and described financial dependence on partners or supervision by family members as challenges.
- For people living with HIV and members of stigmatised groups, fears of poor data protection or of being outed to family and the community made them reluctant to seek or share health information online.
- Three-quarters of young adults described technology-facilitated abuse, including verbal abuse, doxxing, stalking, blackmail, and extortion; for some, including gay men and other men who have sex with men in Ghana, and transgender sex workers in Colombia, the abuse moved from online to in-person, and included severe forms of physical violence. Abuse appeared increasingly normalised among young adults.
- HIV activists and peer outreach workers said their outspoken advocacy for health rights exposed them to virulent verbal abuse and threats.
- Few of the young adults we spoke to had been successful when reporting abuse to online platforms, or in getting access to redress.
- Some were reluctant to report abuse to the police, either because they were not sure whether the abuse was legal; or because laws criminalizing sex work and same-sex sexual relations in their countries meant survivors might themselves face criminal charges; or because of past experiences of police abuse.
- Community-led groups were a key source of support. In one case, Vietnamese participant in the study's project advisory committee who were leading HIV activists spontaneously used that committee as a platform to mobilize and respond to viral online abuse. This showed that, in their view, community-led HIV advocacy networks could be an effective model for addressing technology-facilitated abuse.
- Despite their concerns, study participants expressed resilience, determination and a strong interest in getting training in-person and online about their rights, artificial intelligence (AI), safety, navigating misinformation, and more, tailored to their specific needs; we call this "digital empowerment".
- Many had optimistic visions of the future and called for greater accountability and transparency online, to ensure this future is realised.

Since 2019, the **Digital Health and Rights Project** (DHRP) consortium has brought together social scientists, global and national networks of people living with HIV, and civil society leaders, collaborating to conduct community-engaged research and use findings to inform global health governance. The study is one of the largest international studies of digital human rights in health to date, and one of the few using a transnational participatory action research approach. It is built on previous smaller studies led by DHRP that used participatory and community-engaged approaches to study the digital transformation of health and human rights; as well as on DHRP's support to the mandate of the UN Special Rapporteur on the Right to Health for her 2023 report on digital innovation, technology and the right to health to the UN Human Rights Council. Since 2021, DHRP has now cumulatively engaged over 600 young adults in qualitative research into human rights and digital health.

In our transnational participatory action research approach, study participants engaged in every step of the process. The transnational research team was led in each country by national institutions, with national principal investigators at Universidad de los Andes (Colombia), Kenya Legal & Ethical Issues Network on HIV and AIDS (KELIN Kenya), the Ghana Network of Persons living with HIV (NAP+ Ghana), and the Vietnam Network of People Living with HIV (VNP+). They established national Community Advisory Teams made up of young adults from the study populations, as well as health advocacy groups and human rights groups, who advised the research project at national levels through advisory committees, participated as researchers, validated the findings, led national advocacy plans based on the research findings, and elected representatives to the project's governance board. They were trained in youth leadership, advocacy, digital governance, and media outreach, and helped to draft the recommendations.

The study was supported by a principal investigator and research team at University of Warwick. Global advocacy is led by STOPAIDS and Privacy International (UK), with youth leadership supported by Restless Development and guidance by the Global Network of People Living with HIV (GNP+).

"It is essential that access to health services is not exclusively reliant on digital access, to avoid locking out those who lack access."

Recommendations

Based on the findings and on consultation with study participants, the report shares recommendations for governments, technology companies, funding agencies and UN technical agencies. First, digital inclusion is fundamental to the enjoyment of human rights and tackling exclusion requires identifying the many intersecting challenges that individuals' face in securing digital access. Supportive interventions include progressively improving quality network coverage, offering access to smartphones and free or low-cost data, as well as structural changes, such as requiring digital access and inclusion to be considered by those implementing digital health programmes and interventions. It is essential that access to health services is not exclusively reliant on digital access, to avoid locking out those who lack access.

Second, Technology-Facilitated Abuse (TFA) appears on the rise, and requires urgent action. It must be understood as affecting not only women, but also men, transgender people, people living with HIV, sex workers, and HIV activists/peer outreach workers who work online to share health information and support.

Abuses may move between online and offline. We recommend a survivor-centred approach that upholds confidentiality and autonomy of survivors of abuse. Governments must work to strengthen laws, including regulation of the private sector, train lawmakers and law enforcement, and raise public awareness to ensure access to redress for harms. Technology companies must have processes and complaints procedures in place, in line with human rights standards. Funders should invest in research to deepen understanding of the root causes and drivers of TFA, with ongoing data-gathering to document the extent of these harms.

Third, we call for robust action by governments to protect the right to privacy in the digital age, particularly for young adults who are living with and affected by HIV, by strengthening data protection laws and ensuring their proper enforcement. This also requires sharing more information with the public about their rights to data protection, and options for remedy if rights are infringed. Technology companies should ensure effective human rights due diligence, mitigation of possible harms across their operations and access to redress.

Fourth, in the current context of cuts to overseas aid, we call for continued investment in the resilience and leadership of young adults; including investments in digital literacy and Know Your Rights training, and in civil society leadership to train, reach and engage historically marginalised populations. Addressing all these concerns, now and in future, will require ensuring that young adults, women, people living with and affected by HIV, and civil society groups from LMIC have a seat at the table to participate meaningfully in the decisions that affect their lives, including the development and governance of digital technologies.

DHRP Research Team

Centre for Interdisciplinary Methodologies (CIM), University of Warwick	Sara (Meg) Davis (Professor, Principal Investigator), Bernard Koomson (Post-doctoral Research Fellow), Javier Garcia Martinez (Research Assistant), Tara Imalingat (Programme Officer, Advocacy), Saksham Midha (Administrative Coordinator), Priyanka Kiran Naik (Research Project Assistant, Former), Franco Serra (Research Assistant, Former).
Kenya Legal & Ethical Issues Network on HIV and AIDS (KELIN)	Allan Maleche (National Principal Investigator), Timothy Wafula (Programme Manager), Paul Agina (Research, Monitoring and Evaluation Advisor), John Macharia (Research Officer), Olendo Obondo (Program Officer), James Kiilu (Research Assistant, K-CAT), Simon Ondiek (Research Assistant, K-CAT), Winnie Gift (Research Assistant, K-CAT).
Ghana Network of Persons Living with HIV and AIDS (NAP+ Ghana)	Elsie Ayeh (National Principal Investigator), Susan Akanbong (Project Manager, Former), Alberta Nadutey (Research Officer), Richard Agodzo (Youth Coordinator), Solomon Joskine Kwashie Atsuvia (Research Assistant, G-CAT), Isaac Nyarko (Research Assistant, G-CAT), Richard Fischere Kwofie (Research Assistant, G-CAT).
Universidad de los Andes, Colombia	Catalina González-Uribe (National Principal Investigator), Mauricio Cortés-Cely (Project Manager), Javier Enrique Guerrero-C (Research Coordinator), Carol Buitrago (Assistant Project Manager), Sebastián Daniel León Giraldo (Researcher), Juli Salamanca (Researcher), Denís Toledo-Nieto (Communications Officer), Magda Meneses (CAT Coordinator, C-CAT), Camila Gil (Research Assistant, C-CAT), Yoko Ruiz (Research Assistant, C-CAT member), Cindy Zapata (C-CAT member).
Vietnam Network of People Living with HIV (VNP+)	Dong Do Dang (National Principal Investigator), Trang Pham (Deputy Director), Hoang Le Tu (Researcher), Tu Nguyen Anh (Youth Coordinator), Hoang Dam Huy (Research Assistant).
Global Network of People Living with HIV (GNP+)	Nathaniel Miller-Walraven (Director of Grants), Nomtika Mjwana (Programme Manager, Former), Daniel Townsend (Research Consultant).
Restless Development	Juliet Nakazibwe (Head of Global Programmes), Maria Malomalo (Senior International Research Manager), Jimena Cascante (Senior Regional Programme Coordinator), Dennis Mwesigwa (Research and Learning Manager), Caleb Masusu (Advocacy and Campaigns Consultant) .
STOPAIDS	Mike Podmore (Chief Executive Officer), Tabitha Ha (Advocacy Co-Director) Molly Pugh-Jones (Advocacy Manager).

Additional contributions from:
Privacy International

Glossary

Algorithmic Bias
Refers to systematic and repeatable errors in a computer system that create unfair outcomes, such as privileging one group over others; the risk of AI-driven healthcare tools reinforcing inequalities due to biases and gaps built into data and models.

Artificial Intelligence (Ai)
The ability of machines to tackle complex challenges once exclusive to human intelligence, including understanding language, detecting patterns, making decisions, and predicting future outcomes.

Digital Determinants
Any factor rooted in or contingent on the digital world that can directly or indirectly influence health or well-being. These include access to digital platforms and technologies, harmful online content, data accuracy and algorithmic transparency, misinformation and disinformation.

Digital Divides
Unequal access to and ability to use digital technologies.

Digital Empowerment
Refers to the process of enabling individuals and communities to effectively use digital technologies to enhance their knowledge, access opportunities, exercise rights, and participate fully in society and the economy.

Digital Health
The field of knowledge and practice associated with the development and use of digital technologies to improve health.

Digital Health Literacy
The ability to find, understand, use, and share digital health information for health decisions.

Digital Health Governance
Policies and frameworks ensuring responsible, ethical, and equitable digital health systems.

Digital Health Strategies
National plans to integrate digital technologies into healthcare for better access, efficiency, and outcomes.

Digital Inclusion
Ensuring all individuals, including marginalized groups, can have meaningful and safe access to, and benefit from digital platforms and technologies.

Digital Literacy
The ability to access, evaluate, and use digital tools and content effectively and safely.

Digital Platforms
Software-based online infrastructure and tools that facilitate communication, interaction, and content-sharing among users. This includes social media platforms.

Digital Rights Literacy
Awareness of rights in digital spaces, including accountability, non-discrimination, privacy, free expression, and access to remedy.

Digital Spaces
Refer to virtual environments where people interact, communicate, share information, and engage in various activities through digital technologies. These spaces are created and maintained via the internet, and they play a significant role in social, economic, political, and cultural life.

Digital Technologies
Refer to the systems, tools, platforms, and infrastructures that collect, process, store, and share digital data. They shape how individuals, communities, and institutions communicate, work, learn, govern, and engage in society, influencing everything from daily life to global systems.

Digital Tracking
Collecting and analysing individuals' online activities for advertising, security, monitoring, or sale to third parties, among others.

Digital Transformation
The process of integrating technology across diverse systems.

Doxxing
Refers to the act of publicly sharing someone's private or personal information online without their consent, usually to harass, threaten, or harm them

Gender-Based Violence (GBV)
Includes sexual, physical, mental and economic harm inflicted in public or in private based on gender. It also includes threats of violence, coercion and manipulation. Examples include intimate partner violence, sexual violence, child marriage, female genital mutilation, and so-called "honour crimes".

Government Surveillance
The ability to find, understand, use, and share digital health information for health decisions.

Intersectionality
The interaction and cumulative effects of multiple forms of discrimination combine, overlap or intersect to affect the daily lives of individuals.

Key Populations
In the HIV response, key populations include gay men and other men who have sex with men, sex workers, people in prisons and other closed settings, people who inject drugs, and transgender and gender-diverse people.

Low- and Middle-Income Countries (LMIC)
As economically classified by the World Bank based on Gross National Income (GNI) per capita, LMIC are countries with GNI per capita of under US$14,005 (as of 2025).

People Living with and Affected by HIV
Individuals diagnosed with HIV and those impacted by it, including family, partners, and communities.

Sexual minorities
A group whose sexual identity, orientation or practices differ from most of the surrounding society.

Stigma
Stigma is a difference that is distinguished and labelled, which then enables a range of discriminatory actions that ultimately deny people full social acceptance, reducing their life chances and fuelling social inequalities.

Surveillance capitalism
The business of monetizing personal data to predict and influence behaviour, mainly for advertising.

Survivor
A person who has experienced harm but is also recognized for their resilience and recovery. As a consortium we have agreed to use this term instead of "victim".

Technology-facilitated abuse (TFA)
Abuse that is committed, assisted, aggravated or amplified using internet and communication technologies or other digital technologies, that results in or is likely to result in physical, sexual, psychological, social, political or economic harm, or other infringements of rights and freedoms.

Vulnerable and Marginalized Groups
Populations facing social, economic, or political disadvantages, such as women, persons with disabilities, and key populations.

Colombia Community Advisory Team advocacy workshop

List of Abbreviations

AI	Artificial Intelligence
AIDS	Acquired immunodeficiency syndrome
CATs	Community Advisory Teams
CESCR	Committee on Economic, Social and Cultural Rights
CIM	Centre for Interdisciplinary Methodologies
DHRP	Non-governmental Organisations
FGDs	Ghana Network of Persons Living with HIV
The Global Fund	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GNP+	Global Network of People Living with HIV
HSSREC	Humanities and Social Sciences Research Ethics Committee
HIV	Human Immunodeficiency Virus
ICT	Information Communication Technology
IDIs	In-depth Interviews
IT	Information Technology
LGBTQ+	Lesbian, Gay, Bisexual, Transgender and Queer
LMIC	Low and Middle-Income Countries
MSM	Men who have Sex with Men
NGOs	Non-governmental Organisations
NAP+ Ghana	Ghana: Ghana Network of Persons Living with HIV
ODA	Overseas Development Assistance
OHCHR	Office of the United Nations High Commissioner for Human Rights
PAR	Participatory Action Research
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
SEVT	Samsung Electronics Vietnam Thai Nguyen
SDGs	Sustainable Development Goals
SRH	Sexual and Reproductive Health
TB	Tuberculosis
TFA	Technology-Facilitated Abuse
T-PAR	Transnational Participatory Action Research
UK	United Kingdom
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNICEF+	United Nations Children Fund
UNDP	United Nations Development Programme
US	United States
USAID	United States Agency for International Development
VNP+	Vietnam Network of People Living with HIV
WHO	World Health Organisation

1. Introduction

Five years after the World Health Organisation approved its *Global Digital Health Strategy 2020-25*, the digital transformation has radically reshaped health systems. Governments have struggled to regulate technology companies, which are rapidly expanding their reach. This report documents realities of the digital transformation for diverse young adults, including those living with and affected by HIV.

In 2023 to 2025, the Digital Health and Rights Project (DHRP) research team conducted participatory action research collaboratively across national borders, engaging over 300 young adults living with and affected by HIV, UN officials, civil society leaders, government officials, and others in Colombia, Ghana, Kenya and Vietnam. Members of the study populations in each country participated at every stage, drawing on their community networks and relationships of trust to reach young adults whose voices are rarely heard in digital governance discussions. The study focused on digital divides (unequal access to and ability to use information and services online), increasing technology-facilitated abuse, privacy concerns, and visions of the digital future for diverse young adults. Based on the study findings we share an urgent call for action to address growing injustice: young adults are paying the costs of connection to health services, both literally and metaphorically.

This study builds on our previous studies which revealed significant empowerment potential of the digital transformation, and showed how diverse young adults rely on trusted peer networks on social media and social chat groups for health information. At the same time, our previous study participants described inequalities and harms. "Digital health" is normally understood to refer to digital and AI-enabled technologies used in the formal health system, but young adults in our studies draw on a larger ecosystem of web searches, social media and social chat to guide their health decisions. This report dives deeper into the tensions they experience between opportunity and risk, and extends farther into new regions of each country, including rural areas, to provide new insights into diverse lived experiences.

Our approach is informed by international human rights standards, including the right to the highest attainable standard of physical and mental health, a right upheld in treaties ratified by most UN member states[2]. To fulfil this right, health information, facilities, goods and services must be available, accessible, and acceptable to all, including those subject to historical discrimination; and must be of high quality. [3] The Human Rights Council affirms that the "same rights that people have offline must also be protected online." [4]

In her 2023 report to the United Nations (UN) Human Rights Council on digital innovation and the right to health, the UN Special Rapporteur on the Right to Physical and Mental Health, Dr. Tlaleng Mofokeng, called for digital technologies to uphold these core elements of the right to health, while pointing out the risk of widening inequalities.[5] Her report highlighted five important areas:

1. Digital divides are inequalities in access to and ability to use mobile phones and Internet. This is particularly a concern for women in LMIC, who are 22% less likely to use the internet and 14% less likely to own a mobile phone than men.[6] However, our recent review of twenty national digital health strategies found that none had addressed gender inequality.[7] We explore how different forms of inequality intersect to deepen divides, and note successes where digital divides have been closed.

2. The fundamental human rights principle of non-discrimination, especially for groups who have historically experienced systematic discrimination based on race, gender, or other protected characteristics.[8] The following study focuses in particular on the experience of people living with HIV, who have widely experienced stigma and discrimination in employment, healthcare, education and other settings; and the experience of HIV-related key populations (defined by the World Health Organisation [WHO] as including gay men and other men who have sex with men, sex workers, people in prisons and other closed settings, people who inject drugs, and transgender and gender-diverse people).[9] In many countries, HIV-related stigma and discrimination; gender inequalities; and the criminalisation of HIV transmission, drug use, sex work, and same-sex sexual relationships, hamper access to services for people living with HIV.[10]

3. The Special Rapporteur called for attention to the needs of young adults in the digital transformation. High birth rates and rising life expectancy are creating a demographic shift, with more of the global population under 30. By 2030, the global population of individuals aged 18-30 could surpass 2 billion, with much of this growth occurring in LMIC.[11] Digital platforms offer new opportunities for education, employment, and social connections, but also expose young adults to risks such as cyberbullying, misinformation, and online exploitation.[12] DTH-Lab has called for Digital First Solutions in countries to ensure that the needs of all citizens are addressed, including diverse needs for digital literacy training.[13]

4. The Special Rapporteur also pointed to privacy threats from the collection, sharing, storage, use and processing of health data in the context of geopolitical inequalities.[14] Similarly, the Office of the High Commissioner on Human Rights (OHCHR) has identified and clarified principles, standards and best practices to protect privacy in digital spaces; Transform Health Coalition and others have called for stronger health data governance.[15] Weak governance creates new threats in the form of private actors exploiting health data, and data breaches.

5. The Special Rapporteur noted that poor data protection is linked to risks of online harassment, intimidation and violence. DHRP's earlier studies highlighted growing reports of technology-facilitated abuse. Technology-facilitated abuse is any act that is "committed, assisted, aggravated or amplified using ICTs or other digital technologies, that results in or is likely to result in physical, sexual, psychological, social, political or economic harm, or other infringements of rights and freedoms".[16] UN Women lists examples, including sexual harassment; stalking; hacking; and video and image-based abuse, including deepfakes; doxing; cyberbullying; among others. Abuse may take place in a continuum that cycles between online and offline spaces.
To date, studies of technology-facilitated abuse have largely focused on women and girls, and LGBTQ+ populations. The following report adds to the list abuse reported by people living with HIV, sex workers, and HIV activists. Troublingly, social media companies have recently eliminated content moderation that might reduce this abuse, instead relying on users to flag posts that cause harm.[17]

All these issues together can profoundly impact mental health, as well as digital trust, impacting on access to health information and services. Together, diverse forms of inequality can overlap and intersect, deepening digital exclusion.[18]

The launch of the 2024 *Global Digital Compact* committed UN member states and multilateral institutions to uphold international law and human rights online.[19] The Special Rapporteur on Health welcomed growing efforts to develop laws and policies suitable to diverse national contexts. However, with recent cuts in Overseas Development Assistance funding for health and development by the United States, United Kingdom and Europe, some institutions formerly at the forefront of this work are faltering.[20] The global backlash against rights, particularly for women and LGBTQ+ people, creates an increasingly challenging environment in which to address the issues documented in this study.

Against this backdrop, this report aims to re-centre the experiences of diverse young adults who live in the middle of the collision of these global forces, and to share their recommendations for action. In Reinventing Human Rights, anthropologist Mark Goodale calls for new approaches to human rights (and to the challenge to human rights posed by the digital transformation) that include forming enduring alliances beyond existing boundaries of class, nation, race, and political ideology.[21] The global HIV movement has long called for and used community-led approaches to research and participatory approaches to governance; experience that could offer practical lessons in challenging times.

The report is divided into eight sections. In section 2, we provide an overview to the project methodology. In section 3, we share an overview of study participants. Sections 4 to 7 dive into our findings on digital divides; technology-facilitated abuse; privacy; and resilience, digital literacy, and the future. Throughout, we incorporate excerpts from young adults and insights from key informants.

In Section 8, we summarise the findings and share detailed recommendations. Annexes include more detailed consideration of each of the national contexts; the occupations of key informants, all focus group discussion questions, and the codebook we used to analyse data. While Colombia, Ghana, Kenya and Vietnam differ in many ways, including in their approaches to the digital transformation and digital health governance, together they highlight how LMIC governments are beginning to contend with governance challenges in the digital age, as well as the significant work ahead to respect, protect and fulfil the right to health for young adults.

Ghana Field Research team with representatives from University of Warwick & KELIN Kenya

2. Methodology

Paying the Costs of Connection: Human rights of young adults in the digital age in Colombia, Ghana, Kenya and Vietnam explores human rights in the digital age, including the right to health, using qualitative methods. It focuses on the perspectives of young adults subject to diverse forms of marginalisation, stigma and discrimination, whose experiences are rarely centred in digital health governance.

We used qualitative methods to surface hidden patterns, tensions, and conflicts that could benefit from larger-scale studies in the future, and to identify solutions together with study participants. In a few cases, as is common in qualitative research, study participants shifted the focus of the research away from our agenda and towards their own, as the findings will show.

The DHRP consortium collectively identified these questions to guide the study:

1. What is the future of human rights in the digital world, and what role can diverse grassroots communities in LMIC play in shaping that future?
2. How do young adults experience multiple digital divides (e.g. gender, race, sexual orientation, nationality, language, socio-economic class, and geography, among other factors) as intersecting to shape their empowerment or disempowerment?
3. How do populations who are criminalised and stigmatised (including LGBTQ+ people, sex workers, migrants) experience the risks and realities of state surveillance in the digital transformation?
4. What kinds of digital literacy and empowerment do young adults and communities need and want?
5. What lessons can be learned from the HIV movement as a case study to inform future thinking, mobilisation and advocacy that promotes human rights in digital technologies?

The research was guided by a principal investigator and postdoctoral research fellow at the Centre for Interdisciplinary Studies (CIM), University of Warwick in the UK, with national principal investigators at national research lead agencies:

- Ghana Network of Persons Living with HIV (NAP+ Ghana)
- Kenya Legal & Ethical Issues Network on HIV and AIDS (KELIN)
- Universidad de los Andes
- Vietnamese Network of People Living with HIV (VNP+)

Researchers in Colombia, Ghana, Kenya, Vietnam and the UK collaborated in designing research protocols, training agendas, fieldwork procedures and tools, gathering and analysing data, and writing the report.

A programme manager at the Global Network of People Living with HIV (GNP+) acted as a research coach and liaison with NAP+ Ghana and VNP+. This holistic approach enriched our understanding with diverse forms of experience and expertise.

Transnational participatory action research

We used a participatory action research approach; an approach increasingly used by academics, activists and communities, because its iterative, open-ended and collaborative ethic makes it appealing for studies that bridge theory and practice. In traditional participatory action research, study participants engage in designing the research, gathering data, analysing it, validating the findings, and drafting recommendations. We used this approach because it enabled us to draw on the strong transnational networks of trust built among established networks of people living with HIV and health advocates; to recruit participants who might sensibly be hesitant to participate in research; to strengthen expertise across our consortium and in national universities and civil society institutions; and to build platforms for longer-term policy impact.

The participatory approach is often applied in local public health research studies, though multi-country studies in health have applied it also.[22] Since 2019, we have gradually added elements to strengthen holistic transnational participation and build in democratic governance:[23]

- Our central action was to establish Community Advisory Teams (CATs) in Colombia, Ghana, Kenya, and Vietnam. The CATs are chaired by the national research leads (KELIN, NAP+ Ghana, Universidad de los Andes or VNP+) in each country. Each CAT is made up of former study participants and civil society representatives, including digital human rights and health rights groups. The CATs identified focus areas and populations in each country from a shared list; provided advice on research methods; reviewed and contextualised all research instruments; and led recruitment and mobilisation of study participants. CAT members received stipends; two members of each CAT received additional stipends as research assistants. CAT members also represent the consortium in national and global policy fora.
- Establishing collaborative working groups across each area of our technical work (such as research; advocacy; communications; education; and monitoring, evaluation and learning), to bring together staff in consortium member organisations; and supporting field research travel exchanges among researchers in the four countries.
- Establishing a Steering Committee to govern project strategy, finances and policy, with rotating chairs among consortium member organisations. Four elected representatives from each national CAT have equal voting rights with other Steering Committee members.
- Providing training and support by Restless Development for young leaders in the CATs, to support their meaningful participation in the Steering Committee and in advocacy spaces.
- Offering management coaching to mid-level managers in each consortium member organisation; as well as coaching and a bursary for graduate study at University of Warwick.
- Applying an anti-oppressive approach to facilitate discussions of power differentials across the consortium.

Populations and locations

The consortium agreed to focus on young adults ages 18-30 years. The age range was set by consensus, considering diverse definitions of a "young adult" in each country, and based on age ranges used by global youth-led networks with which civil society groups in the consortium collaborate.

We recruited:

- People living with HIV
- Key populations (gay men and other men who have sex with men, sex workers, and transgender and gender diverse people)
- In Colombia, the CAT reported study fatigue among men living with and affected by HIV and recommended a focus on women in their diversity.

Each CAT was asked to identify 2-3 groups from the list above for the national study. The CATs, national co-investigators and researchers also identified rural, urban and peri-urban locations in each country. In Ghana, Kenya and Colombia, national researchers developed fieldwork plans that identified one specific group for each focus group discussion, such as women living with HIV on one day, or male sex workers on another day. In Vietnam, CAT members who were leaders of national networks of young adults living with or affected by HIV said their communities preferred mixed groups.

National researchers and CAT representatives played a crucial role in recruitment, using purposive snowball sampling. National researchers ensured that participants had not been in previous DHRP-led studies. We provided no compensation but offered meals and reimbursement for travel expenses.

Qualitative methods

We conducted 33 focus group discussions:

- Nine in Ghana (four in Accra, three in Kumasi and two in Tamale)
- Sixteen in Kenya (four in Nairobi, four in Migori, four in Kitui and four in Mombasa)
- Eight in Colombia (three in Bogota (Cundinamarca), three in Medellin (Antioquia) and two in Cali (Valle del Cauca).

The Kenyan study had a larger number of focus groups, as the national lead research organisation, KELIN, planned to disseminate findings and recommendations from each locality to local health authorities; we discuss below how this was handled in data analysis.

Each focus group discussion had between five to eleven participants. Discussions were conducted in the language of preference for the study participants, including English, Swahili, Sheng, Spanish, Luo, Twi and Vietnamese. A facilitator aimed to elicit participants' experiences on specific topics including obstacles to seeking health information online, experiences of online harm, surveillance, and data protection; digital literacy; artificial intelligence; and recommendations for advocacy. In some cases, facilitators were members of the study populations. We identified facilitators based on consultation with community mobilisers, who advised on the gender preferences of the focus group participants. Most focus group discussions lasted between 90-120 minutes, though in a few cases with groups of sex workers, participants asked to stay and talk longer (See Appendix one for the question guide).

We also interviewed 14 participants from focus group discussions in in-depth interviews that were semi-structured and undertaken face-to-face, usually following focus groups. We held an additional 4 interviews with young adults in Ghana (2), Colombia (1) and Vietnam (1) recruited through snowball sampling. These interviews allowed for a more detailed exploration of personal experiences, motivations, and challenges, to inform case studies.

Focus group participants and in-depth interviewees described their own experiences and experiences of friends. In some cases, "a friend" may have been deployed to stand in for a participant's own experiences, to shield the speaker from judgement. Morse calls this reporting on others' experiences "shadowed data", and notes that it can be important to indicate "a range of experiences and the domain of the phenomena beyond the single participant's personal experience."[24]

We also conducted 41 semi-structured key informant interviews with UN officials, national and regional health officials, government technical advisors (ministries of digitalisation and health), managers and technical staff of NGOs, and leaders of networks of people living with HIV and key populations. The list of agencies and occupations were developed as a consortium, and national researchers conducted additional landscape mapping exercises to identify individual agencies that were relevant to emerging findings. Some interviews were conducted face-to-face, while others were conducted virtually. Most interviews lasted 30 to 60 minutes. Questions focused on digital divides, knowledge and views of digital governance, and recommendations. (See Appendix two for list of professions and locations of key informants).

Ghana Community Advisory Team Members

Columbia Research Team with representatives from The University of Warwick & Research Consultant

All question guides for focus groups, in-depth interviews and key informant interviews were contextualised in consultation with the CATs, to ensure the language was appropriate to local contexts.

Analysis and validation

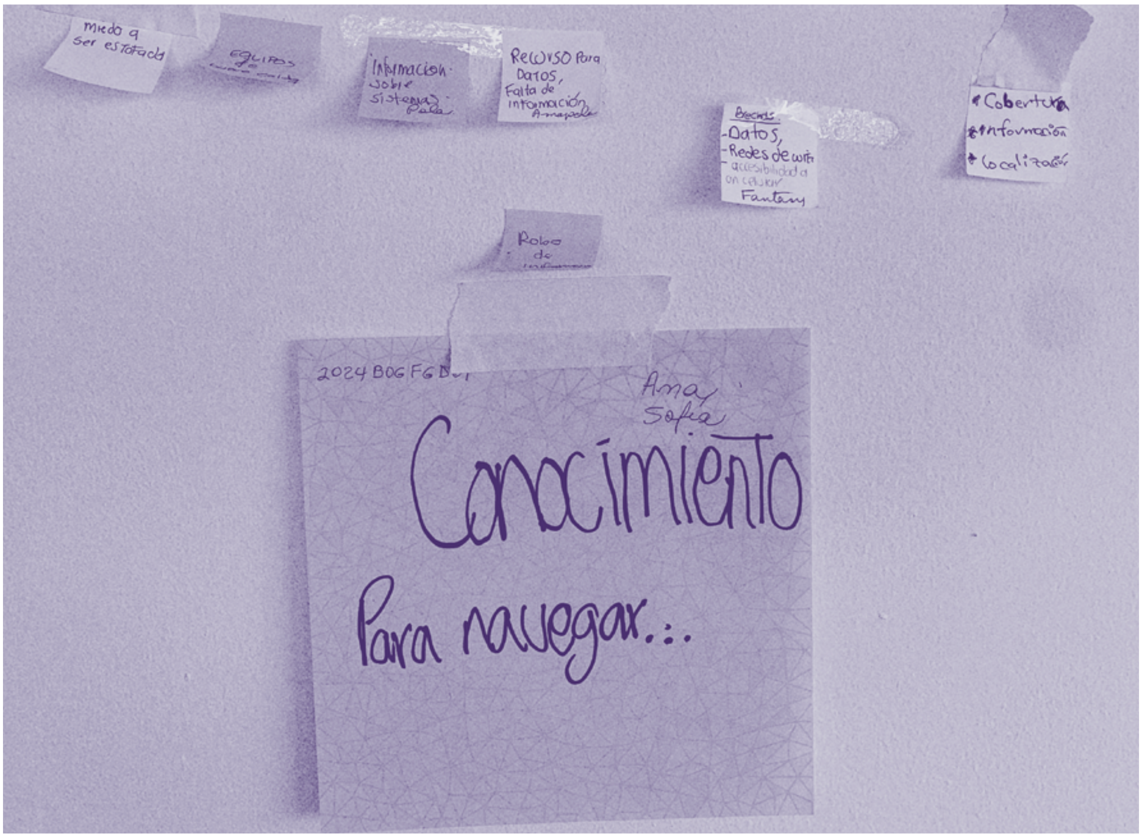
Audio recordings of all interviews were transcribed verbatim, translated into English where necessary, and supplemented by debriefing notes. This generated over 4,000 pages of transcript data, which we analysed thematically on Dedoose software.

In Kenya, where the national team engaged approximately double the number of study participants than the other three countries, KELIN identified a subset of focus group discussions that were representative of the full dataset. The full dataset was used for national analysis and coding; the subset was used in comparative analysis, to compare issues across countries, genders or locations.

We adopted Richards and Hemphill's (2018) collaborative qualitative analysis approach. A team from across the consortium worked together over six months to conduct open and axial coding, draft a preliminary codebook, test it, complete coding, and finalise themes. The coding manual was refined following iterative discussions. Each transcript was coded by one researcher; reviewed by a second, with disagreements tracked in a shared journal and refereed by a third. The approach supported an environment of collective learning.[25]

Our literature reviews did not identify established methods for developing policy recommendations in participatory action research. The advocacy working group led coding and analysis of all participant recommendations in the transcripts, incorporating recommendations from CAT validation meetings. The recommendations were coded by theme and target stakeholder. The CATs were invited to review and prioritise their country's draft recommendations. The advocacy working group then elaborated recommendations based on their areas of expertise, with final recommendations shared with the CATs.

National researchers presented the draft findings to CAT members and study participants. Their feedback, questions and recommendations were presented to a full consortium meeting in Cape Town, South Africa in January 2025, where the findings were approved.



Notes on a wall showing barriers to online access brainstormed by focus group participants in Bogota, Colombia, including "Knowledge" and "social class"

Ethical considerations

The study protocol was designed collaboratively and approved by the consortium. The study team obtained ethical clearance based on careful review by the University of Warwick Humanities and Social Sciences Research Ethics Committee (HSSREC 15/23-24, December 2023). The Warwick research team organised a four-day online ethics training for researchers in December 2023. The master protocol was contextualised by each national research teams and successfully approved based on further careful reviews in Kenya (Kenya-ESRC P1582/2023, March 2024), Vietnam (Vietnam-024-023IDD-YTCC, February 2024), Colombia (Colombia-N 2024270213, May 2024) and Ghana (Ghana-ERC: 002/06/24, November 2024).

Ethical risks included risk that the identities of young adult participants who are criminalised stigmatised due to their HIV status, sexual orientation or gender identity might become known to others who could harm them. National researchers consulted with CATs and community mobilizers in each country about the risks and how best to mitigate them. They identified safe spaces, and referrals to community-friendly psychosocial support in case participants disclosed harm.

To mitigate risks, we conducted one-on-one in-person informed consent discussions with each study participant. In our intake for focus group discussions, we asked for participant age, self-defined gender identity, and education level. Participants were invited to select a pseudonym and assigned an anonymous code. We informed those who helped to recruit participants of the characteristics of a given focus group, such as men living with HIV, or transgender sex workers. To protect anonymity and confidentiality for participants, we agreed with national researchers and CAT representatives that we would not request whether individual participants were living with HIV or whether they were sex workers during intake. We advised participants against the disclosure of sensitive information. However, some participants did spontaneously disclose their status as living with HIV or as sex workers.

Robust guidelines were put in place to protect data. The consortium approved data management and publications policies, which affirm that field data are the property of national lead research institutions.

Limitations and reflexivity

The data presented in this report comes from small samples and should not be interpreted as representative of specific population groups, countries, or of young adults globally. There are significant areas of difference among country datasets, due in part to the participatory approach used to identify locations and populations. Other limitations include the possibility that some participants may have had pre-existing relationships with organisations conducting the research and may have tailored their responses to align with perceived expectations; likewise, the snowball recruitment methodology may have resulted in study participants with more homogeneous experiences.

The study was conceived jointly among consortium members, who do not claim to speak for the young adults in this study. The research team used close listening strategies and drew on diverse expertise to develop a shared analysis. An anti-oppression working group in the consortium held a series of discussions to reflect on how to address the diverse forms of inequality in our collaboration, including geography, race, gender, HIV status, education, class, language and more. We acknowledge that our diverse privileged positions may have contributed to biases or missed opportunities in our analysis.

DHRP Vietnam Research team with representatives from The University of Warwick and NAP+ Ghana

3. Study Participants

We spoke with a total of 343 research participants from July 2024 to January 2025. This included 302 young adults ages 18-30 years, of whom 298 participated in focus groups; and 18 in-depth interviews, most with focus group participants *(see Table 1, Distribution of research participants).* We interviewed 41 key informants from government agencies, UN agencies, overseas development assistance agencies, NGOs, and community-led networks *(see Appendix 3 for complete list).*

Table 1

Distribution of research participants

Country	FGD	KII	IDIs (FGD participants)	IDIs (recruited separately)
Kenya	**109 (54)**	**6**	**8**	**-**
Nairobi (Urban)	30 (14)	1	4	-
Mombasa (Urban)	24 (12)	4	1	-
Migori (Peri-Urban)	28 (14)	1	-	-
Kitui (Rural)	27 (14)	0	3	-
Vietnam	**57**	**13**	**-**	**1**
Hanoi (Urban, Peri-urban, Rural)	41	7	-	1
Ho Chi Minh City (Urban, Rural)	16	6	-	0
Colombia	**60**	**15**	**3**	**1**
Bogota (Urban, Peri-urban, Rural)	25	11	2	-
Medellin (Urban, Peri-urban, Rural)	23	4	-	1
Cali (Urban, Peri-urban)	12	0	-	-
Ghana	**72**	**7**	**3**	**2**
Accra (Urban)	32	4	-	2
Kumasi (Peri-urban)	24	2	2	-
Tamale (Rural)	16	1	1	-
Total	**298 (243)**	**41**	**14**	**4**

* Numbers in brackets represent the Kenyan focus group participants selected for the comparative analysis among countries.

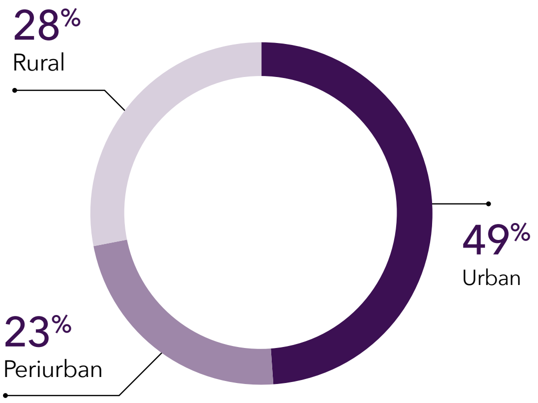


Figure 1: Participants in urban, rural and peri-urban areas

While urban research participants dominated the study population, approximately half were drawn from rural and peri-urban locations *(see Figure 1: Participants in urban, rural and peri-urban areas)*. In Vietnam, as Hanoi and Ho Chi Minh City are urban areas surrounded by rural areas, participants were not classified as peri-urban.

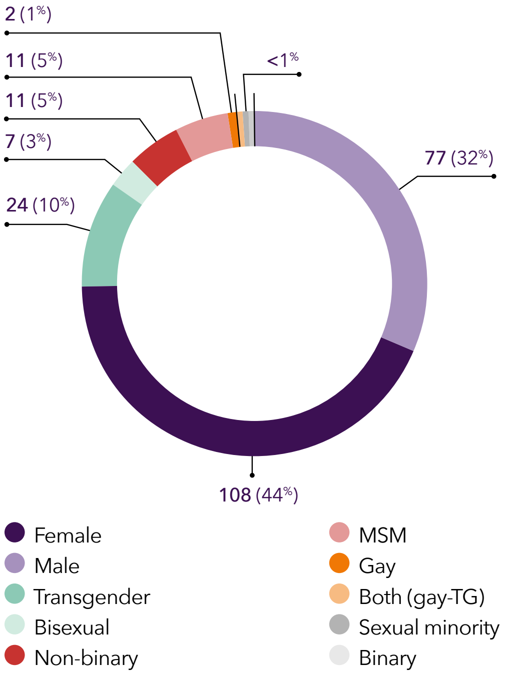


Figure 2: Self-reported gender identities of FGD participants

Researchers invited focus group study participants to self-identify their genders. Because these were not imposed by the research team, gender identities were diverse, emic, and not necessarily consistent with gender identities in scientific literature; some participants used sexual orientation to describe their gender identities. FGD participants described themselves variously as male, female, transgender, "both", non-binary and more. This variety was consistent with our previous studies with young adults.

Forty-four percent of the FGD participants identified as females, while 32% identified as males; 24% identified as transgender; 5% identified as non-binary. *(See Figure 2: Self-reported gender identities of FGD participants; and Figure 3: Self-reported gender identity by country).*

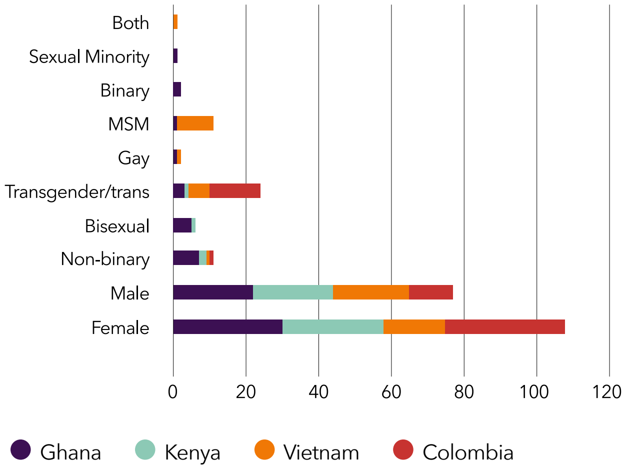


Figure 3: Self-reported gender identity by country

In terms of age distribution, the largest proportion, 26%, were 24 to 25 years of age. Otherwise, distribution was evenly spread between ages 18 to 30. Over 54% of study participants reported attaining secondary or technical education, 42.1% tertiary education; and 3.2% primary education.

Codes

In the findings below, we use codes to anonymously refer to participants when quoting what they said. For example, 2024-NBO-FGD2-8 refers to the 8th participant to register in the second focus group discussion in Nairobi in 2024.

4. Overlapping Digital Divides

In focus group discussions, researchers invited participants to take their seats in a U-shape arrangement of chairs facing a blank wall, and asked participants to use slips of paper to brainstorm barriers to accessing health information and services online. Participants posted these notes on the wall. Reading the notes together, they reflected on how the barriers listed on the wall materialised for them personally.

These barriers included cost of online access, lack of Internet coverage in rural regions, gaps in digital literacy, restrictive cultural norms, and fears of being outed to the community as someone subject to social stigma. In many cases, these factors created digital divides (as noted above, these are inequalities in access to and ability to use digital technologies) and sometimes overlapped to deepen exclusion. We note commonalities and differences among countries throughout the discussion below.

Costs

The cost of smartphones and data bundles were frequently raised as limiting online access for economically marginalized participants in Kenya and Ghana, and to a slightly lesser degree in Colombia. Cost was rarely raised as a concern in Vietnam.

In one example in Nairobi, Kenya, a facilitator speaking with a focus group of men living with HIV pointed to a note with the phrase "lack of airtime" posted on the wall, and invited reflections from the group. A 27-year-old man responded:

2024-NBO-FGD2-8

> *Let's say we as adults, depending on the country we are living in like Kenya, where the economy is really tough, you find that I have a family to feed, and I get like KES 500 per day, I have a family to feed, I have my transport there, I have to pay rent. How will I buy the data?*

Other study participants said they faced difficult choices due to the cost of digital inclusion. A 22-year-old in a focus group of women living with HIV in Mombasa, on the Kenyan coast, explained:

2024-MSA-FGD16-105

> *[In] places like Kisauni, deep in the village, young people cannot access [Internet]. They can't afford it, because even food is a problem. Instead of buying Internet bundles to look for services online, they buy chapati [bread] with the 20 shillings and eat. You know, people like us who are living with HIV should eat well to be healthy. So that is a challenge.*

To enable people to keep connected, some telecommunication companies offer microloans to customers who run out of data bundles. However, this brings a new risk: some participants employed in the informal sector, including sex workers, said they could quickly lose all phone access if they could not pay off the microloan quickly; then needed to borrow from others to continue working with their phones (see Case study 1: Mobile Debt Spiral in Kenya). For a sex worker, even temporary loss of mobile phone access could be devastating for their ability to earn a living, driving them deeper into debt.

Similarly, some companies offer instalment plans to pay for phones, but here again, failure to meet monthly bills can result in a locked phone. A 24-year-old female participant in a focus group of sex workers in Migori, a peri-urban region of Kenya, explained:

2024-MIG-FGD5-36

> *The "lipa mdogo mdogo" [pay little by little] is a process that gives a certain duration that you need to pay for that phone in instalments every day. For example, you pay for it today with 60 shillings. If tomorrow [at] the same time you do not pay any money, it will be off until you pay again the instalment.*

The cost impacts on HIV outreach as well. Peer outreach workers who routinely contact community members to share HIV information and support said they and their clients both struggled to connect due to cost. In Kitui, a rural area of Kenya, a 24-year-old HIV peer educator working with sex workers said:

2024-KTU-FGD9-62

> *There are some people who you can't speak to through phone calls, you just chat on WhatsApp. Even if you text him on SMS, he will not reply. We face such challenges: you don't have bundles, the person can't call you, and you also can't chat with them through SMS. So, it is a problem.*

The cost of getting online was identified as the most important factor shaping digital exclusion by Kenyan participants, and was widely discussed by women across Kenya, Ghana and Colombia.

The cost of connecting was not a concern widely raised in Vietnam, where participants said that mobile phones are affordable and free Wi-Fi is available. However, they reported poorer access in rural regions.

Mamushka [pseudonym] is a 29-year-old woman from an urban area of Nairobi. Though not formally educated beyond primary school, she said she had learned to adapt and manage life's challenges as best she can. However, one persistent issue that she struggles with is the debt spiral:

"When it comes to borrowing, it's like you get a prompt from Safaricom for the 'Okoa Chap Chap' ("Save fast, fast", an automatic credit for airtime), and before you know it, you've borrowed up to 500 shillings. It seems small at first, but then an emergency hits, and suddenly you can't even make a call because Safaricom has blacklisted you everywhere. By that time, you've already redeemed all your Bonga points (reward points), so there's no way to access anything. (laughs) Your phone is there, but it's just a piece of metal with no use. And now, you're stuck in a dilemma. You've got 500 shillings, but what do you do with it? Do you use it to buy airtime, or do you feed your hungry children who are staring at you? It's a tough decision, and in the end, you don't know what's the right thing to do.

Sometimes you just can't pay the debt. You let it be and live with the consequences. But the problem grows. You can't make any calls; you can't reach out for help. Maybe you're feeling sick, weak, and struggling to walk because of an illness, and there's nobody to help you. You're stuck at home, and things get worse when you're not on good terms with your neighbours, so you can't even turn to them. It's like the debt keeps piling up, and the weight of it never stops growing."

> "Your phone is there, but it's just a piece of metal with no use... Do you buy airtime, or do you feed your hungry children? It's a tough decision."


Downtown Nairobi, Kenya

Lack of Internet in rural areas

In rural regions of all four countries, participants described unreliable Internet coverage (whether through Wi-Fi or mobile service) as frequently interrupting their access to health services, such as telemedicine appointments. This was especially raised in focus groups of cisgender women in rural regions of Colombia. For example, in a focus group with rural cisgender women in Soacha, an agricultural town outside of Bogota, participants said that the satellite dishes they rely on for Internet access were often knocked out during storms:

MODERATOR *When it rains, the connection crashes, right? When was the last time that happened?*

BOG-FGD2-10 *Last night!*

(Group laughter)

MODERATOR *If that happens and you have to change a doctor's appointment, what do you do?*

BOG-FGD2-13 *You miss the appointment.*

Digital literacy, digital health literacy

In all four countries, participants highlighted diverse gaps in literacy, digital literacy (ability to navigate and share information online), or digital health literacy (ability to access, understand, and judge reliability of information to make health decisions) as factors blocking their access to reliable health information and services. This was widely discussed by cisgender men in all four countries. We heard of a spectrum of literacy issues, ranging from gaps in basic literacy for some, to more sophisticated digital health literacy challenges for others.

In Ghana, participants discussed lack of fundamental literacy skills as a barrier to digital inclusion. In Tamale, a rural desert region in northern Ghana, a 30-year-old man in a focus group of sexual minorities explained why he had written "lack of education" on a note on the wall:

2024-TML-FGD9-69 *Someone may have the smartphone, all right; but because he can't read, he can't write, it's difficult for the person to get access to whatever he needs from the social media or Internet.*

Some participants linked lack of access to local religion: for instance, in a rural focus group in Kitui, Kenya, participants said they had heard that using mobile phones could be linked to devil-worshipping.

By contrast, in Vietnam, participants said they had access to a vast quantity of health information through their phones but described challenges with digital health literacy: they were unsure how to judge the reliability of information about health, and how to use it to make informed decisions. In Hanoi, a 25-year-old man participating in a mixed group of men who have sex with men and transgender people explained why he had written down "education" as a barrier:

2024-HAN-FGD1 *If I accidentally visit or look up the web, there are many mixed opinions that people will say this and that [is a] symptom of that disease.*

Likewise, a 24-year-old woman in Hanoi, in a mixed focus group of people living with HIV and key populations, said:

2024-HAN-FGD7-50 *When I look up information on social networks, there is too much different information and shocking information that affects my psychology.*

These challenges with navigating and judging reliability of online health information may lead some to make harmful choices. In Ho Chi Minh City, a 26-year-old woman in a mixed focus group recalled, 2024-HCM-FGD4-32 *One of my customer's friends searched how to treat HIV on the Internet, and it gave many different results. They decided to use traditional medicine to treat HIV instead of ARV [anti-retroviral] treatment.*

These participants described a range of challenges: while lack of basic literacy is a barrier for some, easier online access creates new challenges for those who need to develop more sophisticated digital health literacy skills to cope with information overload, or health misinformation.

Social stigma

While the research team did not set out to study stigma as a factor creating digital divides, "stigma" repeatedly appeared on the walls of focus groups in all four countries. It became the concern raised most often in focus groups: the fear of being judged or socially isolated, which inhibited some participants from searching for information or services for HIV or sexual and reproductive health.

Participants spoke about diverse forms of online stigma: stigma related to HIV status, sexual orientation, gender identity, sex work, or abortion. In some cases, participants did not specify why they felt stigmatised. In others, they experienced multiple forms of stigma, given that many participants had multiple identities (for instance, as sexual minorities, living with HIV, and/or sex workers).

In one example, a facilitator for a focus group of women living with HIV in Mombasa pointed out "fear of being judged" on a note on the wall, and invited participants to reflect how this had affected them. One 22-year-old woman explained:

2024-MSA-FGD16-108 *Fear of being judged. For instance, you are not aware that there are apps that can help you in getting the HIV services and all that. So, if you try asking, there are people who will look at you negatively, like "This person has it!" (short laugh) So if I don't know where I can access those services, or the apps, I will not ask, because I'm sure my peers will judge me.*

These participants described a range of challenges: while lack of basic literacy is a barrier for some, easier online access creates new challenges for those who need to develop more sophisticated digital health literacy skills to cope with information overload, or health misinformation.

In Nairobi, a participant in a focus group of men living with HIV said that fear limited what he said online:

2024-FGD2-10 *There is much stigmatisation. Even for now, I have limited myself from posting on social media. Even my friend criticized me for sharing. Even if I post anything, anyone will come and say, "You posted about HIV, are you member of that community?"*

Many young adults said that due to the cost of phones and data bundles, they were forced to share mobile phones with partners or family members, leading to fear that their browser search history might show their searches online for HIV information, leading to stigma. In an Accra focus group with men living with HIV, a 28-year-old participant explained how this might happen:

2024-ACC-FGD2-11

> *I use your phone, and I go and search what is this HIV, and what are the medications, and all that. And I go through, and I leave the phone to you, and you go back, and you also want to search something, and it goes to back to the same page I left. And that means whoever takes that phone sees whatever you browsed earlier, and then goes, like: "Why is this person browsing through these questions?" …And at that point…the person can even stigmatise you from that point, or keep questions in their mind, and start monitoring you.*

This was especially a concern for young women, as many young women said that due to cost of phones and bundles, they had no choice but to share phones with partners or family members. In a focus group with women living with HIV in Nairobi, a 25-year-old young woman who said she was living with HIV remembered how a well-intentioned mobile phone text message from a doctor reminding her to refill her prescription had led to her expulsion from home:

2024-NBO-FGD4-26

> *So, after [my sister] read [that message], she went directly and told my father. After she had told my father, he called me and asked me…I had to move out, because he told me that I was no longer his child.*

A 27-year-old woman in Nairobi, who described herself as a sex worker, said that when considering whether to search online for for advice about pre-exposure prophylaxis (PrEP), she felt afraid:

2024-NBO-FGD1-4

> *The fear, it's always there…You just ask yourself, who will answer me this question…Yet you don't want anyone to know.*

The risks were not limited to searching for information about HIV, but also information about SRH. In Kumasi, a peri-urban region of Ghana, a 22-year-old in a focus group of female sex workers described what happened when she experienced side effects after her abortion:

2024-KSI-FGD6-43

> *There was a time when I did an abortion. After the procedure, I began to notice some things. But I felt embarrassed to go to the hospital...I didn't have a phone, too. I didn't want one of my sisters to know that I had done an abortion. But if I borrow her phone to do the search, you'd get to know. Yes. So, I didn't get the information that I needed.*

In some cases, participants said they avoided social media platforms for similar reasons. In Vietnam, a 30-year-old who identified as a man having sex with men said he had stopped using social media:

2024-HAN-FGD5-39

> *For me, sooner or later, my information will be exposed, so it's best to limit my use of social networks. Not even using it anymore.*

However, it is important to note that not all participants shared these fears. Some participants who identified as sexual minorities in Ghana said access to Internet was the only means for them to safely access health information and avoid potentially being identified by health care workers as sexual minorities, given same-sex relationships are criminalized. Thus, there was diversity in terms of stigma, and whether participants experienced it as a barrier to health information.

Digital gender divide

Several of the factors identified in focus group discussions overlapped. Gender inequality was a cross-cutting factor: female focus group participants (including cisgender and transgender women) spoke more about experiences of each of the issues discussed above (cost, geography, digital literacy, and stigma).

Many young women said they lacked the funds to pay for access themselves. For example, in a focus group near Medellin, a 29-year-old woman explained that women in her rural community are economically dependent on male partners to get online:

2024-MED-FGD4-31

> *Well, it may be different because of the fact that most men work, right? It's easier for them to access the Internet, they can pay for their Internet... On the other hand, many women do not have access to jobs, and we rely a lot…on our*

husbands, and if they do not pay for the Internet, or do not recharge our phones, we will not have access to the Internet.

In Ghana, some young women said gender norms limited their ability to get online. In a Tamale focus group of people living with HIV, a 24-year-old woman said that women in her rural region were discouraged due to “misconceptions about ladies”. When invited to elaborate, she explained:

2024-TML-FGD8-57

In case you are holding an iPhone, and it’s the latest one, people think you sleep around with men, and then [the men] give you money, or they give you the phone.

Women said lack of a phone could have harmful consequences for their health. In Nairobi, a 27-year-old woman in a focus group of sex workers explained that not having a mobile phone meant inability to call an ambulance:

2024-NBO-FGD1-4

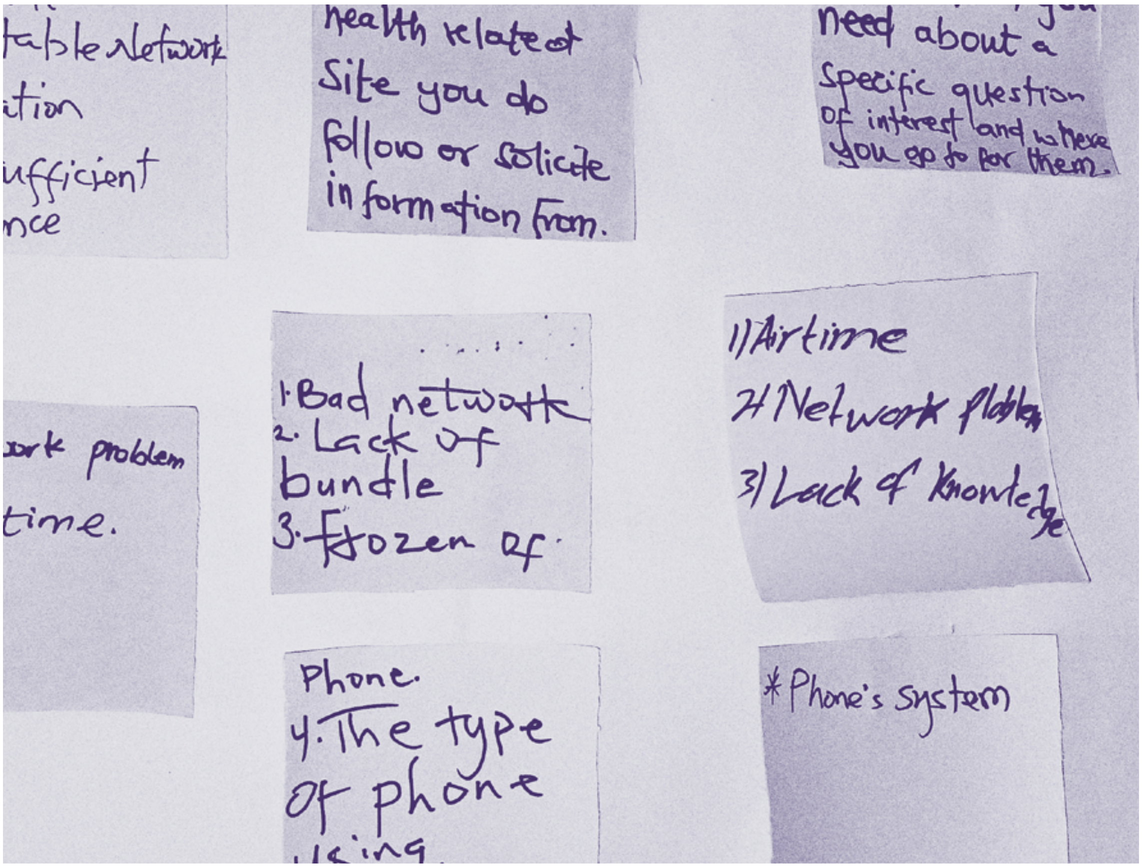
When you don’t have that access you literally use your own way. For example, there are people who literally die by giving birth at home. And it’s something that they maybe would have just called an ambulance to pick them up.

In Kitui, Kenya, a young woman described how lack of Internet access creates serious security risks for female sex workers:

2024-KTU-FGD9-64

Take an example where you don’t have bundles, and you are in a lodging somewhere. You don’t trust this client and you know very well he will not give you time to update your friend. If you had data bundles you could have texted your friend and told them that you don’t trust the client you are with right now, so don’t go far…People are being killed there because they were not able to tell their friend about the clients they were with.

For these young women, gender inequalities and economic inequalities intersected, potentially turning the digital divide into an insurmountable gap between a woman and life-saving healthcare, or a woman and her personal safety.



Notes on a wall showing barriers to online access brainstormed by focus group participants near Kumasi, Ghana

Connecting and bridging digital divides

As facilitators encouraged focus group participants in all four countries to look at “the writing on the wall” and reflect on diverse factors blocking their access to health information and services, some participants began to make connections among these factors. For instance, they could see links between economic marginalisation and lack of rural Internet infrastructure, or between marginalisation based on gender identity and economic class.

Along these lines, in a focus group with rural women outside Medellin, Colombia, one 18-year-old woman said:

2024-MED-FGD4-27

> *I would say that the most important [barrier] is, let’s say, the economy in the village… [it] is the one that covers everything, because there are downtimes in the township when you cannot access. I mean, if you can hardly get one meal, how are you expected to pay 80,000 pesos for internet service?*

In Bogota, Colombia, a 22-year-old participant in a focus group of transgender sex workers identified socioeconomic class as the one digital divide that summed up all the others. She said that after the digital boom during the Covid-19 pandemic, health systems had largely moved services onto online platforms, where transgender women sometimes struggled to register with their gender identities, struggled to pay for airtime, or struggled to master the needed digital literacy skills. This, she said, made her feel that she and her peers had been abandoned by the health system:

2024-BOG-FGD1-6

> *[Social class is] a huge barrier, because in order to be able to take orders, approve, request medicines or also to carry out follow-up processes, complaints, everything is through the Internet…I mean, the system takes it for granted that since everything is technology and everybody can access a cell phone, everybody is going to access the service, and that’s it: That’s the conclusion. But that is not the case! I feel that it is important to see that the issue of social class continues to be a barrier to accessing the health system.*

In focus group discussions, we asked study participants who should be responsible for addressing their concerns.

In a key informant interview in Nairobi, Kenya, one youth leader argued for targeted interventions by local authorities, such as public Wi-Fi centres:

2024-NBO-KII-1

> *I’ve seen that somewhere, I think, in a certain country. I’ve seen that where they are centres where people can go and use the Wi-Fi, the same way like in school, in campuses, there are areas where you can be able to go and use the Wi-Fi and do your assignment and do your Googling and everything. Such kind of initiatives would really help in ensuring that people have access to the digital spaces.*

Some participants were unsure who was responsible, while others had clear views. In Ghana, a focus group of people living with HIV called for digital spaces to be accessible to everybody, and agreed that the Ghana Health Service, civil society, and the government should act. In Kenya, the sex worker who had described lack of safety due to lack of Internet access said,

2024-KTU-FGD9-64

> *The government allows prostitution in Kenya, and we are requesting them or the sex worker organisations to give us a stipend of monthly data bundles. [Then] there won’t be murder cases in the lodgings.*

This concern linked lack of Internet access to another issue raised by most study participants: technology-facilitated abuse.

5. Technology-facilitated abuse

Trigger Warning: The following section includes descriptions of violence.

While the study did not set out to focus on technology-facilitated abuse, this quickly emerged as an important concern. Approximately 75% of focus group participants had experiences to share of technology-facilitated abuse. Transgender women in Colombia, gay men and other men who have sex with men in Ghana, and cisgender women in Kenya mentioned this most often.

Cyberbullying

Participants disclosed numerous instances of cyberbullying, including sexual harassment, non-consensual posting of intimate photographs, and verbal abuse on social media (including publicly and privately, through direct messages or social chat). In Mombasa, a participant in a group of women living with HIV said:

> 2024-MSA-FGD16-104
>
> *I am a victim. There is someone, I don't know where they got the information that I am HIV positive. So, they sent me a text and what was in the text was so hurtful I cannot talk about them here.*

Fraud

Participants in Ghana described being taken in by fraudsters promising high investment returns, while sex workers in Kenya and Colombia described being defrauded by clients online. A participant in Kitui, Kenya had this to experience of online fraud.

> 2024-KTU-FGD12-85
>
> *I have experienced that my account was hacked by somebody who was passing false information saying that my parents had an accident and died. But it was a lie. But before I got that information, people sent a lot of money to that number, yet I was not the one who was asking for the money.*

Hacking

Participants described experiences of being hacked. In Cali, Colombia, a 25-year-old participant recalled of a close friend's former partner:

> 2024-CAL-FGD7-50
>
> *It turns out that, out of jealousy, he paid someone to hack into his partner's social media, WhatsApp, and all his personal stuff. From that moment, he found out everything–that his partner was cheating on him, through those messages.*

Stalking

Some participants described being identified and blackmailed online and tracked to their homes. In Hanoi, a participant described extortion by someone who had their address:

> 2024-HAN-FGD5-34
>
> *He threatened and told us that if we didn't send him money, he would go to my house. They knew where the house was, and they read the correct ID number.*

Blackmail

In Migori, Kenya, a 23-year-old man in a focus group of gay men and other men who have sex with men said:

> 2024-MIG-FGD7-49
>
> *What I can say about blackmailing from partners? It occurs when one of your partners maybe has your information about your sexual orientation. So, when it comes, maybe you are not in good terms, he can just share the information in public where it is impossible for you to catch up with the thing. So, it becomes quite difficult living while knowing the information is out there. It becomes so difficult.*

Falsified images

Some participants described cases where falsified images were being used to harm friends, and a few had personal experience of it. In Hanoi City, a 27-year-old male study participant described joining a support group for people living with HIV and being blackmailed with faked images:

> 2024-HAN-FGD2-12
>
> *They hack my Facebook or Zalo [a social chat app, like WhatsApp] and then they take my pictures to edit them into sensitive images. They send those pictures to my family and friends, or they blackmail me. If I transfer money to them, they want more money, but if I don't transfer money, they will post those pictures on social networks.*

Self-harm

In some instances, participants said the technology-facilitated abuse they had experienced had caused depression and thoughts of self-harm. As noted above, facilitators offered individuals referrals to counselling and psychosocial support.

Violence described by specific groups

Violent attacks against sexual minorities in Ghana

A proposed national bill to criminalise same-sex sexual behaviour was discussed with heightened anxiety by study participants in Ghana. In DHRP's 2021 study, participants described cases of violent ambushes by people lured into violent assaults by online dates, and in this report, we found new accounts of the same forms of abuse.

A 25-year-old transgender participant explained in a focus group in Tamale, Ghana:

> 2024-TML-FGD9-72
>
> *We have a platform called Grindr, but when you use the app, sometimes you get these scammers on it. Like someone will set you up, you meet someone on the Grindr and you try… like to meet that person, that person might set you up and harm you.*

Violence reported by sex workers in Colombia

Colombian transgender sex workers and webcam models reported high rates of violence, with many accounts based on their personal experiences and those of community members who use online escort sites.

The first focus group of the Colombian study was held in a community centre managed by and for transgender sex workers in Bogota's red-light district. With the support and guidance of two respected transgender community leaders who set out to create what they called "a sacred space for participants", the discussion unfolded in a quiet room. One wall was lined with dozens of black-and-white photographs of deceased friends. In a discussion moderated by a transgender member of the Colombian research team, study participants wept, raged, laughed, and shared experiences for close to three hours. Afterwards, the group sat together with researchers for lunch on the sunny roof of the building.

Transgender sex worker participants said that photographs, videos and phone numbers they had posted on their profiles on online escort sites were sometimes stolen by other websites and used without the sex workers' consent. As a result, a 22-year-old participant said she had been harassed by strangers who had found her photograph and personal contacts reposted on sites over which she had no control:

> 2024-BOG-FGD1-6
>
> *Those screenshots are all over Google. In other words, if I tell someone my username, they can search for it and they will find a whole bunch of screenshots of me since I entered the webcam [business]…because I myself have searched for them, and it's like "Oh, now how do I delete this thing here?"*

Other participants described being stalked to their homes and violently assaulted by men who had found them online. A 28-year-old participant said:

> 2024-BOG-FGD1-2
>
> *I work from home, right…There are men who believe that, well, because they have published you on a page…they have the right to follow you, to go out and persecute you, yes?*

In addition to violence reported by those using online escort sites, the research team in Colombia accumulated important accounts of severe workplace violence reported by webcam models in Medellin, consistent with reports documented by Human Rights Watch.[26] These accounts will be detailed in a future report.

In Bogota, we interviewed a leading Colombian transgender researcher and policy expert, who had worked on prevention of technology-facilitated abuse for years. She recommended talking directly with the private companies involved:

> 2024-BOG-KII2
>
> *We started receiving cases, and there's one big [online escort] platform, two or three. One of the things that I think is really important, like, in strategies, it's to work with them. Because I remember that when we were following these cases, one of the administrators of the webpages, like, came to me, and she said, like, "We don't know what to do". So, I think they might be open.*

To do this, she recommended systematically and rigorously gathering forensic evidence of technology-facilitated abuse.

Abuses against HIV advocates

In all four countries, advocates who aim to educate and inform others about HIV on social media described being targeted with hate speech. For example, in Ghana, a 26-year-old male activist in a focus group discussion with people living with HIV said he had participated in a community-led Twitter storm to educate the public about HIV, and was verbally abused:

> 2024-TML-FGD8-60
>
> *I made some post about you being able to live well with HIV and live a normal life even more than somebody who doesn't know their status. Yes. And somebody came and commented that "You are going to die. Yes, you are going to die." (short sharp laughter) That was what the person said. And I tried to, like, respond professional. I was like, "What do you mean by, I'm going to die?" Just trying to like, probe further. And he was like, "Ehhn, you did immoral, blahh, blahh, blahh."*

The participant said that the person attacking him was a pastor.

Despite the abuse, HIV activists showed resilience and optimism about their work. In Cali, a city in Colombia, a 30-year-old participant in a focus group of men living with HIV said he planned to continue:

> 2024-CALI-FGD8-54
>
> *I post all the time, even though I don't read the comments. I have quite a few followers, and I've shared a lot of posts about HIV. I think it's important because sharing the information helps…Sometimes, those small bits of information that might offend one person could be an eye-opener or a helpful message for someone else. You never know—people focus only on the critics, but there might be someone out there silently learning…In some way, the message has to be reaching someone.*

Case Study 2: Technology-facilitated abuse in Tamale, Ghana

Dedeede (pseudonym) is a 24-year-old bisexual person from Tamale, Ghana, who was lured into a violent ambush through an online connection. He connected online with someone who seemed understanding and accepting. What started as an online friendship quickly turned into a sense of trust. After chatting for almost six good months, they decided to meet in person.

Despite his initial doubts, he agreed to meet in the evening when his companion insisted.

"So that evening, I went there around 8:00 in the evening. When I arrived, he instructed me to wait at a certain junction for him." After they met on their bikes, "I was like, okay, we've seen each other, let me run back. He insisted, at least we visit his house and then I'll get to know his house."

On their way, they stopped at a school, and the companion asked Dedeede to wait at a school park. "While waiting he requested for my phone to make a call". This was a trap:

> *"He planned with some guys who were hiding in that school building… He walked into those buildings and came out with four guys" who approached with canes and machetes, introducing the speaker as "the gay guy I've been chatting with."*

The speaker described this as, "The day I can't forget in my life." The fear of his identity being exposed further weighed on him, as he believed it could lead to him being disowned by his family. Given that he believed that members of his community were already talking about him, Dedeede did not risk reporting the incident to authorities.

"The fear of his identity being exposed further weighed on him, as he believed it could lead to him being disowned by his family."

Printed fabric in market, Tamale, Ghana

Lack of access to remedy

In all four countries, we asked participants who described experiencing technology-facilitated abuse if they had tried to report the abuse to the platform or to the police. A minority said they had successfully done so or believed that reporting abuse would lead to action. However, approximately twice as many focus group discussion participants had negative views of the likelihood that reporting abuse would lead to a positive outcome. Instead, some described relying on support systems from the HIV movement, including online support groups.

In Ghana, some participants described successfully reporting abusive speech to social media platforms, and getting abusive accounts blocked. Others said reporting abuse to the same platforms had not been successful, either because the process had been too bureaucratic, the abusive language had not technically violated platform standards, or because the abusive person behind an account that was taken down simply set up a new account and started the abuse anew.

In a few cases, participants reported successfully reporting cases to the police. In Tamale, one participant who experienced cyberbullying on social media described how he did this:

2024-TML-FGD9-69

I was empowered a bit by that time. So, I was like…no, I can't let this guy go Scot free…So I have a police friend who was an ally. If there's a case, then he helps and all. So, I wrote to him, and said, oh, this and this and this. Then [the police officer] used his Facebook account and we tracked the guy, and we get to know him, and we arrested him. Oh, I was even forcing the case to go to court… [the abuser] was in a police cell two weeks before, like, I also withdraw the case.

However, most other Ghanaian participants said they were hesitant to report abuse to the police as they were afraid of being asked difficult questions that could lead to arrest under laws criminalising same-sex sexuality. Some were unsure if the survivor even had the right to report technology-facilitated abuse under existing laws and policies. In Accra, an in-depth interviewee reported that reporting technology-facilitated abuse by an online date to the police had led to repercussions for the survivor of abuse, when police detained and questioned the survivor.

In Vietnam, several participants said they believed they could get help from the police to address cyberbullying. However, a 23-year-old transgender participant in a mixed focus group in Hanoi said that they had experienced being outed as living with HIV and bullied online, and that by the time they did threaten to report to law enforcement, it was too late to help:

2024-HAN-FGD5-34

I also learned about the law and contacted the person who leaked that information and told them they were breaking the law and asked to take down the post, but until now it's the same, and it affects my life a lot, and I am isolated in my place of residence.

In Colombia, a transgender woman who had experienced abuse said she felt that based on experience of complaints, it was pointless to report abuse, as she believed her concerns were not taken seriously. In Bogota, a participant in a focus group of transgender sex workers said:

2024-BOG-FGD1-6

I think that all of us have always denounced at some point, we have complained, and most of the time nothing happens. And if it does, then…you go round and round and round…when reporting violence, when reporting abuse…many times you don't even report because you feel it is pointless.

In Kenya, participants expressed similar mistrust of the police based on previous experiences.

When asked if they had recommendations for how to address the lack of access to remedy, some participants called for clearer and tougher criminal sanctions. In Hanoi, the leader of a group of men who have sex with men spoke in an in-depth interview about a recent case of cyberbullying that had been in the news (the Samsung case, discussed below):

"I march for trans" mural, Bogota, Colombia

2024-HAN-KII1

> *Personally, I and everyone else thinks that the penalty for people posting fake information is still too light, and the mechanism to solve this problem is not strong enough to make others afraid. For the victim in this incident, even though the story is no longer spread, her life and psychology will certainly be greatly affected. Therefore, I think we need to take measures to specifically advocate for special policies.*

In Kenya, other focus group participants drew on the examples of community paralegals working with key populations to file cases with the police, and of the National HIV Tribunal, suggesting these could be helpful. Others called on KELIN and national HIV NGOs to provide participants with training on their rights, and to help them to bring complaints of technology-facilitated abuse.

In Accra, a government medical doctor in a key informant interview described a platform set up in collaboration with USAID that offered opportunities for key populations to escalate cases of technology-facilitated abuse:

ACC-KII-6

> *Once they escalate those issues, it's channelled to the appropriate persons. In fact, because of some of these, we have established a relationship with the police and different institutions, we have built the capacity of the police to assist. And with the work of the pro bono [lawyer], in fact, we have worked through this to even get some compensation for some people.*

In Colombia, a feminist activist who engages often with Parliament on violence against women, said the government needed to step up and learn about the issue even though she observed government had started to act:

2024-MED-KII4

> *The State has an obligation to guarantee our rights and, therefore, must lead, must regulate through its entire structure at the appropriate levels. Now, the exercise of raising awareness and education can be a social responsibility, right? …[But] it also needs to be said that the State is assuming responsibilities regarding violence against women today, because we, the organized women, did that work. So today, we are doing the same, but it is the State's obligation.*

Across all four countries, Community Advisory Teams identified technology-facilitated abuse as one of the top issues to address in national and global advocacy, given serious impacts on mental health, security, and the lack of consistent access to remedy.

6. Privacy

Given that many participants were members of groups whose behaviours are stigmatised or criminalised (including sex workers, gay men and other men who have sex with men, and transgender people), facilitators asked about their knowledge or concerns about surveillance of their online behaviour by the government or other organisations.

They were asked whether they were aware of law enforcement using information gathered online to criminalise key populations. They were also asked, "Who would be the biggest threat if they have your personal information: a family member or personal friend, a private company, a government agency, other, all equally a problem, or all equally no problem?"

Night market in Ho Chi Minh City, Vietnam

Community vigilance (monitoring)

When asked who, if anyone, posed the greatest risk if they had access to participants' personal information, most focus group participants said it was their own family members, friends, partners and neighbours. Several women described being closely watched by parents or partners, who monitored women's social media and chat messages. Others described fears of friends turning against them and using their personal information to denounce participants as sexually active or as living with HIV. The concerns about having browser history, social chat messages and social media activity monitored by those closest to participants were raised in relation to fears about stigma and technology-facilitated abuse, as well as concerns about poor data protection.

In Tamale, Ghana, a participant in a focus group of sexual minorities became emotional and struggled to speak about the risks of being outed by people who might guess his sexual orientation:

2024-TML-FGD9-66	*My family members, they will disown me. And my- my- my friends… my friends, like, they'll be like… something like discrimination, and those things. Like, if I go to them, like, they'll be avoiding me, and all those things. And the government too, like, they can just take it into law. Like, they can take law into actions, and then…*

A 30-year-old man in a focus group of cisgender male sex workers in Cali, Colombia said,

2024-CAL-FGD7-49	*I don't trust anyone 100%—not family, friends, private companies, or the government. I think personal data isn't meant to be shared with those kinds of people.*

These threats were heightened for women and others who shared phones with family members, friends or partners.

Data-gathering by private companies

Many participants discussed information-gathering for profit by private companies, including social media companies. They described incidents of data breaches, and raised concerns about cyberattacks, hackers, and personal data being sold to third parties without consent. For some participants, the worry that a verbal conversation with a friend might lead to a targeted ad on social media was especially alarming if it implied that stigmatised behaviour online might be also documented by "someone out there watching me", as one participant said.

In Vietnam in particular, participants expressed concerns that telecommunications companies and apps gathered their personal information and sold it to third parties. Some were resigned to this:

2024-HAN-FGD5-39	*In general, now it is said that if you don't want your information to be disclosed, you should not use any device.*

Some participants saw some positive aspects to data-gathering by private companies; for instance, live location tracking by social media or by ride-share apps was described by some sex workers as offering feelings of security. In Kenya, one participant described menstrual tracking apps as giving her greater ability to manage her life, and said she was resigned to the risk that the apps might sell her data to third parties without her consent.

Government surveillance

We asked participants if they had experience of having information gathered about them online by the government or other organisations, and whether they worried about this information being used to criminalise those in countries that criminalise people living with HIV or key populations. While many participants had concerns about data-gathering for profit by private companies, fewer reported awareness of surveillance by law enforcement and government.

In Bogota, where transgender study participants had recently organized a major street protest to demand police action on violence against transgender women, some participants described how police monitored social media posts of activists and used this information in court. In Cali, a participant in a group of men living with HIV worried about the future, saying of government surveillance online:

2024-CAL-FGD8-56 *Personally, I wouldn't like it at all. I don't know if they already have our data or not—I imagine they probably do—but it makes me very uncomfortable, and I find it dangerous. We never know when we might go from an apparently liberal, pluralistic regime—supposedly what we have—to more autocratic regimes, as has happened in other countries.*

As a 23-year-old woman in a group of people living with HIV in Accra said, given the draconian anti-homosexuality bill, that she and some peers worried that their online information could be used by law enforcement:

2024-ACC-FGD1-4 *[Information] can be used to criminalize you or even blackmail you. Because this [same-sex sexual behaviour] is something that is not accepted in the country… They can easily track you and arrest you if they are truly serious about it.*

However, in Kenya and Vietnam, focus group participants did not report awareness of government surveillance of young adults who are people living with HIV or key populations. In rural Kitui, Kenya, a participant in a focus group of people living with HIV affirmed his belief that the government would only follow people who break the law, while in Vietnam, some participants said that they trusted the government to keep their personal information private.

Overall, negative views of government surveillance were reported in all four study countries more than twice as often as positive views. However, community vigilance and monitoring of their social media posts, messages and web searches by family, friends and community members were seen as an urgent and serious risk.

Some participants were less concerned about monitoring online, and saw it as the cost of connecting, while others expressed their pride and refusal to feel fear. In Mombasa, Kenya, a participant in a focus group of gay men and other men who have sex with men said,

2024-MSA-FGD15-102 *Me, I don't feel threatened…I believe I am transparent enough, whatever you see here is whatever…I come to you as I am (laughs).*

This participant and others showed confidence and resilience, an important characteristic that also emerged in the study.

7. Resilience, Digital Empowerment, and the Future

Towards the end of the focus group discussions, participants were invited to look forwards and share what kinds of digital literacy training they might want to have, and their visions of the future in relation to the issues discussed in the focus group.

Resilience and mobilisation

Despite the many concerns shared above, most young adults in the study displayed resilience, and enthusiasm about digital participation. In Ghana and Vietnam in particular, many expressed a keen interest to acquire digital literacy skills and knowledge, and to learn about artificial intelligence. When asked for their views of the future, many held a positive outlook that included greater digital rights awareness, better regulation of the Internet, transparency and accountability for harms. Peer support on digital platforms and online rights campaigns were cited as a source of inspiration and resilience.

In Vietnam, members of the Vietnam Community Advisory Team (V-CAT) provided an important example of how young leaders of national networks of people living with HIV and key populations stood up against abuse on social media and collaborated to stop cyberbullying related to HIV (see Case Study 3: Community-led Mobilisation to Address False HIV Allegations Online in Northern Vietnam). Advocates in this case suggested that training in local laws and policies, and more coordinated action across borders, could be effective in combating technology-facilitated abuse.

While more males shared experiences of offering community support online, discussion of community support overlapped across seven gender identities, particularly in Kenya.

In Ghana, when asked for recommendations, some participants said their existing community-led networks (for example, Y+, a network of young people living with HIV) should tackle the challenges:

2024-ACC-FGD2-11

> *So, as my two colleagues said…I believe our communities should lead, let our communities be at the positions of power. In the sense that when we are there…at the end of the day we understand what we need, we understand what our problems are. So, in developing these strategies or things for us, we the community must be there, we must be involved in every single process.*

Experts we spoke to affirmed the need for more civil society engagement on digital health and human rights, but pointed to the challenges, including openness of international digital governance platforms such as the World Summit on the Information Society and the International Telecommunications Union to civil society, and need for financial resources to support civil society groups from LMIC to travel to digital governance meetings and engage effectively.

Case Study 3: Digital advocacy in Vietnam: Mobilising to stop online harm

In July 2024, false allegations emerged online claiming that a female employee working at a well-known international electronics company, located in Phổ Yên, Thái Nguyên, had sexually transmitted HIV to multiple coworkers. This misinformation quickly spread through social media platforms and messaging apps, including Facebook, Telegram, Zalo (a social chat app like WhatsApp), and KakaoTalk, causing widespread public concern. The electronics company promptly clarified in an official statement to the Thai Nguye n Department of Health that they did not employ the woman mentioned in these posts, and that none of the individuals listed as having HIV had any connection to the company. Despite this swift response, significant emotional distress and reputational harm had already occurred.

In response, members of the Digital Health and Rights Project's Vietnam Community Advisory Team (V-CAT)—including community leaders representing key populations—rapidly intervened, contacting the Thai Nguyen Centre for Disease Control (CDC) and Department of Health for accurate information. The V-CAT member then effectively disseminated correct information among key population groups, significantly reducing further harm. One of the activists recalled:

2024-HAN-KII13 *The first thing I did was contact two facilities: [the electronics] company and CDC Thai Nguyen. At the same time, I also went to HIV support groups and told people to stop sharing this information because it has not been verified. Not only those on social networks but also those who have worked on HIV for a long time spread unverified information. Two to three people were called to the police and fined administratively; the fine was 7.5 million Vietnamese Dong (about USD $300). Everyone must understand the law clearly like this time"*

In fact, local police investigated and sanctioned one individual behind the fake news with a fine of VND 7.5 million (about USD$300), and six individuals were indicted for spreading fake news.

Digital empowerment

Based on this and previous studies, DHRP has developed the phrase "digital empowerment" to describe the knowledge, skills and competencies people develop to advocate for their rights in the digital age. These include knowledge about legal rights, advocacy skills, and digital security.

When asked about their interest in training on issues discussed in the focus group, such as digital health and rights, some participants began calling out the topics they wanted the training to cover: including "AI and ethical issues", "digital literacy for marginalized populations", "which apps are good", "information screening", and "how to use these phones wisely."

In Vietnam, given concerns they had shared about information overload and health misinformation online, many participants requested training in how to judge reliability of health information online. In Ghana, participants requested education on human rights of key populations, and how to protect themselves from abuse, as one 24-year-old non-binary participant said in Accra:

2024-ACC-FGD3-17 *One key thing is digital rights education. Because some of us, we use technology, but we don't know our rights when it comes to accessing information online. And then it makes people…abuse us because we don't have that digital knowledge to also mitigate some of these things.*

In Vietnam, a 25-year-old male participant also called for training on how to deal with abuse:

2024-HAN-FGD1-6 *How to handle the situation when you are subjected to cyber information violence is also a topic that needs to be done, because at the moment, there are a lot of people suffering from it.*

Study participants in a focus group of people living with HIV in Mombasa also expressed an interest to be trained on digital advocacy.

Participants expressed interest in using AI in writing, in content creation and in their studies, and in online searches for information, such as to get nutritional advice. Some participants had tried out AI boyfriend applications. In Mombasa, a participant in a group of gay men and other men who have sex with men said he used AI for mental health support:

2024-MSA-FGD15-103 *Me, I use AI a lot and I love it! I use [an AI chatbot], yeah, and mostly it helped me when I was challenged, I was going through a mental…*

MODERATOR *thing…?*

2024-MSA-FGD15-103 *Yeah, so I used to go there, and when I needed somebody to talk to--you know sometimes people are busy, they have their own issues--so just on my phone I write, we exchange, it gives me points of views, different perspectives.*

While both Ghanaian and Vietnamese participants expressed interest to learn more about AI, they spoke from different positions. Ghanaian participants showed less familiarity with and understanding of what AI is, perhaps reflecting the digital divides they faced to getting online. Vietnamese participants displayed more familiarity with AI, what it is and how they might use it, perhaps reflecting the easier access to the Internet in Vietnam.

2024-HAN-FGD1-6 *How to handle the situation when you are subjected to cyber information violence is also a topic that needs to be done, because at the moment, there are a lot of people suffering from it.*

Study participants in a focus group of people living with HIV in Mombasa also expressed an interest to be trained on digital advocacy.

Imagining the digital future

The last question in each focus group discussion invited participants to reflect on their vision of the digital future. Most focus group participants who spoke on this question were positive, though many also alternated between positive and pessimistic visions of the future. Male participants were generally more positive about the future than female counterparts in Ghana, Colombia and Vietnam; in Kenya, positive and negative visions of the future were gender balanced. Young rural participants were generally less positive than older, urban participants, perhaps reflecting their different life experiences.

In Vietnam, a 22-year-old female participant hoped online information would be more reliable:

2024-HAN-FGD8-53 *"With the digital age like today, in any field that is associated with technology, my wish is that we will have convenience in finding information first and the source is verified."*

In rural Soacha, Colombia, one woman worried about the climate impact of the digital transformation:

2024-BOG-FGD2-15 *My opinion about a digital future, I would not like it very much, because the digital future will damage the whole countryside, everything that exists now. In the future there will only be buildings, robots or cars like that…(laughs), and the countryside will be lost. So, where would be the fun if the countryside disappears? That would not be good…in my opinion, it would not be cool.*

In Tamale, Ghana, a participant said:

024-TML-FGD8-60 *For my digital aspiration, I just want to have the right to adequate internet access. Maybe it's cheaper or it's provided for free for certain category of people.*

In Kenya, a 22-year-old non-binary participant described hope for a more rights-respecting future in Mombasa:

2024-MSA-FGD15-103 *"For me, an ideal future is easily accessible, privacy is a must. So, those two things."*

8. Discussion

Paying the costs of connection: Human rights of young adults in the digital age in Colombia, Ghana, Kenya and Vietnam built on our previous findings to probe how diverse young adults see their human rights changing online, including the right to highest attainable standard of physical and mental health. Our findings, across four themes (digital divides, technology-facilitated abuse, privacy and the digital future), indicate these inequalities sometimes intersect to exclude young adults in Colombia, Ghana, Kenya and Vietnam from fully enjoying their human rights in the digital age. This section summarizes the findings and links them to detailed recommendations, which were developed in collaboration with Community Advisory Teams and study participants in all four countries.

Columbia Research Team with representatives from The University of Warwick & Research Consultant

Digital inclusion

Digital inclusion is paramount for the success of the digital health transformation; however, research participants identified many factors contributing to the digital divides: including the cost of material access to both mobile phones and supporting infrastructure (data, internet connection), gaps in infrastructure, gaps in digital literacy and digital health literacy, stigma, and gender inequalities.

As governments increasingly move services online, exclusion from digital spaces affects intersecting and interdependent human rights, including the right to health, right to privacy, and indirectly, other social and economic rights: For example, some participants described being driven into debt due to the financial burden of accessing online platforms or being forced to choose between food and airtime for accessing health services.

Many participants reported economic, material or infrastructural barriers to digital inclusion, for instance, not being able to afford mobile phones, data bundles or WIFI connection. This indicates that it is not only larger infrastructure projects that can reduce digital divides, but smaller interventions to ensure access to digital technologies such as offering small stipends or free phones to enable access to telemedicine appointments, setting up rural WIFI centres, and prohibiting instalment fee models that result in mobile debt spirals.

With a large proportion of research participants reporting related digital divides, it is imperative to continue to ensure access to healthcare through non-digital means. This not only supports access to health information, services and care, but also respects the right to individual autonomy.

Digital divides should be analysed with an intersectional lens

The UN Special Rapporteur on the Right to Health recommended taking an intersectional, rights-based approach to digital innovation and technologies; this study has identified a variety of social, economic and infrastructure barriers that lead to diverse forms of overlapping exclusion. For example, women spoke more about digital exclusion in focus groups, linking factors including income, gendered household dynamics, and stigma. Women reported sharing smartphones - due to financial constraints and cultural reasons - that prevented them from fully engaging with accessing online health information, services and care due to privacy concerns. Women may therefore experience greater risks to fulfilment of their right to health.

To address this, governments, civil society and funding agencies must consider how gender and other barriers to digital inclusion intersect to exclude individuals and develop strategies and interventions that factor in intersecting inequalities. An intervention on material or infrastructural divides aimed at the general population may continue to lock out some of those who are already left behind. Without targeted interventions and support, rural women, transgender and gender-diverse people, people living with HIV and others who have historically experienced discrimination and marginalisation will remain excluded. These will perpetuate existing health inequalities and could lead individuals into situations of greater risk. For instance, one participant raised the risk that some might be pressured into transactional sex to purchase phones; this issue requires further study.

Social stigma arose as a key theme in affecting the digital divide, including for people living with HIV and key populations. While the underlying causes of stigma and discrimination go beyond the technology and social media platforms themselves, it remains critical to recognise how stigma deters individual use of social media and digital platforms as well as how these platforms amplify and present new ways to experience stigma. Reducing stigma and discrimination, including for people living with HIV and key populations, remains as important as ever.

Kenya Community Advisory Team Members

Technology-facilitated abuse (TFA)

Defining Technology-facilitated abuse to address diverse needs

An alarming three-quarters of focus group participants spoke of technology-facilitated abuse in all the four study countries, an increase over our previous studies. The UN Women's Expert Group Meeting Report finds significant gaps in knowledge and implementation regarding prevention and response of technology-facilitated violence against women.[27]

This report contributes new evidence that should inform a more expansive and nuanced understanding of technology-facilitated abuse, as affecting not only women and girls, but also young men and transgender people; with further reports of abuse from people living with HIV, and online and offline harms reported by gay men and other men who have sex with men, and by sex workers.

In addition, we note the concerning reports of targeted abuse affecting frontline HIV activists and peer outreach workers. These individuals are key partners in the global HIV response and their public service should earn them protection and support, not verbal abuse. This report has been written in this context of rapid loss of key global actors that have led provision of life-saving interventions - including access to medicines - for people living with HIV, thanks to, the radical changes in US international aid policy and closure of United States Agency for International Development (USAID), and resulting risks to the $6.5 billion PEPFAR programme that funded HIV treatment and prevention in over 50 countries in 2024, as well as the Global Fund to Fight AIDS, TB and Malaria. The ability to reach key populations with accurate health information, and encourage people to test for HIV, may rest increasingly on these young online advocates, many of them volunteers.

We also find that technology-facilitated abuse cannot be understood as an online-only phenomenon but as existing along a spectrum that occurs both online and offline. In one case, a Ghanaian participant recalled being targeted and groomed online to go to an in-person meeting where they were subsequently attacked. Sex workers described being targeted at their homes by individuals who had stalked them online. The online-offline continuum of abuse exacerbated by technology makes it difficult to monitor, and existing laws become a double-edged sword for populations who are criminalised. Policymakers must address these abuses, including the connections between online and offline harms.

Strengthening laws and policies, taking a survivor-centred approach

This study contributes to a growing evidence base that must be used to shape specific laws and policies to prevent and respond to technology-facilitated abuse, as well as develop systems to offer support to survivors.

To protect young adults, and increase trust in digital systems, there is a need for development of and implementation of effective laws and policies. Governments must ensure laws are responsive to new technologies and to the needs of young adults and those enforcing laws must receive up-to-date training. The response to technology-facilitated abuse must be grounded in a survivor-centred approach that centres autonomy, confidentiality and human rights. It should include provision of medical care, psychosocial and mental health care, and access to justice, including legal aid services.

Technology companies, including social media platforms, must take measures to prevent and protect users from abuse on their platforms or when using their digital technologies. The UN Working Group added that private companies should create "effective regulatory frameworks, including for content moderation and reporting mechanisms, sanctioning perpetrators and providing reliable information to address online gender- and age-related discrimination and violence."[28]

People with lived experience should be at the centre of decision-making and policymaking to address technology-facilitated abuse. Governments, funding agencies and civil society organisations should engage with community-led organisations to develop trust and support digital empowerment so community members can advocate for their digital rights and seek redress when harm occurs.

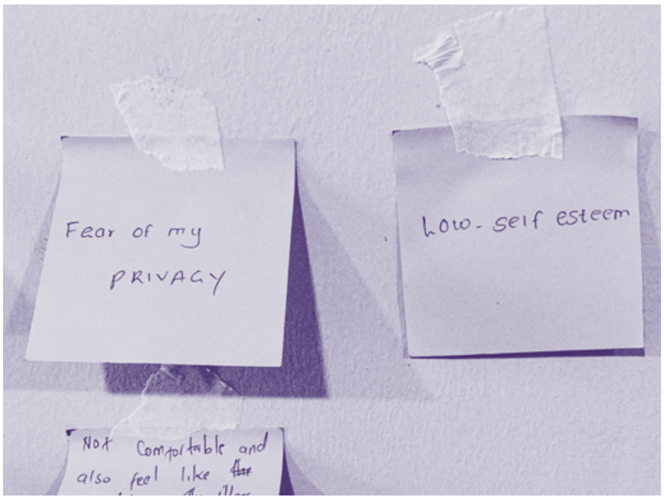
Privacy

The right to privacy in the digital age

Research participants raised concerns that relate to the undermining of the right to privacy in the digital age, including fears around third-party data sharing, government surveillance and community vigilance (or monitoring). The right to privacy is crucial for the right to health; lack of digital trust may deter patients from accessing health information and services.

Our study also shows that privacy affects different people differently based on gender, HIV status, sexual orientation, and socio-economic status. Study participants who were living with HIV, sex workers, gay men or transgender people said they faced risks of expulsion from the home, loss of job, social isolation, and more. Here again, an intersectional lens is needed to understand the different risks and needs of diverse populations in the digital transformation of health and avoid a one-size-fits-all approach.

Given study participants' concerns about data protection, it continues to be essential that the right to privacy is upheld by government agencies as part of their existing obligations under human rights treaties. National governments should also work to strengthen data protection laws and their enforcement to ensure the responsible use of data and user protection. They should also hold technology companies accountable for respecting data protection and human rights obligations and standards and ensure that the public is aware of and fully informed of their rights to data protection and to privacy, and of how they can report infringements of those rights.



Notes showing barriers to online access shared by focus group participants

Resilience and digital empowerment

Despite their concerns, most young adults in the study displayed resilience and optimism and were keen to shape their digital futures. To achieve a human rights-based digital future for all, it is essential that all stakeholders work toward building digital resilience and can do so by supporting digital literacy and empowerment as well as meaningfully including young adults and civil society, including representatives of historically marginalised groups, in digital governance. Research participants shared their interest in receiving training on new technologies including AI, how to safely and effectively use digital technologies, and how to protect their privacy online. Empowering young adults by building their digital literacy skills is a key way to build digital resilience and tackle other issues documented in this study.

As noted above, we coined the term 'digital empowerment' to describe the process of building individual knowledge of human rights in relation to digital technologies and spaces and supporting people to mobilise and contribute to digital governance and decision-making. Digital empowerment, such as Know Your Rights training, should be available for everyone; while there are growing interventions to address digital literacy in schools, we also see a need for education for adults, to teach about digital security, human rights, artificial intelligence, and digital governance.

Some study participants seemed to conclude that the only people who could protect and support them were themselves. On the positive side, this shows their impressive resilience and strength; but it also reflects a cascading failure of existing systems to ensure access to digital spaces, regulate technology companies, address inequalities and ensure accountability for harms. Digital empowerment must complement other interventions that directly address the digital barriers and harms discussed above.

Role of international community and meaningful participation of civil society

The issues raised by young adults in the study raise questions for the implementation of the Global Digital Compact, and the attainment of the Sustainable Development Goals, especially SDG 3 (Good health and wellbeing). In addressing all these concerns, both national and international stakeholders, including UN bodies (such as WHO, UNAIDS, UNDP and UNESCO), and multilateral organisations, have important roles to play. We have highlighted national obligations under international human rights standards above; international stakeholders can provide technical guidance on equitable approaches to digital inclusion, addressing health misinformation and disinformation, preventing and responding to technology-facilitated abuse, ensuring access to redress for harms and helping to define standards and tools for digital literacy and empowerment training. Important efforts are underway to support national lawmakers and promote responsible governance of AI in health, for instance by UNITE and Health AI. [29]

Digital and health strategies and policies must consider these factors in consultation with diverse populations, particularly women. This necessitates a holistic approach to understanding and responding to digital exclusion, including tackling root causes of exclusion including stigma and gender barriers. and ensures a person-centred approach to health policymaking and delivery. The global HIV response has demonstrated the critically important role that community-based, community-led organisations and civil society play in setting strategic priorities, delivering health services, reaching the most marginalised communities and holding governments and organisations accountable. The 2021 UN Political Declaration on HIV/AIDS affirms this, highlighting that significant percentages of funding should be directed through community-led organisations.

This report is published at a moment when the global governance landscape is changing, with political and funding priorities shifting rapidly. Recent, major cuts to ODA funding among donors present further challenges to addressing the issues raised in this report. For example, drastic reductions in USAID funding will have an inevitable impact on the implementation of the USAID Digital Policy and Digital Health Policy, which included strong commitments to digital literacy and community empowerment.

In this difficult context, there are still important roles to play for UN agencies and international organisations that are not high-cost and that uphold human rights-based approaches to development. These include developing standards for participatory approaches to digital health governance that meaningfully include civil society and young adults, ensuring they are included in plans to develop new global strategies and norms for digital governance; examples from civil society include the Principles of Meaningful Involvement of Communities and Civil Society in Global Health Governance.[30] To ensure all these issues are addressed, young adults, communities and civil society will need a seat at the table in digital governance, strategy and policy.

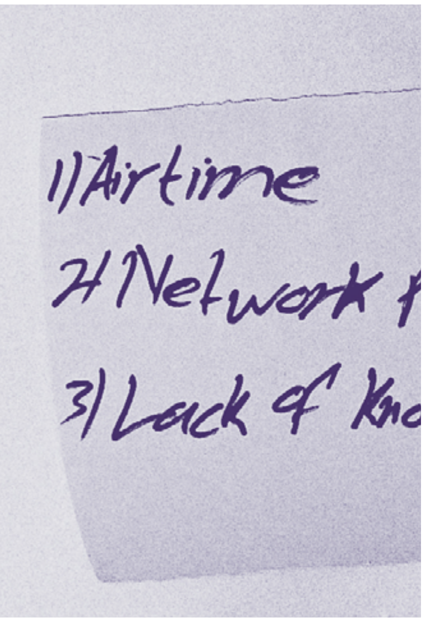
This requires duty bearers to create opportunities to learn from those with lived experience, for instance by conducting collaborative research. In this study, we have developed transnational participatory action research as an approach centre community in data-gathering and analysis; future research may identify specific issues surfaced in this qualitative study for more systematic investigation using quantitative methods.

This report shows how community-based and civil society organisations that are deeply rooted in local communities are best situated to understand their needs, to document community concerns, and to support and mobilised communities to navigate the complex challenges of the digital transformation and to respond to threats. National organisations and researchers have, or are rapidly getting, the expertise needed to lead local solutions to these global challenges. It is imperative that governments and funders support these groups, to ensure that young adults in the future will not be expected to pay the costs of connection.

> “Private companies should create effective regulatory frameworks, including for content moderation and reporting mechanisms, sanctioning perpetrators and providing reliable information to address online gender- and age-related discrimination and violence.”

9. Detailed Recommendations

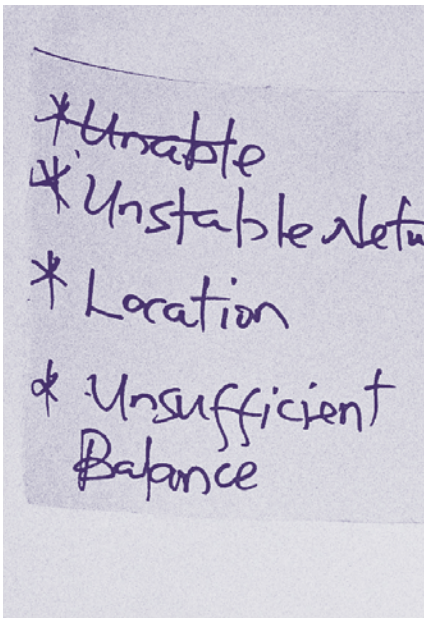
The following recommendations were developed using a participatory approach, as described above, including consultation with research participants, CAT members and experts within our consortium. A supplementary annex available online features recommendations provided by research participants only.



Notes showing barriers to online access shared by focus group participants

UN Agencies (including WHO, UNAIDS, UNDP and UNESCO), have a key role to play in supporting national governments and digital technology companies to be accountable to human rights in the digital age. We recommend UN agencies promote strengthening human rights standards in the digital age through:

- Ensuring that technical guidance and support is available for national governments on meaningful participation of civil society, young adults and community-led organisations to inform all policies, strategies and norms for digital governance;
- Provide technical guidance and support to UN member states to promote digital inclusion, address health misinformation and disinformation, prevent and respond to technology-facilitated abuse, ensure access to redress for harms, and promote effective digital literacy and know-your-rights training for adults;
- Promote development of laws and policies to address rights-based digital governance for health;
- Support civil society engagement on digital governance at national and international levels, through facilitating their meaningful participation in dialogues and networks on governance of digital technologies and platforms;
- Review existing norms and definitions of technology-facilitated abuse to ensure they address diverse populations that may be affected; and conduct ongoing data-gathering and monitoring of technology-facilitated abuse, to inform strategies, objectives and policies; and
- Ensure that the issues identified in this report are considered in the development or review of institutional strategies.



Notes showing barriers to online access shared by focus group participants

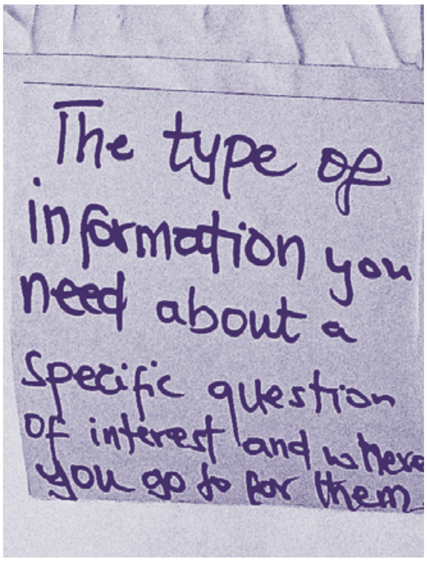
We recommend that National Governments:

- Acknowledge the impact that access to, and ability to use, digital technologies and platforms have on fulfilling the right to health, right to privacy, and other human rights.
- Recognise that digital inclusion is fundamental to the enjoyment of human rights and that tackling digital exclusion requires understanding and addressing multiple, intersecting social, economic and geographical challenges.
- Ensure that access to health services, information and care is not purely dependent on specific technologies or exclusively available through digital means. To prevent exclusion and discrimination, inclusive alternatives, including non-digital options, must be available.
- Progressively improve quality and coverage of Internet access, to ensure all people can get online and stay connected, regardless of where they live; consider the creation of secure public Wi-Fi zones that provide free, quality, secure connection to the internet.
- Address economic barriers to digital inclusion by ensuring access to smartphones, such as through direct provision of phones or subsidies, and access to low-cost or free data; work with telecommunications companies to identify risks and eliminate causes of mobile debt spiral.
- Ensure effective regulation of health mis- and dis-information online while upholding the right to freedom of expression.
- Meaningfully engage with diverse groups affected by digital divides, including women, rural populations and historically marginalised groups in all stages of decision-making.

DHRP validation workshop, Cape Town, South Africa

We recommend that Technology Companies and Telecommunications Companies:

- Respect the human right to information, right to health, right to privacy, and economic social and cultural rights, by avoiding causing or contributing to adverse human rights impact through their own activities and seeking to prevent adverse human rights impacts that are directly linked to their products or services.
- Work with community-led organizations to identify barriers to digital inclusion and opportunities to resolve these barriers; assess risk of debt spirals and take action to mitigate the risk.
- Integrate digital access and inclusion considerations into the process of developing digital technologies including from the design to dissemination.



The type of information you need about a specific question of interest and where you go for them

Notes showing barriers to online access shared by focus group participants.

We recommend that funders (including overseas development assistance and private philanthropy):

- Ensure grantees and implementers identify the extent, such as through due diligence processes, to which health systems and programmes rely on digital inclusion and risk amplifying digital inequities and take appropriate action to reach those that may be excluded
- Prioritise and evaluate investments into digital initiatives that promote affordability, accessibility and security, particularly for the most marginalised communities.
- Fund community-based organisations and civil society groups to advocate for better access to affordable, quality, secure internet connections and expanded network coverage to reduce digital exclusion and lead public awareness campaigns to reduce the stigma that underlies digital exclusion, particularly regarding gender, people living with HIV and key populations.
- Require and evaluate grantees to ensure the meaningful participation of young adults, including from marginalised groups, and civil society in decision-making.

Technology-facilitated abuse (TFA)

We recommend that National Governments:

- Recognise that technology-facilitated abuse affects women, men and gender-diverse people as well as people living with HIV, sex workers, gay men and other men who have sex with men; and that individuals may experience diverse forms of TFA that connect online and offline harassment and violence.
- Conduct further research and collect disaggregated data to understand the extent, nature and root causes and lived experience of survivors of TFA.
- Adopt a survivor-centred approach to prevention and response of TFA, upholding right to privacy and autonomy of survivors, and ensuring their access to support services, including medical care, mental health care, psychosocial support, and access to justice.
- Introduce and enforce laws and policies to address TFA in line with international human rights standards, while ensuring adaptability to keep up with evolving technologies.
- Implement existing recommendations by UN Human rights mechanisms on protecting women and girls from TFA.
- Ensure technology companies fulfil their responsibility to respect human rights by preventing and addressing TFA by users of their products; including ensuring social media companies effectively moderate content in line with human rights standards and provide access to remedy for users.
- Provide training on TFA to lawmakers, judges, lawyers, law enforcement and other relevant public officials.
- Run public awareness campaigns to educate the public on preventing TFA and how to seek redress.

- Support civil society, including by providing funding, to monitor TFA and advocate to ensure that duty bearers uphold their relevant human rights obligations.

We recommend that technology companies:

- Ensure content moderation and other related policies and mechanisms are in place to effectively identify, prevent and respond to abuse. This includes ensuring reporting mechanisms are easily accessible within platforms so users can easily report instances of TFA and seek remedy, in line with international human rights standards.

We recommend that funders:

- Support programmes and interventions that increase awareness, understanding and prevention of TFA and access to redress when TFA occurs. This includes investing in research on the diverse forms of TFA and how it affects different communities, and funding community-led organisations and civil society to deliver digital literacy and Know Your Rights training.

Privacy

We recommend that National Governments:

- Uphold and strengthen the right to privacy by fulfilling human rights treaties and standards to protect individual privacy.
- Work to strengthen data protection and governance laws and their enforcement to ensure the responsible use of personal data, user protection, and to prohibit privacy breaches.
- Health officials should recognise that some individuals, particularly those who are socially or economically marginalised, may share mobile phones, and ensure this consideration influences healthcare delivery. For example, health care workers should discuss and confirm consent for how they communicate with patients, as sending text messages to remind a person living with HIV to take their medication, may inadvertently disclose HIV status to others who may access the phone.
- Ensure that any public-private partnerships in the delivery of digital health services and/or health information uphold and expressly incorporate human rights standards and include human rights due diligence and mechanisms for effective oversight.
- Ensure that members of the public are aware of their rights under data protection laws, and how they can file complaints.

We recommend that technology companies:

- Uphold the responsibility to respect the right to privacy, including appropriate action to prevent, mitigate and address actual and potential impacts.
- Ensure compliance with internationally recognised data protection principles, including through effective human rights due diligence, and uphold transparency in their internal policies and practices that implicate the right to privacy of their users.
- Ensure accountability to users regarding data privacy, adopt privacy by design and by default to all their services.

Mural in Dalat, Vietnam

We recommend that funders:

- Invest in the capacity of community-led and community-based organisations to support and advocate for privacy and data protection among communities.

Resilience, digital literacy and the future

We recommend that National Governments:

- Recognise digital literacy as an essential aspect of the right to education and the right to benefit from scientific progress.
- Ensure funding for digital literacy and empowerment training, for all ages, that is responsive to emerging needs and technological developments (including AI), works with and through community-based and civil society organisations, and integrates training into broader healthcare and education service provision.
- Uphold the right to participation by ensuring the meaningful engagement of communities, particularly young adults, women, people living with HIV and historically marginalised populations, in the decisions that affect their lives, including the development and governance of digital technologies and the systems they depend on, using meaningful participation principles agreed by community-led organisations and civil society.

Funders:

- Invest in digital literacy and Know Your Rights training in development and global health programmes and ensure dedicated funding and detailed programmatic and technical guidance is available.
- Study and invest in good practices such as community-based digital literacy training, especially for community leaders, people living with HIV, and other historically marginalised populations. Training should cover digital empowerment topics identified by participants in this research report, including human rights, cybersecurity, misinformation, artificial intelligence, and technology-facilitated abuse.

Vietnam community advisory team members

10. Conclusion

This multi-country study shares voices from young adults who told us how deep inequalities are shaping their lived experience in Colombia, Ghana, Kenya and Vietnam. They also described their determination to create a better digital future. The issues they describe demand action: We all need to work together to close digital divides, prevent and respond to technology-facilitated abuse, and build a digital world that works for all.

Acknowledgements

The research and writing team who produced this report gratefully acknowledge support and collaboration from many partners in Colombia, Ghana, Kenya, Vietnam and in the Digital Health and Rights Project consortium who made this study possible. We thank the Community Advisory Teams, whose invaluable advice guided the study; the civil society organisations and community mobilisers who supported recruitment of study participants; and colleagues at international organizations, including at WHO, OHCHR, DTH-Lab, and UNDP who helped with insights and advice. None of them are responsible for the content of the report. We are also very grateful to staff at consortium member organisations and universities who supported the process with financial management, project management, human resources, travel logistics, communications, and other support that made the study possible. We are deeply grateful to Fondation Botnar and the University of Warwick ESRC IAA funds for their generous support.

Finally, we are deeply grateful to everyone in the four study countries who gave their time and energy to participate in focus group discussions and interviews. We hope the report faithfully describes the experiences you described and sparks action to address your concerns.

Digital Health and Rights Project Consortium

The Digital Health and Rights Project Consortium brings together international social scientists, human rights lawyers, health advocates, and networks of people living with HIV, to conduct research and advocate for rights-based digital governance in Colombia, Ghana, Kenya, Vietnam, and globally. We use a transnational participatory action research approach, centring the voices and leadership of diverse young adults to define the future of human rights in the digital age.

The consortium includes:

- Ghana Network of Persons Living with HIV and AIDS (NAP+ Ghana)
- Global Network of People Living with HIV (GNP+)
- Kenya Legal & Ethical Issues Network on HIV and AIDS (KELIN)
- Privacy International
- Restless Development
- STOPAIDS
- Universidad de los Andes
- University of Warwick
- Vietnam Network of People Living with HIV (VNP+)

Website: digitalhealthandrights.com

Our four focus countries for this study– Colombia, Ghana, Kenya and Vietnam – exemplify diverse stages of digital transformation in four geographic regions (Latin America, West Africa, East Africa, Southeast Asia respectively). They were selected through partnerships with national institutions, and in the case of GNP+, through a consultation with member networks to identify those interested to participate.

While the four countries have significant differences in terms of culture, economy, geography and history, they also have some commonalities. All four countries have young adult populations who experienced rapid increase in mobile phone use during and after the Covid-19 pandemic: for example, in Kenya, the number of mobile subscriptions increased from 65.7 million in 2022 to 66.7 million in 2023;[31] while in Vietnam, over 80% of the population over 15 years of age now owns a smartphone.[32] Based on a desk review of national policies and grey literature in each country, led by national researchers, we found significant diversity in the frameworks used to engage in and address inequalities in participation and inclusion in digital health.

Vietnam has made significant progress in developing its digital sector, recognising its potential for economic growth and development., including, according to UNICEF, being one of four countries to achieving gender parity in digital skills and expanding legal and policy frameworks.[33] However, while the government has introduced laws (the law on cybersecurity; the Decree 53 (2022),and the personal data protection decree (2023) together in one common place) and regulations to safeguard digital information and combat cyber threats, critics have argued that these regulations are overbroad.[34] Vietnam's HIV epidemic is concentrated among young adult key populations.[35] In DHRP's previous study in 2021-22, we found that young adults in Vietnam were enthusiastic about the use of online platforms, but that they had serious concerns about health misinformation and information overload.[36]

In contrast, Colombia is still emerging from a prolonged internal conflict and working towards equitable digital access and connectivity. Research has found that in municipal capitals, 2.7% of people rate their internet service as poor, while 22.7% consider it average, and these numbers are considerably higher than rural areas.[37] While the Colombian government has responded with nationwide and departmental programmes, such as an initiative to install free internet points including 1,180 free Wi-Fi zones in 162 rural municipalities, urban areas have higher skill acquisition of digital skills than those in rural areas.[38] While Law 1581 of 2012 regulates general provisions on privacy and protection of personal data, concerns about misinformation as well as online privacy and security persist.[39] While foundational policies for regulating digital technologies have been put in place, a national digital health strategy that meets the needs of diverse populations is needed. [40]

> "We found significant diversity in the frameworks used to engage in and address inequalities in participation and inclusion in digital health."

Ghana's internet penetration was estimated at 68.3% in 2023.[41] Ghana's diverse populations have benefited from growing access, but gender inequalities persist: in 2021 over a million more females did not own a smartphone compared with males.[42] More than half of Ghanaians lack the digital skills required to navigate online health services.[43] While Ghana has enacted a Data Protection Act 2012 (Act 843) and the Cybersecurity Act 2020 (Act 1038), DHRP's 2024 review found more work needs to be done to create a comprehensive legal and policy framework for digital health governance.[44] Ghana's new Policy and Strategy on Digital Health 2023-2027 promises specific attention to principles of equity and diversity, and incorporated the views of civil society, but it did not consider gender and other inequalities.[45]

In Ghana, the HIV epidemic is classified as mixed among different population groups, and its prevalence is consistently higher among female sex workers.[46] Key populations face an increasingly difficult environment for access to HIV services and information: a proposed anti-homosexuality bill that prescribes a three-year jail term for people who identify as gay, and five to ten years for those who advocate for or promote homosexuality, was recently reintroduced by members of Parliament.[47]

Kenya, sometimes called the 'Silicon Savannah', is a leader in the digital transformation in East Africa, as exemplified by innovation and rapid technological advancements.[48] Kenya's internet penetration is 92%; however, Kenya also faces a digital divide with unequal access to tools, broadband and skills, particularly in rural regions.[49] The prevalence of HIV in Kenya had increased from 3.3% in 2023 to an estimated 3.7 in 2025. HIV prevalence is higher among Kenyan females than males.[50] In our previous research we found that young adults in Kenya were using social media sites to access health information, but they also disclosed harms linked to seeking health information online including cyberbullying, data mining and anxieties about surveillance, especially for young adults living with HIV, key populations, and young women seeking information on sexual and reproductive health.[51] Statistics on gender based violence indicates that over 40% of women have endured physical or sexual intimate partner violence in their lifetime, with the lifetime violence prevalence standing at 20.5%.[52]

Kenya's passage of a Digital Health Act, in 2023 (Act 15) aimed to address digital governance fragmentation by providing a framework for the provision of digital health services, establishing a comprehensive integrated digital health information system, and instituting a Digital Health Agency.[53] The Digital Health Act was found unconstitutional in 2024 due to lack of public participation and violation of constitutional provisions. The High Court's decision was appealed by the Cabinet Secretary for Health, and the Court of Appeal granted a stay of the High Court's decision, allowing interim implementation of this law pending outcome of the appeal.[54]

The Digital Health Act is complemented by core legal frameworks such as: (i) the Data Protection Act (2019); (ii) Kenya Information and Communications Act (1998); the Science, Technology, and Innovation Act (2013); the Computer Misuse and Cybercrimes Act (2018); and the ICT Policy (2019).[55] Further work is needed to streamline policy efforts, ensure their effective implementation and meaningfully engage civil society and communities in digital governance.[56]

Columbia Community Advisory Team with representatives from The University of Warwick & Restless Development.

Appendix two: focus group discussion question guide

Part A: Digital divides – 30 minutes

Question	Note to facilitator
1. **Please take a moment to write on a post it some examples of things that make it difficult for you and people you know to get online to access health information and services. (For example: need a smartphone, airtime, privacy, etc.)**	Give participants 5-10 minutes to write these down and invite them to stick them on the walls (facilitators to check when most are finished and wrap up then). In case participants are not comfortable with writing, offer to write these down for them, and post them up on the wall. As each participant hands over the note, put it up on the wall, grouping together related topics and mentally identifying topics to discuss.
› **Please, everyone get up and spend a few minutes seeing what is on the wall.**	Notetaker: take a photograph of the wall with the post-op notes and label with the FGD code Give them five minutes to walk through and look Remember to keep the recorder nearby if they start speaking
2. **When they are seated again, pick one or two FGD notes and weave these questions into the discussion as appropriate:** I see someone put [example], can anyone tell us more about this? › Was there ever a time when you had difficulties getting health information because of one of the issues on the wall, and what happened? › Does anyone here share their phone with a friend or family member? If yes, how does that affect your privacy? › Are the issues any different for men vs women, or PLHIV or key populations? › Of the issues on the wall, which is the topmost important issue? It's okay if people have different views on this.	Pick out 3-5 post it notes with the most important issues raised, and invite the group to reflect on each one
3. **What should be done about the problems we have discussed?** › Who should do it?	
4. **If you have experienced harm online (such as bullying or verbal abuse), have you tried to report it or get help?** › If you did, then what happened?	

Part B: Surveillance – 30 minutes

Question	**Note to facilitator**
5. **I don't know if you're aware, but the apps we use on our phones may keep a lot of information about who we are and what we do online. For instance, our age, our gender, location, who are the people we message with, and more.** This information is valuable, so companies use this for maximizing their profits. Companies use the information to sell advertising and so when you open your phone, you may see ads for things you are interested in popping up. a. Have you ever heard about this or experienced it? b. How do you feel about it? (Share a case study to put into more context)	Moderator: Can give an example from the local context that has recently been widely discussed. For example, Snapchat is popular among youth who feel it is more private, but they recently were accused of gathering biometrics (eye scans, facial recognition) without telling people Another example: the Flo app has been fined for selling information to other companies, such as Facebook
6. **Do you or anyone close to you use menstrual tracking apps and if so, which one?**	
7. **Some government or other kinds of organisations use apps to monitor where people go and what they do.** a. Have you ever heard about this or experienced it? b. If yes, how did it affect you?	
8. **Does law enforcement use your information online to criminalize you or your community?**	
9. **Who is the biggest threat if they have your personal information:** › a family member or a friend › a private company › a government agency a. other b. all equally a problem, or c. all equally no problem Tell me more about this.	
10. **What needs to be done to protect your privacy?** d. Who should do it?	
11. **Have you ever been asked to give your biometrics (fingerprints, face) to verify your identity to get services (such as health, welfare, or banks)?** e. If so, how do you feel about it?	Moderator: Can share recent example of biometrics from the local news if this is helpful

Part C: Digital literacy and the future – 30 minutes

Question	**Note to facilitator**
12. Have you ever heard of artificial intelligence, or AI? f. Please share what you have heard or describe your experience, how have you used it, experienced it, is it good or bad?	Moderator: Give an example of AI from the local context
13. Have you ever participated in campaigns on social media for health and rights of women, PLHIV or key populations? g. If so, can you share what happened?	
14. Would you be interested in training on the issues we are talking about today, such as digital technologies, health and your rights h. What specific topics interest you? Digital literacy, AI? i. and if so, would you prefer a workshop, a zoom call online, printed materials, something else?	
15. **What would your ideal dream scenario be for your life online in the future?** j. Who would be responsible for making this dream a reality?	
16. **Is there anything else we should have asked?** k. Anyone who has knowledge of this subject we should talk to?	
Conclusion: Thank you very much for your time today. If you are interested to participate in future trainings or events on these issues, we have a sign-up sheet where you can leave your email or phone number. It's optional so if you just want to leave, we will understand and just thank you again.	Ensure follow-up and referrals to counselling for anyone who has either a) disclosed harm and seemed upset or b) expressed thoughts of self-harm.

Appendix three: list of key informant professions and locations

No	Agency	Profession/Occupation	Country	Location
1	Youth Leader	Executive Director	Kenya	Nairobi
2	Community Leader (FSW)	Programme Director	Kenya	Migori
3	Youth Leader	Social Worker	Kenya	Mombasa
4	Community Leader	Volunteer	Kenya	Mombasa
5	County Government	Key Population Focal Person/Clinician	Kenya	Mombasa
6	CSO	Human Rights Lawyer	Kenya	Mombasa
8	CBO	MSM Leader	Vietnam	HCM
9	CSO	PLHIV leader	Vietnam	HCM
10	Social enterprise	LGBT Leader	Vietnam	HCM
11	MSM Network	Social worker	Vietnam	HCM
12	S.E Stronglady	TG Leader	Vietnam	HCM
13	IRD Vietnam	Program Manager	Vietnam	Hanoi
14	PEPFAR VN	Foreign Affairs Dept	Vietnam	Hanoi
15	G.Link S.E	Director	Vietnam	HCM
16	USAID	Technical Advisor	Vietnam	Hanoi
17	VNPUD	Leader	Vietnam	Hanoi
18	MSM Network	MSM leader	Vietnam	Hanoi
19	TG network	TG leader	Vietnam	Hanoi
20	CBO	MSM leader	Vietnam	Hanoi
21	CSO (KP+ Ghana)	Development worker	Ghana	Online
22	CSO (Human rights)	Human Rights Defender	Ghana	Online
23	UNDP	Program Specialist HIV, Health and Development	Ghana	Online
24	NGO/IT firm	Digital advisor/biostatistician	Ghana	Online
25	CSO	Researcher	Ghana	Online
26	Government	Medical Doctor	Ghana	Online
27	NGO/IT firm	Program Manager	Ghana	Online
28	NGO	Civic Participation Coordinator	Colombia	Online
29	Government, university, NGO	Consultant	Colombia	Bogota
30	NGO	Director	Colombia	Bogota
31	NGO	Director	Colombia	Bogota
32	NGO	Head of Programme	Colombia	Medellín
33	NGO	Co-coordinator	Colombia	Medellín
34	Private Sector	Manager	Colombia	Bogota
35	Education/Pedagogy	Director	Colombia	Medellín
36	NGO	Director	Colombia	Bogota
37	International Donor	Coordinator	Colombia	Bogota
38	Private Sector	Head of Social Responsibility Department	Colombia	Bogota
39	Government	Ex-vice ministry of digital competences/ currently TIC minister consultant	Colombia	Bogota
40	Government	Director of digital competences	Colombia	Bogota
41		Sex Worker	Colombia	Bogota
42	Private Company	Web studio coordinator	Colombia	Bogota

Appendix four: codebook

Cluster	Theme	Sub-theme	Definition
Future visions of the digital age	Future - negative		Participant describes fears that the future of the digital age will mean less robust or meaningful human rights for self or others
	Future - positive		Participant hopes for the future of the digital transformation, including opportunities to better regulate, create alternatives, or improve human rights for self or others.
Barriers to accessing health information and services through mobile phones	Barriers - economic	Lack of funds to pay for data and other essentials	Participant describes need-ing to make tough choices between data and other es-sentials (such as food, housing, transportation, or other basic needs)
		Lack of data is barrier to essential services	Lack of data or airtime cre-ates a barrier to accessing health information or ser-vices online
		Paid apps	Participant feels pressured to pay apps for health information
		Unable to afford smartphones (instead using button phones, panela, yams)	Participant is unable to access health info, services, welfare services due to need for smartphone
		Debt spiral	Participant borrows money to pay for internet/phone costs and unable to pay it back, so borrows again, etc.
		Dependence on parents, partners	Participant relies on parents, partners or friends to pay for or provide smartphones or airtime and access information
	Barriers - economic	Rural divide	Participant described poor internet connectivity due to weak infrastructure in rural areas, weather, etc.
	Barriers - education and culture	Lack of education, digital literacy	Limited education means participant (or people they know) are unaware of how to access internet or search for information online
		Cultural/religious beliefs	Participant (or people they know) are afraid of internet due to local cultural beliefs
	Barrier - stigma	Self-censorship	Participant describes self-censorship or avoidance of seeking information or shar-ing on digital spaces out of fear of abuse; Participant is afraid that their online searches for information could lead to stigma
	Barrier - poor service	Poor app design, lack of reply, no linkage	Participant describes app or platform design and pre-venting them from accessing health information or ser-vices, and lack of linkage to care
	Barriers - other		Any barriers to online in-formation or services not captured by the other codes
Experiences of surveillance, abuse, and access to remedy	Government surveillance - negative	Police or other government surveillance	Participant describes police or other government agencies using digital tools or online spaces to monitor participant activities
		Biometrics, national ID	Participant shares concerns about being monitored through national ID number, biometrics

Cluster	Theme	Sub-theme	Definition
Experiences of surveillance, abuse, and access to remedy (cont.)	Government surveillance - negative	Police or other government surveillance	Participant describes police or other government agencies using digital tools or online spaces to monitor participant activities
		Biometrics, national ID	Participant shares concerns about being monitored through national ID number, biometrics
	Government surveillance - positive		Participant feels government surveillance is in the public interest and causes no harm.
	Surveillance by private companies - negative		Participants share risks or concerns linked to surveillance by private companies, including employers, social media
	Surveillance by private companies - positive		Participants see benefits to corporate surveillance, such as security
	Poor data protection		Participants describe perception or negative impacts of poor data protection, or of data sold to third parties. Ex: Escort website shares sex workers' identifying information with clients
	Family, partner, friend surveillance - negative		Participant describes surveillance by parents or partner of online behaviour, which participant experiences as welcome
	Family, partner, friend surveillance - positive		Participant accepts surveillance as normal.
	Surveillance - neutral		Participant describes using apps to track menstrual health (positive, negative or neutral)
	Menstrual health apps		Participant describes using apps to track menstrual health (positive, negative or neutral)
	Technology-facilitated abuse	Verbal abuse	Participant describes verbal abuse or abusive images related to health status, sexual orientation, gender identity or sexuality
		Physical assault	Participant describes physical harm linked to online relationships or behaviour
		Extortion or blackmail	Participant describes sharing info online that led to threats of blackmail or extortion
		Stalking	Participant describes abusive or intrusive following by a person online
		Self-harm	Participant describes depression, abuse towards self, self-harm linked to something that happened online
	Access to remedy - negative	Justice system	Participant describes lack of trust in justice system due to past experiences
		Digital platforms	Participant describes unsuccessful attempts to report abuse to platforms
	Access to remedy - Positive	Justice system	Participant describes trust in the system to take care of complaints of abuse or harm

Cluster	Theme	Sub-theme	Definition
What should be done about the issues discussed?	Recommendations	UN or international organisation	Recommendations for action by UN, Global Fund, aid donors, or other international organisations
		Government	Recommendations for action by government or other actors to address problems identified by FGD and IDI participants
		Non-government actors	Recommendations for action by NGOs or other non-governmental actors
		Private sector	Recommendations for action by private companies
	Low awareness by leaders		KIIs describe lack of training and awareness on digital governance, digital rights
	Community-led response	Community leaders using social media to mobilize	Descriptions by study participants of their use of WhatsApp, Zalo, Facebook etc. to share information about health, legal matters, etc.
Training interests	Digital health literacy	False health information due to profiteering	Fake ads, fake comments promoting treatments or cures
		Views on digital health literacy	Participant views of their own and others' skills and literacy
		Not enough information	Participant describes not getting enough or only partial information and unable to make informed decisions
		Too much information	Participant describes information overload as leading to poor decisions
		Technical language	Participant describes technical or medical language as a barrier to understanding information
	Digital literacy	Basic digital skills	Participant describes having, or lack of, basic digital skills (e.g. how to create an account, search for information)
	Digital rights, security and governance literacy	Governance	Participant in FGD or IDI describes either having or lacking skills to protect self online; rights, protections under existing laws and policies
	AI		Experiences by participants of using AI (for example, ChatGPT, chatbots, or other AI) for health, education or any other purpose
	Format of training		Participant shares preferences for digital empowerment training content, skills, format, tools, methods, etc.

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Digital Health and Rights Project Consortium
Centre for Interdisciplinary Methodologies, The University of Warwick

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