DIGITAL TRANSFORMATIONS FOR HEALTH LAB

GOVERNING HEALTH FUTURES 2030

Building a blueprint for digital first health systems

Findings from regional youth workshops and focus group discussions

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Finally, we would like to thank organizations that partnered with us on specific focus group discussions including: Africa CDC, International Lesbian, Gay, Bisexual, Transgender, Queer & Intersex Youth and Student Organisation (IGLYO), European Patients forum (EPF), The Official Children and Youth Constituency of the United Nations Framework Convention on Climate Change (UNFCCC/ YOUNGO), SpeakUp Africa, YLabs CyberRwanda, United for Global Mental Health and Orygen.

Executive summary

Digital Transformations for Health Lab (DTH-Lab) is translating into action the key recommendations of *The Lancet* and *Financial Times* Commission on Governing Health Futures 2030: growing up in a digital world.

The Commission recommended that for young people's health and well-being to thrive in an age of digital transformations, youth must co-design and critically engage with digital first health systems (DFHS) as part of efforts to increase public participation and digital citizenship for health.

DTH-Lab is collaborating with young people around the world to develop a **blueprint for digital first health systems that support youth health and well-being**. This blueprint will set out young people's vision for equitable DFHS and guide different stakeholders – from policy makers to technology companies – on the steps required to make this vision a reality.

This work is part of a long-term project working with young people to co-create innovative solutions that improve their health and well-being. In 2024, DTH-Lab launched the global interim report which presented the key findings from a series of online consultations with youth at the global level.

In building a DFHS blueprint that accounts for the unique needs of young people, this report presents the findings and key recommendations from 16 workshops and focus group discussions (FGDs). DTH-Lab consulted with more than 300 young people under 30 from 80 countries, through nine virtual and in-person workshops and seven focus group discussions.

The findings from these workshops and focus groups reinforce what youth told us during global consultations – about the key values, features, tech innovations and health priority areas that youth believe DFHS should be built with – but offer a more nuanced and contextual assessment of what different youth experience and prioritize in different regions. These regional consultations also revealed a range of different considerations that stakeholders must account for in designing, building and implementing DFHS that work for diverse young people across the globe.

This report focuses on the universally agreed elements of a DFHS put forward by young people, regardless of differences in geography or disciplinary backgrounds. We discuss the top health priority areas youth need DFHS to tackle. We highlight core tensions that stakeholders must balance if we are to collectively reach a DFHS built for youth. Lastly, we share the innovative ideas young people have developed to support stakeholders in achieving this ideal DFHS.

It is important to understand there are global findings that were reinforced at the regional level.

In the graphic below findings that were newly introduced or given greater priority in the regional workshops and FGDs are represented in a lighter shade. The five key tensions were also identified during regional consultations.

Introduction

In 2026, it will be 40 years since the launch of the Ottawa Charter on Health Promotion, and its relevance has yet to diminish. The Charter puts forward the premise that health is created and shaped in our everyday life, not just in healthcare settings (World Health Organization, 1986). This remains true in the digital age, where the direct and indirect ways in which digital and artificial intelligence (AI) are affecting our health and well-being is increasingly profound and complex (Holly, Kickbusch & Demaio, 2024). Additionally, young people are using digital technologies that affect their health and well-being but are often excluded from decision making processes that affect their health futures (Kickbusch et al., 2021). This exclusion may not always be intentional, but youth have shared concerns around the tokenistic involvement of young people within governance structures, healthcare systems or digital innovations. Youth want to be meaningfully involved, but many feel that they lack the necessary skills, capacity and opportunities to shape their desired health futures (*The Lancet* and *Financial Times* Commission, 2021; Wong, Gray & Holly, 2021).

The Lancet and *Financial Times* Commission on Governing health futures 2030: Growing up in a digital world found that:

1. Enfranchised communities and public participation are crucial for citizens to **co-design the future of health governance**.
2. For young people's health and well-being to thrive in an age of digital transformations, youth must **co-design and critically engage with DFHS** as part of efforts to increase public participation and digital citizenship for health (*The Lancet* and *Financial Times* Commission, 2021a).

DTH-Lab is partnering with young people from across the world to develop a blueprint for digital first health systems.

The blueprint will guide stakeholders – from policy makers to technology companies – on the steps required to realize young people's collective vision for equitable DFHS that respond to their diverse health needs and priorities.

Aiming to better understand how to achieve **DFHS that support the health and well-being of young people** (*Figure 1*), this report builds upon the findings of a global report launched in 2024. **It underscores the universally agreed upon and non-negotiable elements of a digital first health system as put forward by young people** under the age of 30, by showcasing the similarities and differences in priorities and perspectives between the global level consultations and regional level workshops. It highlights regionally-specific considerations that need to be accounted for when overcoming context-specific challenges and barriers. It outlines several key recommendations with proposed stakeholder actions. Lastly, it introduces five key tensions that need to be balanced to achieve more equitable, transformative and sustainable DFHS built for youth.

What are digital first health systems according to young people?

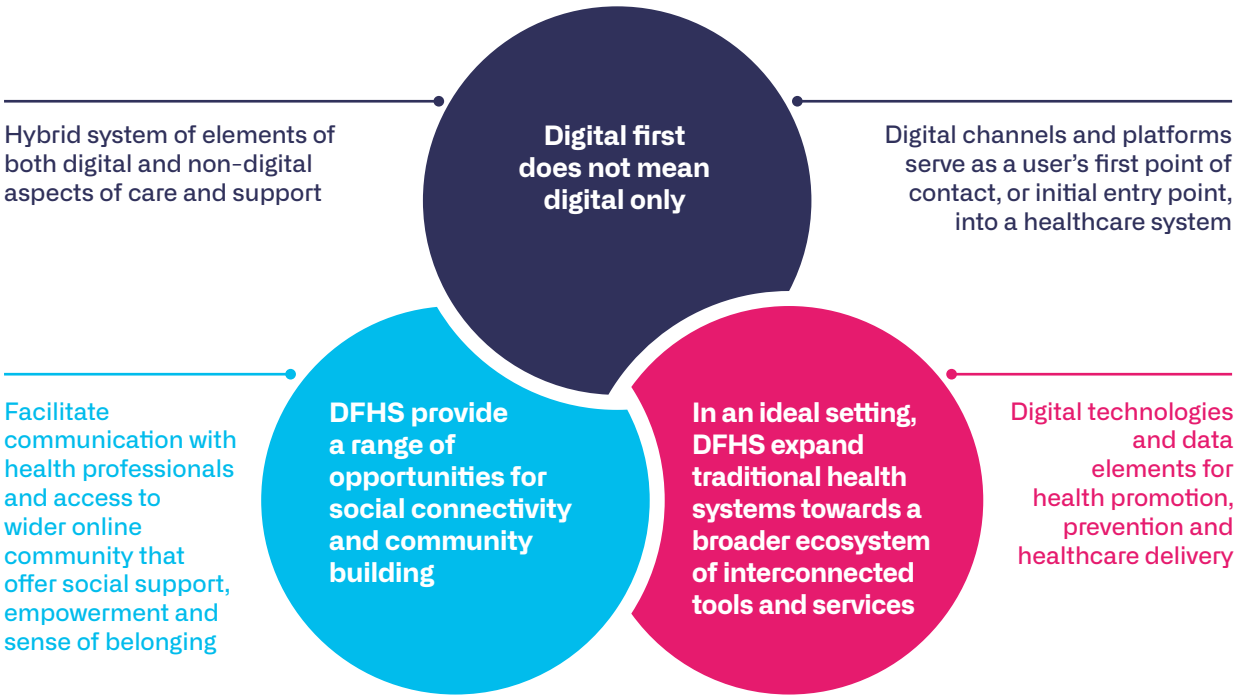


Figure 1: Digital first health systems according to young people (DTH-Lab, 2024)

In both healthcare rich and poor settings, DFHS offer solutions to communities who face barriers in accessing quality healthcare services and trained health workers. Echoing Werner, Thuman and Maxwell in *Where There Is No Doctor: A Village Healthcare Handbook* (1992), DHFS enable access to healthcare services where there would otherwise be limited options, or none at all. In this way, **DFHS can address healthcare needs that would otherwise be unmet or inaccessible**. Rather than traveling to a health facility for a face-to-face medical appointment, a patient can access a range of personalized health services and health information through digital tools and platforms. These include virtual consultations with doctors, online patient support groups, wearable sensors to monitor vital signs and AI-assisted health information tools. Within such a system, users can obtain an interconnected set of services to fulfil a variety of health needs, in one integrated experience. DFHS are also important for those living in more affluent societies but who face other access barriers, such as long waiting times or whose health conditions are stigmatized or under-prioritized.

To young people it is obvious: digital first does not mean digital only. A digital first health system can and should include hybrid elements (blended digital and non-digital methods of care) or non-digital elements that are enhanced by digital infrastructure. It is important that digital health solutions do not attempt to replace healthcare workers, rather, an essential component of DFHS should be to leverage digital solutions to act as mediators that connect patients to necessary in-person service delivery, when required.

Context and methods

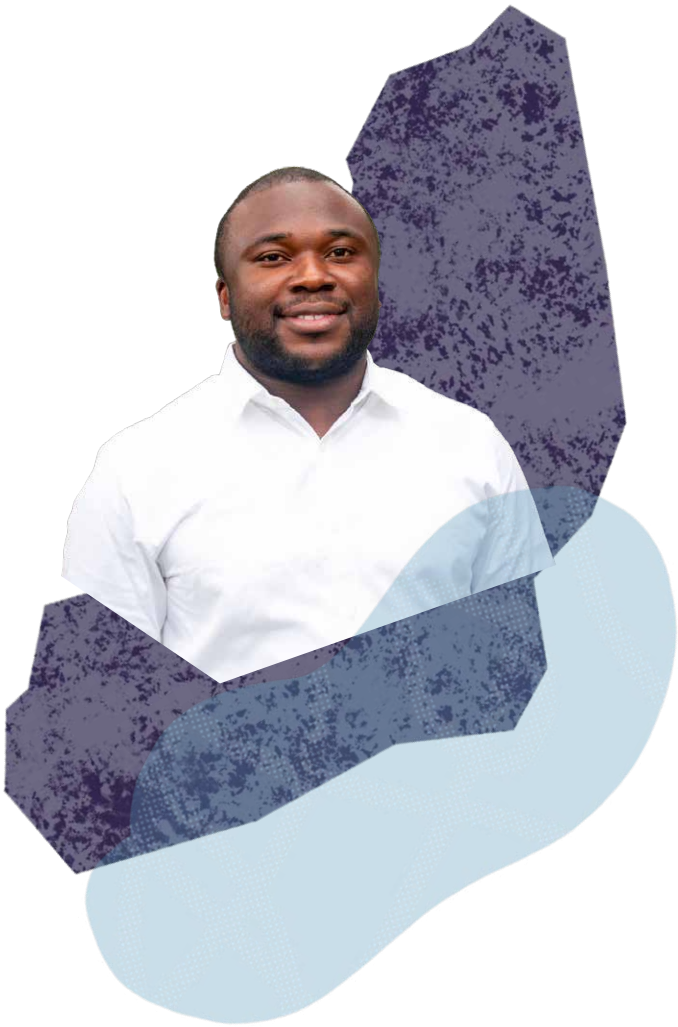
Over 300 young people aged under 30 from 80 countries (See Annex 1) were consulted through nine virtual and in-person workshops and seven focus group discussions (FGDs).

Of the nine workshops, six were held at the regional level in the Eastern Mediterranean, Asia Pacific, Africa, Americas and Europe1 and three were held at the country level in Nigeria, Germany and India.

In the regional and national-level workshops, a range of non-formal techniques were used, including role-playing, foresight thinking, group discussions, mind maps and polls. The majority of workshops (seven out of nine) were held in person, alongside existing partner meetings.

"In facilitated breakout sessions, participants took on the roles of stakeholders from diverse backgrounds (including international organizations, national governments, civil society organizations, healthcare providers and the private sector) to address pressing healthcare delivery challenges. These sessions were marked by spirited debates and creative problem-solving, leading to actionable strategies for advancing digital first health systems."

Enow Awah Georges Stevens
Workshop Moderator, DTH-Lab.



[1] Regional grouping based on partners regional classification https://ifmsa.org/regions and https://www.ipsf.org/countries

This was made possible thanks to DTH-Lab's partnerships with the International Federation of Medical Students' Association (IFMSA), the International Pharmaceutical Students' Federation (IPSF), European Medical Students' Association (EMSA), German Medical Students' Association (GMSA), Global Shapers Community and the Africa Digital Health Summit. Regional and national-level workshops brought together a range of youth with diverse disciplinary backgrounds with a particular focus on capturing the perspectives of the future health workforce who will play an integral role in implementing DFHS.

FGDs, with the exception of the pilot discussion with the Africa Centres for Disease Control and Prevention (Africa CDC), were all held virtually using online whiteboards and polls. FGDs focused on a select number of questions that were designed to be straightforward and foster discussion (Panel 1).

The FGDs were also designed to consult youth from specific interest groups. Participants were identified through DTH-Lab partners who either work directly with young people or are personally tied to their specific health needs. We were particularly cognizant of reaching those who had been identified as key interest groups by young people in previous consultations. This included a focus on young people with experiences of mental health and SRH issues, as well as climate activists, LGBTQI, and other traditionally underrepresented youth and patients. Partners involved in organizing and facilitating FGDs were the Africa CDC, The International Lesbian, Gay, Bisexual, Transgender, Queer & Intersex Youth and Student Organisation (IGLYO), European Patients Forum (EPF), The Official Children and Youth Constituency of the United Nations Framework Convention on Climate Change (UNFCCC/YOUNGO), SpeakUp Africa, YLabs CyberRwanda, United for Global Mental Health and Orygen.

Each workshop and FGD was co-designed with members of the DTH-Lab team, along with our cohort of Regional Youth Champions (RYCs). A pilot workshop and FGD were followed by a youth-led review of the process, methods and techniques prior to rolling out the series of workshops and FGDs. Each session was led by a RYC either on-site or virtually. All RYC received an online training on the concepts, background and goals of the project, including the foundational thinking of the project: working with young people as partners, not just beneficiaries.

Panel 1:
Discussion questions for FGDs

Virtual whiteboards were used to help structure and capture insights from the workshop discussions. There were three main boards, or thematic areas of importance, identified by youth for each group to respond to. Two of which focused on the top health priority areas identified by youth: mental health, sexual and reproductive health (SRH). Participants were asked to respond to the following two questions:

1. What programmes or initiatives have been effective in tackling mental health and SRH?
2. How could they be adapted/reimagined in the digital space?

A third board focused on youth participation and engagement with two core questions asked to the groups:

1. What actions could be taken to prioritize health issues for young people on the political agenda?
2. How can young people play a more central role in engaging with governance structures?

Universal, non-negotiable elements of digital first health systems

Findings from the global and regional-level workshops with young people significantly overlapped. This signals that despite regional differences or disparities, there are fundamental elements of a digital first health system that are non-negotiable to young people, regardless of where they live. However, young people expressed that their key values and the shared barriers they face, are interconnected (Panel 2), yet not fully reflected in the way DFHS are being designed.

Shared values must form the foundation of any digital first health systems

During both global and regional-level consultations, young people strongly pushed for a value-based approach to health, grounded in human rights, to ensure that the benefits of digital transformations are harnessed equitably and do not exacerbate existing inequalities.[2]

A core set of shared values to form the foundational pillars of any DFHS:

[2] Our definition of a value-based approach is aligned with that used by *The Lancet and Financial Times* report on Governing health futures 2030, which means an approach that is grounded in the core values of health.

A core set of values (described below) should therefore form the foundational pillars of any DFHS:

1. Equitable

Health services and health outcomes should become more equitable through the adoption of digital innovations, with a particular focus on improving accessibility for marginalized groups. This is arguably the most important value of DFHS, according to young people at regional and national levels. DFHS that widen existing gaps, create mechanisms of exclusion, or are designed and delivered only for specific groups, are not desirable.

2. Trustworthy

Young people want to trust the stakeholders and systems that use their personal health information and data. Transparency – on how information is being used and the decisions being taken – is a key feature youth would like to see in order to improve their trust. According to young people from the regional workshops, stakeholders need to design DFHS that uphold data privacy, solidarity and confidentiality if they are to encourage young users.

3. Humanistic

Digital and non-digital solutions must be implemented in a caring and empathetic way. Technology must complement or augment service delivery, but never replace human-to-human interactions. Recently, some regions that have access to digital infrastructure and tools are now putting more emphasis on returning to systems that value the power of human connection. Youth – in Europe, for example – are concerned about maintaining human connection within the healthcare system. Rather than negate or replace, young people want DFHS to respect, supplement and empower existing health systems and its providers.

4. Ethical

Ethical considerations are essential for young people to ensure that DFHS are developed and used in a way that respects the rights and dignity of patients, healthcare providers and other stakeholders. A growing concern for young people at regional and national levels is improved ethical governance. Young people called for governance guided by shared principles and values, rather than solely by legal or technical requirements.

5. Inclusive

Meaningful involvement of young people, from different backgrounds, in the design and governance of DFHS, will make digital health services more user-friendly, non-discriminatory and responsive to young people's priorities. Young people are extremely concerned about people being excluded from digital innovations and the potential implications for their health and well-being. DFHS can be impactful only if they take into account the diversity of the public and issues related to accessibility, affordability and literacy.

6. Accountable

Youth also want these systems to be accountable, with participants in the regional workshops arguing that their ideal DFHS should include accountability as a core value. Putting in place feedback mechanisms to better ensure the identified values and practices being used are continually monitored and operated in a just and fair way would be a way of increasing accountability.

Barriers and challenges to realizing youth's vision for digital first health systems

In the global consultations, youth were united in what they identified as the key barriers to building their ideal DFHS: weak data governance, digital divides, under-equipped health workforce, fragmented digital health services and lack of political will to engage youth in the design and governance of DFHS (Digital Transformations for Health Lab, 2024). During the regional workshops and FGDs, young people also identified context-specific barriers, unique to their settings, that stand in the way of realizing their vision of a DFHS. These included digital illiteracy, unreliable digital infrastructure and resistance to change from older populations and health professionals in adapting digital health solutions.

Panel 2:
Youth-identified values, features and challenges are closely connected

The values that underpin a health system often reflect the very barriers it seeks to overcome. As such, the barriers, or challenges, faced by youth are closely tied to the values they prioritize.

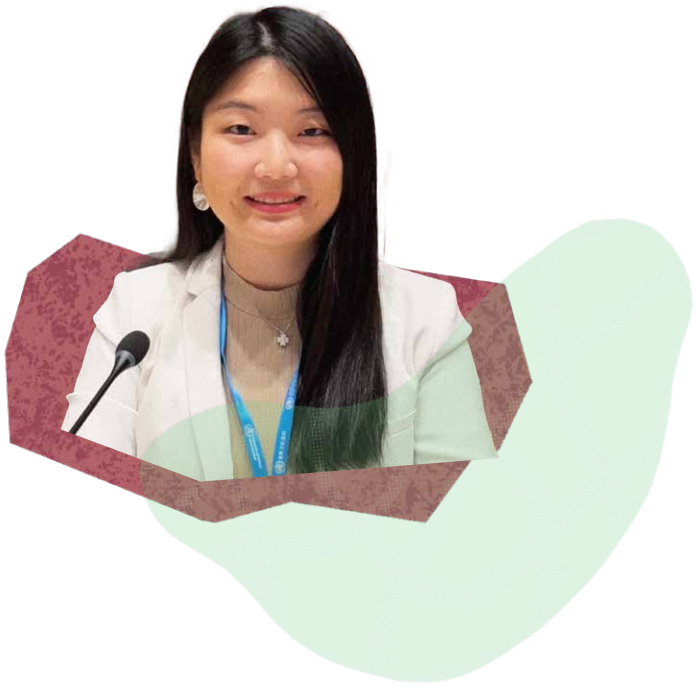
For instance, across regions, young people consistently called for data privacy as both a core value and a key feature of DFHS. As a value, it combines ideals like transparency, ethical responsibility and human rights. As a feature, it points to tools and practices such as anonymity, two-factor authentication and independent data protection boards. Values are the pillars of DFHS, but features are the tangible elements of the digital solution that allow for values to be realized and barriers to be accounted for.

While inclusivity is a core value, many also pointed out widespread struggles with digital literacy. To bridge this gap and create inclusive DFHS, youth recommend that systems include built-in support features that strengthen digital literacy – such as video guides, training programmes and simple user manuals – to help users navigate DFHS confidently.

In this way, the barriers don't stand alone; they are rooted in what young people value most.

"It has been a pleasure to hold this workshop with participants. As the moderator, I learned a lot from the participants about the barriers and priorities of the healthcare systems in their respective countries. I also found it incredibly valuable that this workshop was able to capture the voices of participants from Central and South America, where oftentimes their voices are not heard due to language barriers and lack of opportunities."

Yifan Zhou
Workshop Moderator, Regional Youth Champion Europe and North America (2023–2024), DTH-Lab



CASE STUDY 1: 'Why Gen Z in WANA is choosing digital first health: A case for accessibility, privacy and AI-powered personalization'

Maryam Sherif, Regional Youth Champion North Africa and Western Asia (2024–2025)

Generation Z in the West Asia and North Africa (WANA) region is increasingly gravitating towards digital first health systems (DFHS) that meet their unique needs, driven by their demand for accessibility, privacy and personalized healthcare experiences. As digital natives aged 13–28 in 2025, this generation is reshaping healthcare across the region, with virtual consultation and therapy platforms gaining significant traction.

Gen Z exhibits a strong preference for technology-integrated healthcare solutions. Studies indicate that 60 per cent of Gen Z individuals in the WANA region own a smartwatch or connected device and 64 per cent track at least one health metric digitally, underscoring their comfort with digital health tools (HIT Consultant, 2025). In WANA, smartphone penetration – projected to reach 90 per cent by 2030 (GSMA, 2023) – is accelerating DFHS adoption.

In a case study involving 46 live interviews (conducted online and in person) and 70 online survey respondents from Egypt, Saudi Arabia, Lebanon, the UAE and Tunisia, Gen Z participants highlighted their reliance on digital first health platforms for convenience, safety and privacy.[3] One Egyptian respondent shared, "I use Shezlong all the time and platforms like BetterHelp for mental health. I also ask ChatGPT for almost everything from medical to personal." A 25-year-old woman stated, "Time is my thing as I'm always on a device, so having the doctor there is sooo convenient and safe for me." Another participant noted: "I hate the system in hospitals. There are long waiting lists, hygiene issues and I don't feel connected anyway, so being online is better and cheaper."

While usage is widespread, adoption is hindered by deep-rooted issues of trust. One youth expressed, "I won't use health apps due to privacy issues. I can't trust the apps or the AI behind them." Privacy concerns are paramount for Gen Z from WANA, influencing their healthcare choices. AI-powered health applications provide personalized experiences while maintaining user confidentiality, aligning with Gen Z's expectations. Anonymity in platforms like Shezlong reduces stigma, especially for women, who make up 60 per cent of its users (Financial Times, 2022).

In the WANA region, platforms such as Shezlong (Egypt) and Altibbi (UAE) provide services in Arabic, ensuring cultural relevance and linguistic accessibility. Sessions cost as little as US$5, significantly cheaper than in-person therapy. With long waiting times in public healthcare systems often discouraging young people from seeking care, these digital platforms offer quicker and more convenient access to licensed professionals. Altibbi's free consultations in underserved areas like Upper Egypt expand access where healthcare systems are often overstretched and slow to respond (MobiHealthNews, 2022).

To increase DFHS adoption among Gen Z, platforms must prioritize youth-centred co-design. Research is being conducted where young people will be heard from directly, ensuring their voices shape the future of DFHS. This case study underscores the importance of integrating accessibility, privacy and AI-driven personalization in DFHS to effectively engage Gen Z in WANA. By aligning healthcare solutions with the preferences and values of this generation, stakeholders can foster greater adoption and improve health outcomes in the region.

[3] Data from interviews and surveys is drawn from a study conducted by Maryam Sherif, Regional Youth Champion North Africa and Western Asia (2024–2025), to explore digital health behaviours among Gen Z in WANA. The research included 46 in-depth interviews (conducted both online and in person) and 70 online survey responses collected via Google Forms. Interviews took place at health tech events and through outreach to individuals representing various perspectives, including Gen Z youth, their parents and healthcare professionals. Participants were from Egypt, Saudi Arabia, Lebanon, the UAE and Tunisia. The full article will be available in 2025.

Achieving digital first health systems that support youth health and well-being

To fully support young people's health and well-being, DFHS must aim to:

1. address specific health priority areas identified by young people growing up in a digital world.
2. balance tensions arising from youth's competing priorities for DFHS by pursuing features that are equitable, transformative and sustainable.

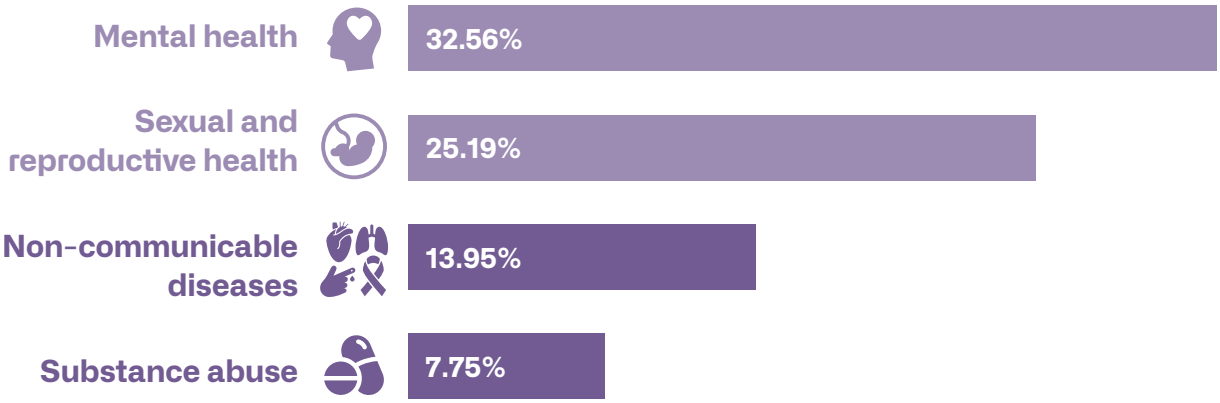
Focus on youth health priorities

As different stakeholders work to develop and strengthen DFHS, they should focus on addressing key health priority areas raised by young people themselves. DTH-Lab's global report showed that young people believe the top five health priority areas that DFHS should address are:

1. mental health
2. fitness and nutrition
3. sexual and reproductive health
4. climate-related health issues
5. non-communicable diseases

Young people consulted at the regional level reinforced these health priorities, and put more emphasis on two main health concerns that DFHS should focus on (*Figure 2*):

- mental health
- sexual and reproductive health



Note: Of the 323 participants, a total number of 258 responses were analyzed. Some participants provided multiple responses, which were treated individually. Responses that could not be categorized as specific health priorities were excluded from the analysis.

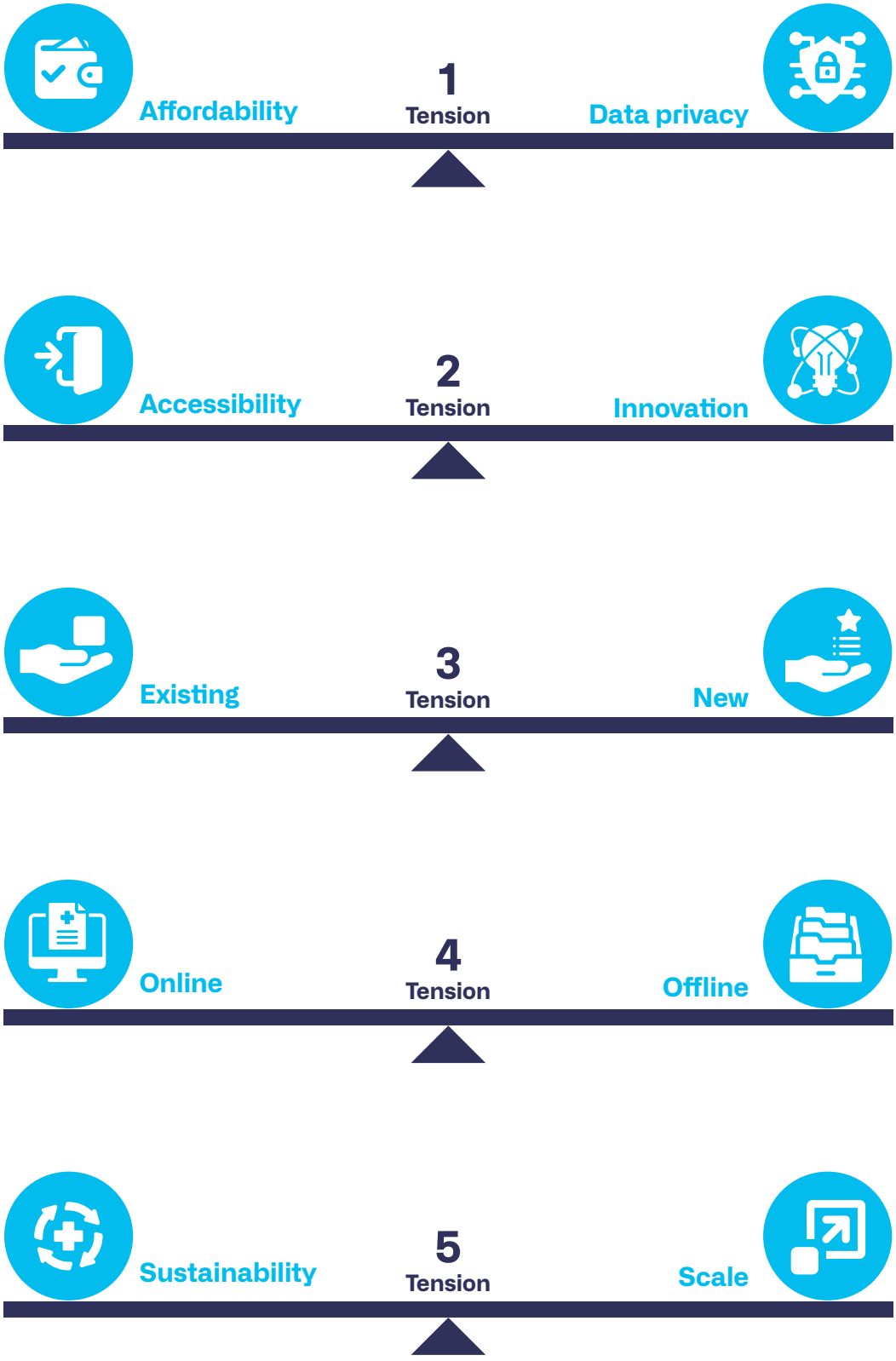
Figure 2: Top youth-identified health priorities

Balance key tensions by designing integrated and comprehensive systems

There were five key tensions identified by young people at the regional level that stakeholders must aim to balance when designing DFHS. Some of the priorities raised by youth are at odds with one another and therefore require an integrated and comprehensive approach to realize them. Each tension identified was accompanied by a proposal of a potential feature of DFHS that would assist the system in overcoming the identified tension.

In the regional consultations and focus group discussions, young people expanded upon the ideal features of DFHS that were put forward during the previous global consultations: knowledge building, quality personalized services, user-friendly and everyone interconnected (Digital Transformations for Health Lab, 2024). Drawing on their experiences, youth offered grounded, real-world insights into what each feature should look like in practice, especially in relation to the challenges they face and the values they hold. This regional framing adds specificity, contextual relevance and implementation-focused recommendations for DFHS features that aim to balance existing tensions and design DFHS that are equitable, transformative and sustainable. Balancing tensions cannot happen in silos. Young people want the features of DFHS to operate within a complementary interface, if the systems are to meet their vision for better health futures.

The 5 key tensions identified by young people at the regional level that stakeholders must aim to balance when designing DFHS



Tension 1: Affordability and data privacy

Although Universal Health Coverage (UHC) was not a focus of the workshops, the dimensions of UHC (population coverage, service coverage, and financial protection) were repeatedly raised by youth (World Health Organization, 2025). Youth want affordable access to health services, and as these services become more available through digital devices, they expressed concern that free access to digital health services may come at a different price: their data.

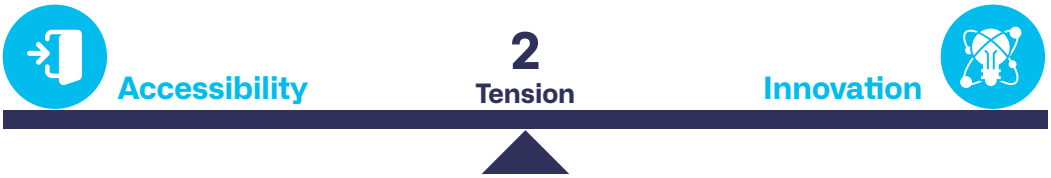
Young people want digital health solutions and services to be affordable, but also want regulations to protect their data privacy and security. However, unlike physical healthcare settings – where affordability of healthcare services is often determined by the government or healthcare insurance schemes – affordability in digital spaces is often linked to willingness to accept the use of personal health data and the associated terms and conditions. In public digital health systems, free access to digital health services, such as electronic health records, can be linked to participation in data-sharing frameworks, for example, to inform research and public health initiatives. Young people were generally happy for their anonymized data to be used in support of public health objectives, but were concerned about other ways it might be used. Outside the public sector, some commercial digital health apps and platforms offer free or subsidized services in exchange for user data, which may be used for analytics, research, or, in some cases, targeted advertising or commercial partnerships.

How can we make digital health solutions free at the point of use without requiring users to pay with their personal data?

DFHS must uphold data and infrastructure integrity including data privacy. Young people view secure data systems as essential to building ethical and trustworthy DFHS. They highlighted the need for cloud-based infrastructure, centralized and secure databases and strong data protection to safeguard privacy and prevent misuse. They also expressed the need for stronger legal and regulatory frameworks to ensure that DFHS remain safe, effective, transparent and able to assure users that their data is protected and not used in ways that undermine public health. Regulations must be in place in relation to both public and private digital health services to limit the extent to which personal health data can be monetized without explicit, informed consent and robust privacy protections. A solidarity-based approach to health data governance can be applied to ensure that uses of health data create public value and do not create harm (Prainsack & Kickbusch, 2024).

Young people emphasized that DFHS must include clear feedback loops and accountability mechanisms. Suggestions like gamified audits and user-driven feedback systems are seen as key to building trust and ensuring that DFHS remain responsive to users' needs. Additionally, there is a need for policy frameworks that effectively integrate youth voices in shaping digital health solutions, ensuring that systems reflect their needs and vision.

Tension 2: Accessibility and innovation



Youth identified a need to balance innovation with accessibility. Regional level consultations put more emphasis on DFHS providing improved accessibility for all, including marginalized groups and hard-to-reach youth. By improving accessibility, systems are by nature more equitable and inclusive.

Young people want equal access to the latest high-tech technologies but they also want them to be accessible to all.

This is a tension because being able to use high-tech solutions means having reliable electricity, high-spec devices and large data packages, which often requires significant financial investments in digital infrastructure. Recognizing that countries have limited budgets, young people wanted to see governments allocate sufficient resources to building this basic infrastructure for everyone, whilst also investing in healthcare innovations.

How can we have equal access to the latest digital and AI innovations when many people do not have access to the basic energy and infrastructure required to use them?

Expanding digital connectivity and building reliable digital infrastructure should be a core part of efforts to build DFHS, alongside efforts to make a variety of digital health technologies available to all. By investing in foundational digital health infrastructure, countries will improve their readiness to adopt more advanced, cutting-edge technologies in the future.

Young people have emphasized that integrating a range of technologies is essential for building inclusive and accessible DFHS. While they value the potential of cutting-edge technologies such as AI, wearable devices and chatbots, they also recognize that over-reliance on high-tech solutions can exclude those with limited Internet access or digital infrastructure. To bridge this gap, they recommend that lower-tech options, such as digital health services that operate using Unstructured Supplementary Service Data (USSD) and Short Message Service (SMS) protocols that enable real-time communication without Internet access, are available to ensure that users are not left behind due to technological barriers. They also recommended prioritizing the equitable roll-out of scalable digital health solutions aimed at underserved communities with high disease burden.

To ensure that DFHS are accessible to all, services should be user-friendly, have an inclusive design and place health equity above the pursuit of the next cutting-edge technology. Youth highlighted features such as minimalist UX/UI, mobile-friendly platforms, multilingual support, tools for disabled users, queer-friendly interfaces and voice-to-text tutorials as essential to ensuring all users can confidently access and navigate services.

CASE STUDY 2: Digital health literacy: A key to unlocking youth inclusivity in sub-Saharan Africa's digital first health systems

Akisarl Lynn-Everdene, Regional Youth Champion sub-Saharan Africa (2024–2025)

Across sub-Saharan Africa, digital literacy is a critical aspect in empowering youth and advancing digital first health systems (DFHS). As technologies reshape health care delivery, many young people remain excluded due to limited skills, access and engagement. The example of Cameroon illustrates how digital literacy efforts can bridge gaps in health equity and promote youth as co-creators in building a more resilient digital first health system at the country and regional level.

The launch of Cameroon's Universal Health Coverage programme in 2023 and the National Strategic Plan for Digital Health are driving the gradual integration of digital health solutions into the health system (Digital Watch, 2020).

These programmes aim to provide equitable access to health care to all citizens, as well as strengthen data-based enhancements of the health information system. This shift towards DFHS highlights the transformative potential of digital solutions to effectively contribute to informed decision-making at various levels of the health pyramid and modernize the country's health system.

However, despite good intentions, persistent barriers hinder the development and implementation of these digital health initiatives (Kibu, 2020). There are core barriers that must be better addressed including: digital infrastructure, poorly organized information systems (Vumbugwa, 2024), a lack of interoperability between different healthcare systems and data platforms (Martins, Lewerenz, Carmo & Martins, 2025) and lack of training on the use of digital technologies (Musa, et al, 2023). For example, in Cameroon, most health staff and users, especially those in rural areas, do not have computer skills. Many doctors and nurses are primarily engaged in their technical work and consider ICT to be an additional burden that takes them away from their main tasks. According to the National Digital Health Strategic Plan, a possible cultural barrier is that not all citizens are ambitious when it comes to adopting digital innovations (Digital Watch, 2020). Although digital tools and resources are readily available, their acceptability and application in everyday life are absent, which may be a mindset challenge rather than resources, when compared to other areas in the sub-Saharan African region.

Although these challenges and barriers exist, Cameroonian youth are actively contributing to developing and promoting DFHS by designing and implementing innovative digital solutions and platforms to improve access to healthcare services, especially in underserved areas. Youth promote digital literacy and skills for DFHS by helping their families and communities understand and utilize digital health tools effectively. Acting as health literacy facilitators, youth play an integral role in connecting elderly persons with essential health services through digital channels.

Lastly, in looking to our neighbours in the region, young Cameroonians can play a bigger role in co-designing DFHS by actively participating in governance discussions and decision-making processes related to digital health. As DFHS continue to advance across the African region, equipping youth with the skills to safely navigate these spaces is crucial. By investing in digital, health and civic literacy, we empower young people to have agency in their health and well-being, which lays a foundation for more inclusive and equitable health systems built for young people.

Tension 3: Existing and new

Young people want to push the boundaries for digital health and accelerate efforts to develop even more innovative health solutions. At the same time, young people want to expand and improve the quality of existing analog and digital health services. There is a tension between these two requests because health budgets are finite and many core pillars of health systems, such as health workforces, are already critically underfunded. As highlighted in the previous tension, investing in higher-tech solutions can risk widening existing digital health gaps. For example, there is a stark difference in the scale at which AI and other innovations are being created and adopted in high-resource settings, compared to the opportunities available for this same approach in resource-limited settings.

How can we benefit from the latest digital and AI innovations without scaling down investment in health systems and other tried and tested health solutions?

Governments face a complex balancing act when allocating health budgets, having to make tough decisions about investments. DFHS strategies should be developed which leverage digital tools to enhance existing health services and make the most efficient use of limited budgets. Ideally, overall budgets for health should be increased so that investments in all physical and digital aspects of the health systems can be enhanced.

This key tension builds upon the tech solutions and features identified in the previous global report, reinforcing their relevance while also seeking to ensure that these solutions – may they be new solutions, or expansions of existing solutions – maintain a value-based approach to achieving good health and well-being (DTH-Lab, 2024). Applying a people-centred and values-based approach can help to assess whether investing in new or existing health solutions will best meet the needs and priorities of the population. Whilst health planners and policymakers should always be aware of new and upcoming innovations, tried-and-tested interventions may be most effective. Involving young people and other groups in budget decisions and planning will help ensure that investments are responsive and appropriate.

CASE STUDY 3: Centring sexual and reproductive health and rights in digital first health systems in Central and Southern Asia

Salman Fitrat Khan, Regional Youth Champion Central and Southern Asia (2024–2025)

Digital platforms have the power to either establish new, inclusive and youth-friendly spaces or to reinforce existing barriers in SRHR. The stigma associated with adolescent sexuality and LGBTQ+ identities, conservative cultural norms and restrictive legal frameworks are some of the long-standing obstacles that Central and Southern Asia must overcome to advance SRHR among youth. There are advantages and disadvantages to the rise of digital first health systems (DFHS) in these countries.

Digital platforms can enhance accessibility and privacy, but unless they are intentionally designed to support equity and inclusion, they may also perpetuate existing governance and policy constraints.

The national digital health missions within the Central and Southern Asia region run the risk of incorporating current SRHR exclusions into digital systems, posing a risk of erosion of trust from the youth. For example, a study of the Digital Health System in India highlighted data privacy as a notable gap (Mitra, 2025). This could inevitably increase privacy concerns for marginalised groups and adolescents seeking STI or abortion services, which are illegal. Similar to this, a study from Iran highlighted that a culture still needs to be developed that accepts reproductive health services as an integral part of general healthcare (Hoseni et al., 2025).

Despite these challenges, youth-friendly SRHR spaces are being created with the help of digital tools. Mobile-based SRHR education programmes in Bangladesh, like Pathfinder's "Shukhi Jibon," use SMS and voice calls, along with trusted websites and social media to give teenagers private, culturally relevant content and promote healthy, adolescent and youth sexual and reproductive health and rights behaviour (Pathfinder International, 2024).

Linguistic accessibility is important to youth from this region and must be taken into account when developing context-specific DFHS. An example of this can be the UNFPA-supported "Shyn.kz" digital campaign in Kazakhstan, which included a Telegram chat box and a website, where young people can access age-appropriate SRH information in Kazakh and Russian, making it possible to address inequalities in access to information, especially for people living in rural areas (UNFPA, 2024).

A key challenge in SRH services arises from the contrast between national policy frameworks and the open nature of the internet, as health-service delivery is still state-anchored, but the digital sphere can provide decentralised entry points. Using a social enterprise model, Sehat Kahani, a private telemedicine startup, has taken advantage of this by educating physicians about reproductive health and setting up remote e-clinics that link patients in rural Pakistan with qualified doctors (Sehat Kahani, undated).

This approach overcomes singular state channels and offers a blueprint for cross-sectoral/multisectoral scalability.

However, disparities in gender and socio-cultural gaps in digital access, digital literacy, electricity availability and uneven infrastructure continue to be major obstacles

to equitable access to SRH services in the country (Shaikh et al., 2021) and, as an extension, in the region as well (Pokhrel, 2023).

These digital health tools being used in Central and Southern Asia highlight the dual nature of DFHS in advancing SRHR in the region: although they might encourage inclusion, their effectiveness is reliant on larger investments for legal and social reforms, education and connectivity.

To ensure that DFHS do not replicate the existing shortcomings or create limitations that mirror the current health system and policy constraints around SRHR, we must take the following steps.

1. DFHS cannot simply be provided to young people; these systems must be created with and for them.
2. To ensure relevance and lessen stigma, digital SRHR tools should be co-designed with youth and local civil society. This includes social media outreach and application content.
3. Data governance must be rights-based and inclusive: youth seeking SRH care must be protected by privacy-by-design, and sensitive services should never require personal identifiers.
4. Explicit frameworks for digital policies that protect online SRHR expression and information are required. Legal restrictions on online SRHR education should be lifted, and everyone should have access to affordable connectivity, digital devices and digital literacy.

By embedding rights-based values (autonomy, respect, inclusion) into policy and design, DFHS in this region can overcome old barriers and fulfil young people's vision of empowered, informed health and well-being.

Tension 4: Online and offline

Young people want to be included in digital spaces and innovation, but at the same time, they are cognizant that online spaces are not always safe or healthy (Figure 3). As the number one health priority area that DFHS should address, some FGD participants shared concerns that the excessive or improper use of digital technologies can negatively affect their mental health and well-being. Young people find value in the community and connections built in online spaces but also don't want to lose out on the benefits of face-to-face interactions. They enjoy the access and speed at which they can access health information but want a hybrid approach to their health and well-being that integrates in-person and online solutions. Young people think it can be lonely growing up in a digital world. They want solutions that mediate the opportunities and challenges of digital transformations both on and offline. They want digital solutions that account for these shared feelings (Figure 3), by continuing to offer physical programmes and activities which facilitate connection.

Figure 3 below represents young people's response to "if you could describe how digital spaces are affecting your health and well-being what emoji would you use?"

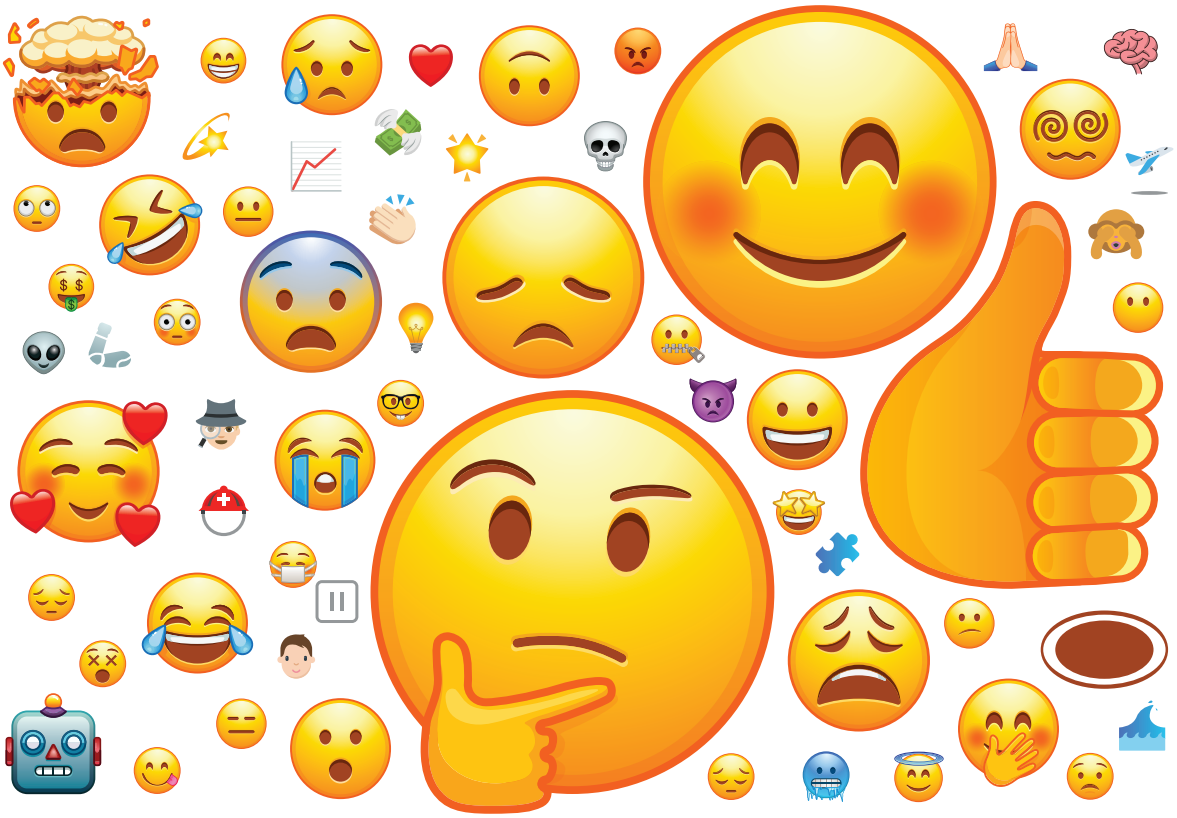


Figure 3: The emotional spectrum of youth digital well-being

A question still remains among youth: Are we promoting digital solutions too much when offline solutions may be better for youth, in certain contexts?

Youth call for features of DFHS to be coupled with capacity-building, literacy and education so that users can make informed decisions about digital health services and the healthy use of digital technologies more generally. Literacy and educational programmes led by governments and partner organizations should pursue three areas of literacy and skills, including digital, health and civic domains. Without adequate support – such as tutorials, integration into school curriculums or tailored guidance – many users, especially from underserved or marginalized communities, are left unable to confidently navigate digital platforms, understand health information or participate in civic structures. This limits not only their access to healthcare, but also reinforces existing barriers. Supporting digital literacy ensures that everyone, regardless of background or experience, can fully engage with and benefit from these systems.

Young people find online platforms helpful for quick access to health information, but they also want services that feel personal, community-based and supportive. They value peer support groups, youth-friendly spaces, and affordable, queer-affirming healthcare that extend beyond digital platforms.

They also highlighted the importance of creating or improving mental health and SRHR education programmes in schools, addressing stigma and misinformation, and training healthcare providers in inclusive, person-centred care. They saw creative tools like art workshops, campus events and traditional media as powerful ways to start conversations. For some, it's also about reaching youth in rural areas by supporting the community-based projects that are already well established. These ideas show that young people acknowledge the online-offline balance and want care that feels more genuine and empathetic.

CASE STUDY 4: Engaging youth as Community Health Workers to foster the digitalization of primary healthcare in Africa

Othniel Nimbabazi, Regional Youth Champion sub-Saharan Africa (2024–2025)

Africa is home to more than 637,000 paid and 3,700,000 volunteer community health workers (CHWs) who play a crucial role in providing primary healthcare (Masis et al., 2021; Dina et al., 2024).

As digital transformations expand across Africa and the deadline for the 2030 Sustainable Development Goals approaches, we have an opportunity to support young CHWs in implementing digital first health systems (DFHS).

The age of CHWs in Africa vary widely, but a large proportion of them are young with a Rwandan study finding the median age of CHWs to be 38 years (Condo et al., 2014).

Given that 70% of Africa's population are under the age of 30 years (United Nations, 2024), younger CHWs may be a trend we start to see across the region.

Young people are becoming increasingly proficient in digital innovations for health (Kofi Annan Foundation, 2022) as seen by the number of youth using digital health tools such as mSCAN in Uganda and MobiCure in Nigeria. With 60% of youth having access to digital devices and technology (Dokua Sasu, 2022), there is a need to include youth CHWs who have experience with digital technologies to improve the performance of DFHS within Africa. Engaging youth CHWs can speed up the integration of DFHS in community health programmes. This can result in improved efficiency, data quality, rapid reporting of cases (Flores et al., 2014) and youth CHWs who can contribute to expanding digital health literacy across their community.

Recruiting youth to serve as CHWs offers a viable way to move beyond the present integration problems in Africa surrounding the digital transformation of health. Rwanda is a positive case study for other African countries to learn from in supporting youth CHWs to improve the implementation of DFHS. In 2022, Rwanda – home to 58,567 CHWs – supported young CHWs with high school degrees to help digitize the community health systems through their new community health model (Sabiiti, 2022).

With the technological know-how and familiarity with digital tools, young CHWs can facilitate the development of a more responsive, equitable and digital health system in Africa.

Tension 5: Sustainability and scale

The tension between digitalization and environmental sustainability was hotly debated during several workshops and FGDs. On one hand, virtual health services can help to limit the health sector's impact on the environment, for example, by reducing carbon emissions associated with transportation and energy use in healthcare facilities. Young people also saw great potential for digital technologies to help predict and mitigate the overall health impacts of climate change and to build more resilient communities. On the other hand, AI and digital platforms have an environmental footprint, with electricity use, device manufacturing and electronic waste each having a detrimental impact on the planet.

How can we create DFHS without having a detrimental impact on the environment?

Young people want digital systems to be scaled up and are conscious of how digitalization could harm planetary – and therefore human – health in the long term. To ensure net environmental gains, healthcare systems must proactively seek to minimize the energy and resource demands of digital infrastructure. DFHS should prioritize energy-efficient hardware, renewable-powered data centres, and ensure responsible use and management of devices. Youth have a critical role to play in holding both health systems and digital technologies accountable for reducing the environmental impact of digital health and ensuring sustainable systems for the future.

Building a blueprint

Through this latest round of regional and national-level consultations, young people have continued to construct a unified vision of the health future they want to see, and what a digital first health system can provide in meeting their health needs, particularly in relation to mental health and sexual and reproductive health. Young people were clear that the design of DFHS must be responsive to their current health challenges and support lifelong health and well-being.

"We summarized the key learnings, emphasizing the imperative of translating vision into action. Armed with newfound insights and connections, participants departed with a shared sense of purpose."

Caroline Knop
Workshop Moderator, Regional Youth Champion Europe and North America (2023–2024), DTH-Lab

DFHS offer profound potential for improving young people's health and well-being, as well as for societies as a whole. These systems can provide access to health information, services, communities and healthcare providers that people may otherwise not have access to. **Strengthening digital first health systems to meet young people's needs is a priority for both resource-poor and resource-rich contexts.** Despite digital

health's promise, disparities in access to technology, infrastructure, literacy and health services persist within and across regions. Young people have an important role to play in shaping responses and policy frameworks to help overcome these barriers.

Young people highlighted the importance of a collaborative approach in building DFHS. They emphasized the need for coordination across national, regional and international levels, supported by global research. There is much to be won by better communicating young people's needs, wants and proposed solutions to the decision makers, developers and systems providers who are in a position to bring about change.

Despite the opportunities of DFHS, youth do not want systems that compromise their shared universal values. They also don't want systems that widen existing gaps or further offset the growing power imbalances around digital and AI. Regardless of where youth are based, their educational background or their lived experiences, they want systems grounded in a human rights-based approach; systems that are equitable, trustworthy, humanistic, ethical, inclusive and accountable.

Young people also want to see stronger legal and regulatory frameworks in place for AI, data and digital technologies, so they can be assured that digital health services are effective and safe and that their data is not being misused.

Young people want to be regarded as instrumental partners and leaders in designing, creating and implementing digital first health systems that aim to improve their health and well-being. They want to contribute to solutions with a whole-of-society approach that includes international organizations, national governments, healthcare systems and institutions, private actors and civil society organizations, in realizing their ideal DFHS.

"By leading a transformative workshop that actively involved fifty enthusiastic pharmaceutical students from sub-Saharan Africa, DTH-Lab not only showcased the potential of young voices in shaping DFHS but also reinforced its unwavering commitment to empowering the next generation of healthcare leaders."

Lydia Gara
Workshop Moderator, Regional Youth Champion sub-Saharan Africa (2023–2024), DTH-Lab

Learning and limitations

The diversity of youth voices represented at the regional-level workshops and FGDs was stronger in comparison to the global consultations. New and existing partnerships with youth-led organizations were instrumental in gaining access to these diverse youth voices. Additionally, young people with no, or limited, Internet access were able to contribute to this process by holding in-person workshops alongside existing events hosted by our partners.

A large majority of young people from the regional level workshops were from the future health workforce, including doctors, nurses, pharmacists and public health workers. This group of young health professionals had a sound starting point, having a vested interest in improving the health and well-being of their communities. However, having health professionals comprise a large proportion of our cohort may have skewed the findings. Although the future health workforce is an integral component of shaping our health futures, their perspective on health priorities and system challenges may differ from that of the wider population. Focus group discussions provided an important opportunity to hear from key youth interest groups who may have particular needs or wants depending on their lived experiences.

Since 2022, when this project was launched, AI has had an unprecedented impact on the role of digital transformations in shaping our health and well-being. Something that was not foreseen was the scale at which AI has become integrated into young people's lives. More input is needed from young people, on the particular risks and opportunities they perceive AI to have on DFHS, in order for this to be better understood.

Young people, although considered digital natives, are not universally exposed to the digital platforms used in virtual, online settings aimed at improving group interactions and capturing the discussion. Several participants experienced challenges using platforms such as Miro and Slido, which meant that their views were not always adequately captured. Future studies should consider providing an introduction and brief explanation of how to use the tools correctly and then provide time to troubleshoot. Despite our efforts to improve young participants' familiarity with these tools, the findings suggested that it would have been beneficial to spend more time on familiarization with platforms at the beginning of each workshop.

There are unique challenges faced by key youth interest groups that require particular attention from DFHS and could be considered as challenges to watch out for on the horizon. For example: (1) marginalization and identity-based exclusion, including transphobia, religious conservatism and lack of services to trans people under the age of 18; (2) health workforce attitudes and readiness, including doctor-patient relationships in digital spaces and poor training on patient acceptability for digital solutions; and (3) fragmented coordination and operational gaps including overdependence on a decaying foreign system of aid and poor roll-out strategies in adapting digital solutions.

Next steps

This regional report offers more context-specific insights from young people and their diverse needs, wants and proposed solutions in realizing a digital first health system that supports young people's health and well-being. It also reveals key tensions that will need to be addressed as stakeholders design and strengthen DFHS.

As noted in the previous section, the regional consultations highlighted some important issues that need to be explored in more depth as we develop a DFHS blueprint for youth. For example, DTH-Lab will host a series of workshops focused on how AI should be incorporated into DFHS. Further research will be conducted to understand what steps are already being taken in different parts of the world to digitally transform health systems and to examine the extent to which young people's priorities are being reflected in these efforts. These findings, combined with the inputs from four years of consultations with youth, will inform the co-creation of the DFHS blueprint (Figure 4). An intergenerational and multisectoral technical advisory group will be created to ensure the blueprint and its recommendations are operational and reflect existing actions by stakeholders. Young people will continue to shape this work as key partners and co-creators in developing a DFHS blueprint that reflects their health needs and priorities.

Figure 4: Process of building a DFHS blueprint

“Perhaps the next step in shaping inclusive digital first health systems for young people is to explore what is truly meant by the broad term ‘mental health and well-being’ and mapping cultural nuances across the region.”

Ananya Choyal
Workshop Moderator, DTH-Lab

2024	2025	2026
	Analysis of current approaches to DFHS Multisectoral, intergenerational technical working group	Launch DFHS blueprint for youth Test and validate the blueprint’s use Advocate and disseminate the implementation of key findings and recommendations
Youth-led workshops and focus group discussions		

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Annex 1: Participants

Workshop	Date	Region	Countries	# of participants
IPSF Africa	13 July 2024	Africa	Cameroon, Conakry, Ethiopia, Ghana, Guinea, Kenya, Liberia, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa	29
ADHS Nigeria	28 June 2024	Africa	Nigeria and Ghana	27
IFMSA Africa	01 June 2024	Africa	No country information available	13
IFMSA Asia Pacific	02 June 2024	Asia Pacific	India, Indonesia, Japan, Malaysia, Philippines, Saudi Arabia, Singapore, South Korea, Taiwan, Vietnam	20
GMSA	29 June 2024	Europe	Germany	11
EMSA	10–11 May 2024	Europe	Azerbaijan, Croatia, France, Germany, Greece, Netherlands, Portugal, Serbia, Slovenia, Turkey	29
IPSF Pan America	27 July 2024	Pan America	Chile, Colombia, Costa Rica, El Salvador, Guatemala, Panama, Peru	23
Shape South Asia	28 September 2024	South Asia	India, Italy, Maldives, Nepal, North Korea, Poland, Sri Lanka, Thailand, United States	35
IFMSA EMR	09 February 2024	Eastern Mediterranean Region (EMR)	Algeria, Egypt, Iran, Iraq, Jordan, Kurdistan region, Lebanon, Morocco, Oman, Palestine, USA	28

Focus Group Discussion	Date	Youth Interest groups	Countries	# of participants
Africa CDC	28 October 2024	Africa CDC Youth in Digital Health Network (YiDHN)	Benin, Cameroon, Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Montenegro, Nigeria, Rwanda, Sierra Leone, Tanzania, Uganda, Zambia	38
IGLYO	23 January 2025	LGBTQI+ activists	Azerbaijan, Belgium, Ireland, Kyrgyzstan, Estonia, Malta, Slovenia, UK	15
EPF	27 January 2025	Patient advocates	Albania, Greece, Romania, Slovenia, Tunisian, UK	7
YOUNGO	12 February 2025	Climate activists	Australia, Bangladesh, Ethiopia, India, Iraq, Mali, New Zealand, Nigeria, Pakistan, Trinidad and Tobago, UAE, USA, Zambia	18
SpeakUp Africa	19 February 2025	African changemakers	Cameroon, Ghana, Senegal, Zambia	7
YLABS	10 February 2025	Urban and peri-urban adolescents	Rwanda	17
Mental Health	12 March 2025	Mental health activists	Ethiopia, Greece, Nigeria, Singapore, Thailand	6

About DTH-Lab

DTH-Lab is a global consortium of partners working to drive implementation of The Lancet and Financial Times Commission on Governing Health Futures 2030's recommendations for value-based digital transformations for health co-created with young people. DTH-Lab operates through a distributive governance model, led by three core partners: Ashoka University (India), DTH-Lab (hosted by the University of Geneva, Switzerland) and PharmAccess (Nigeria).

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DIGITAL TRANSFORMATIONS FOR HEALTH LAB

GOVERNING HEALTH FUTURES 2030

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