Digital transformation of health systems for universal health coverage

UHC2030's strategic narrative to guide advocacy and action

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Key terms

Continuity of care: the degree to which a series of discrete health care events is experienced by people as coherent and interconnected over time, consistent with their health needs and preferences.[i]

Classifications, terminologies and interoperability standards for health: structured systems and syntactic standards for representing, exchanging and interpreting diseases, functioning, interventions, and other health concepts in a consistent, machine-processable way, including semantic standards (e.g. ICD), and syntactic interoperability standards (e.g. HL7 FHIR).[ii]

Data: basic, often unprocessed analogue or digital elements, characteristics or representations of facts or information. This includes raw, unprocessed numbers, measurements or text.[iii]

Digital health: the systematic application of information and communications technologies, computer science and data to support informed decision-making by individuals, the health workforce and health systems, to strengthen resilience to disease and improve health and wellness.[iv]

Digital public infrastructure (DPI): shared digital systems which are secure and interoperable; built on open standards to provide equitable access to public and/or private services at societal scale.[v]

Digital transformation: the multiple processes of integration of digital technology and data into all areas of everyday life, and the resulting changes that they bring.[vi]

Essential healthcare services: a set of services (preventive, promotive, curative, rehabilitative and palliative) across different levels of care based upon burden of disease, cost-effectiveness analyses, budget impact, fairness, cultural acceptability and/or equity, with priority to the worst off.[vii]

Health equity: absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically.[viii]

Health security: proactive and reactive activities required to minimize the danger and impact of acute public health events that endanger people's health across international boundaries[ix]

Health systems: all organizations, people and actions whose primary intent is to promote, restore or maintain health.[x]

Out-of-pocket health expenditure: any direct payment by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services.[xi] High out-of-pocket payments are strongly associated with catastrophic and impoverishing spending.[xii]

Primary health care (PHC): a broader whole-of-society approach with three components: (a) primary care and essential public health functions as a core of integrated health services; (b) multisectoral policy and action; and (c) empowered people and communities.[xiii]

Universal health coverage (UHC): all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. UHC covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation and palliative care across the life course.[xiv]

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Accelerating UHC progress through digital transformation

The rise of digital technologies—from mobile devices to artificial intelligence (AI) —is transforming daily life, reshaping how we interact, work and access services. **In an increasingly connected world, access to health should be universal, yet a lack of political will to address inequalities continues to be a fundamental challenge for achieving universal health coverage (UHC).**

Governments committed to achieving UHC in their endorsement of the Sustainable Development Goals (SDGs)[xv] and the Political Declarations adopted at the 2019 and 2023 High-level Meetings on UHC.[xvi] Yet 4.6 billion people still lack access to essential health services, and over 2.1 billion face financial hardship when paying for health services or products out of their own pockets.[xvii] Alarming as they are, these numbers don't show the scale of the inequalities between and within countries; with people already in vulnerable situations, particularly in low- and middle-income countries, being forced to choose between health care and other basic needs. Over 1.6 billion people experience financial hardship are pushed into or further into poverty due to health costs.[xviii]

Equity cannot be achieved when billions are left behind.[xix] On the other hand, countries that make progress towards UHC make progress across the SDG agenda as a whole, advancing efforts towards equality, stronger economies, and healthy and peaceful societies. The digital revolution provides an unprecedented opportunity to transform health systems by accelerating UHC progress. The potential of digital transformation of health systems was most recently recognized by the 78th session of the World Health Assembly, which endorsed the extension (2020–2027) and subsequent renewal of the Global Strategy on Digital Health (2028–2033).[xx]

Digital transformation offers building blocks and foundational tools to accelerate progress towards UHC goals. When built on robust foundations, such as Digital Public Infrastructure (DPI), and when supported by a strong enabling environment, the use of digital technologies can improve health equity by making health services people-centered and more accessible and affordable, as well as by connecting underserved communities to services, information and resources that may otherwise be out of reach. Digital transformation can also strengthen health systems by enabling real-time, data-driven decision-making, enhancing coordination and making health systems more efficient and effective. A well-coordinated and standards-based transformation can help relieve burdens on health systems by improving health prevention and promotion—putting people at the center.[xxi]

This narrative supports advocacy and action to harness digital transformation as a necessary enabler for improving health equity and advancing UHC. It presents core advocacy messages to help align efforts among different stakeholders and identifies actions needed to reach populations most at risk of being left behind—guiding efforts to drive timely and cost-effective change while shifting momentum to unlock UHC progress. The listed actions in this narrative are not intended to be exhaustive but focus on harnessing the power of digital technologies, while addressing challenges to digital transformation that would otherwise exacerbate barriers to UHC progress.

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Key advocacy messages to harness digital technologies for UHC

Place **health equity and rights** at the center of digital transformation of health systems to tackle inequalities and accelerate UHC progress. This includes aligning and leveraging prior efforts, and prioritizing digital health solutions in primary health care (PHC).

Ensure everyone, including underserved communities, can access digital health services and their health data by prioritizing investments towards stable, secure and affordable **digital infrastructure** and prioritizing **interoperability**.

Protect everyone from impoverishing health costs by applying **digital technologies in health financing**, to secure efficient and equitable resource distribution and expand financial protection.

Build human **capacity,** technical skills and digital literacy, including for health and care workers, to develop, implement and sustain an equitable, standards-based and inclusive digital health transformation for UHC progress.

Foster **trust** in the adoption of digital health services and tools by engaging diverse stakeholders—including vulnerable and marginalized populations—in the design, governance and delivery of digital health systems and solutions, including through social participation mechanisms.

Establish robust **governance frameworks—including legislation, regulation, standards and policies—**to ensure **health data** collection, sharing, storage, analysis and use improves equitable health outcomes in policies, plans and budgets while safeguarding people's rights and privacy.

The success of digital transformation of health systems requires concerted efforts at global, regional and national levels. Strong partnerships and meaningful engagement between diverse stakeholders—along with a commitment to innovation, equity, inclusion, resilience and sustainability—are essential to ensuring lasting progress.

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Digitally transforming health systems to achieve UHC

UHC progress is hindered by inequalities, rapidly changing demographics, lack of political will, inadequate financing, duplication of efforts, limited capacity and competencies among human resources, and lack of access to quality medical facilities, medicines, equipment and supplies. Collectively, these challenges result in barriers to safe, effective, quality and affordable health services. Digital technologies, information and communication technologies (ICTs) are increasingly recognized as having transformative potential for advancing the SDG agenda,[xxii] with digital transformation now considered a determinant of health.[xxiii] Digital health transformation—which includes AI, big data, blockchain, health data, health information systems, the infodemic, the Internet of Things, digital public infrastructure, interoperability, telemedicine and more—has the power to help mitigate UHC barriers by:

- **Improving continuity of care (CoC), equity and access to primary and specialist care:** The application of DPIs, such as digital Personal Health Records (PHR) and telemedicine, support patients to access health services where it is most convenient without compromising CoC.
- **Reducing financial hardship:** Digitalized health systems can reduce health costs for both patients and providers, such as by reducing or eliminating transportation costs or the need for repeated visits and tests. Digital PHRs can also facilitate staff planning and provide patients with agency to better plan their health visits. Moreover, health insurance and payment schemes can leverage digital health systems to improve financial coverage and affordability.
- **Strengthening health policy and planning:** Digitalized health systems provide valuable data on health trends, access patterns and outcomes, enabling a more accurate understanding of health disparities and improved planning and management of public and private health sector budgets. They can increase supply chain efficiencies, reduce waste and enable tailored interventions to address unique challenges faced by underserved populations.
- **Empowering people through preventative care and post-procedure treatment:** Digital technologies can support access to personalized health information, enabling people to better manage health needs and improve social participation, trust and acceptability of evidence-based health information.
- **Improving productivity:** Well-integrated digital tools can be a real asset to the health and care workforce, enabling more efficient use of limited time, improving coordination and leading to better patient care.[xxiv]

However, while digital transformation holds immense power to revolutionize progress towards UHC, its implementation is not without challenges.[xxv] Duplication of efforts, lack of adherence to standards, and lack of investment in robust foundations are common across all country contexts and must be addressed to ensure digital transformation does not undermine UHC progress.

Overcoming such challenges requires partnered efforts across diverse stakeholders to co-create solutions, including through The Global Initiative on Digital Health (GIDH), a WHO-managed network launched with the support of the India G20 presidency and the Brazil G20 presidency. GIDH aims to foster improved alignment in the digital health sector, providing governments and partners tools, building blocks, and platforms needed for sustainable health system digitalization. Through platforms like the GIDH Country Needs Tracker and Resource Portal, which acts as a global marketplace, countries publish digital health needs and partners express interests to support these needs, thereby opening the door for dialogue and alignment of efforts.[xxvi]

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1. Place health equity and rights at the center of digital transformation

Health systems reflect societal norms and inequalities which, if unaddressed, compromise not only overall system effectiveness, but also the safety and well-being of health and care workers and the communities they serve. Digital technologies alone cannot resolve structural issues, and can even risk deepening existing inequalities and power imbalances.[xxvii] Access to health services is shaped by intersecting factors, including discrimination, bias and harmful gender norms, and health determinants, which can be further compounded by broader societal inequities.[xxviii] In the digital age, these inequities extend into the realm of digital health systems, with digital determinants of health—such as digital literacy, access to devices, broadband connectivity, and technology affordability—further influencing health outcomes.[xxix] This is why achieving health equity in the digital era requires addressing both traditional and digital determinants of health.

To advance progress towards UHC, health equity must be prioritized and placed at the center of digital transformation of health systems. Building resilient and equitable health systems requires a people-centered approach, best achieved through PHC. To achieve this, digital health systems must be intentionally designed to serve all people, with a focus on vulnerable and marginalized populations who would benefit from these technologies the most. By embedding digital health solutions within PHC frameworks and prioritizing sustainable digital interventions that focus on improving health access and outcomes, health systems can address disparities, empower individuals and communities, and foster long-term health equity, ensuring no one is left behind.

To address inequalities and place health equity and rights at the center of digital health transformation, decision-makers must:

- **Assess and address inequalities**—such as socioeconomic status, gender, geography, digital literacy and broadband connectivity—in the planning and prioritizing of digital health strategies and interventions, in order to ensure that the introduction of digital health technologies does not aggravate inequalities (in accordance with the "do no harm" principle) and guarantees access for those who are at risk of being left behind.
- **Mainstream gender considerations in digital transformation**, including prioritizing gender-responsive policies, legislation and investments that address barriers faced by women, girls and gender-diverse people in accessing and using digital health technologies.
- **Prioritize national investment in people-centered digital health systems** that strengthen primary health care, advance universal health coverage, and mainstream human rights.
- **Develop costed national digital health strategies that are informed by national health priorities,** and ensure they are articulated in national health plans, while also integrating digital systems in national health plans to maximize impact.

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2. Invest in digital infrastructure and prioritize interoperability

While closing the digital divide is not solely a health-specific issue,[xxx] internet access is essential to prevent digital health technologies from exacerbating inequities by excluding vulnerable and underserved populations.[xxxi] When internet access is universally available, digital technologies can be harnessed to increase equitable access to health services through, for example, telehealth, limiting risks, reducing the need for long-distance travel, lowering financial burdens, and ensuring timely access.[xxxii] This applies to both remote and rural areas (for coverage) and among disadvantaged communities (for access to technical equipment). Robust digital infrastructure, enabled by the adherence to global interoperability standards, strengthens healthcare delivery by enhancing the availability and quality of information for providers and patients—thus aiding accurate diagnoses and effective treatments. Interoperability (based on semantic and syntactic standards) also enables data to move between systems and supports its comparability across providers, schemes and borders.

There is currently a disparity in investment in ICT between the health sector and other industries.[xxxiii] Bridging the gap is crucial to optimizing the productivity, effectiveness and timelessness of digital health interventions, in turn accelerating progress towards UHC. To maximize impact, investments must be country-led, aligned with national priorities, and responsive to the needs of end-users, particularly underserved populations.[xxxiv] Investments should prioritize establishing a common data representation across systems that adhere to classifications, terminologies, and interoperability standards, thereby enabling interoperability—a key foundation for a people-centered approach.[xxxv] Investments must also extend across the data continuum, from collection to analysis, interpretation and decision support. Transparency through improved tracking and reporting of investment is also necessary to improve accountability, prioritization and alignment, and to make the case for continued investment. To be successful, investments in interoperability and digital infrastructure must be accompanied by strong legislative, regulatory and policy frameworks that enable both effective and equitable digital health transformation while safeguarding people's rights and privacy.

To build interoperable and people-centered health systems which support access to health data and services for everyone, everywhere, stakeholders must:

- Encourage government, entities and partners to conduct a comprehensive assessment to identify infrastructural needs and solutions to drive digitalization.
- Prioritize expanding mobile and broadband networks, ensuring they are affordable for everyone, everywhere to support the availability of digital health services for all.
- Engage in networks and partnerships that serve recognized public health system objectives and promote knowledge exchange and alignment (e.g. GIDH, Global Digital Health Partnership), leveraging platforms such as the GIDH Country Needs Tracker and Resource Portal, a global marketplace for aligning investments for digital health systems.
- Promote and invest in adherence to interoperability standards and international classifications and terminologies for successful data exchange, statistical reporting, claims processing, disease surveillance and more efficient decision-making across health systems.

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3. Apply digital technologies in health financing

Applying digital technologies in health financing can advance UHC by improving financial protection, enhancing equitable and efficient resource distribution, and increasing transparency and accountability.[xxxvi] With finite resources and competing national priorities, digital technologies can strengthen core health financing functions—such as revenue raising, pooling, purchasing and benefit design—by streamlining administrative processes, strengthening financial management, optimizing resource allocation, and improving understanding of population health needs and financial coverage.[xxxvii] When effectively designed and implemented, digital solutions reduce fragmentation and strengthen health coverage schemes, thus facilitating the equitable distribution of resources, simplifying health insurance enrollment and contribution payments, and improving access to health and financial information. AI and machine learning can also support data-driven decision-making by identifying patterns in financial and service utilization, enabling targeted interventions and improving service quality. And by replacing paper-based systems, digital technologies facilitate near real-time data exchange, supporting policy options that would otherwise be difficult to implement.[xxxviii, xxxix]

To improve transparency and tracking of investment, digital technologies should be integrated into existing tracking mechanisms, routine health system planning and budgeting, and UHC monitoring. However, without careful design and regulation, these same tools could undermine progress toward UHC. For example, digital tools could be misused to exclude high-cost patients, raise insurance premiums and exacerbate health inequities. Policies on digital technologies for health financing must therefore prioritize UHC goals from the outset,[xl] establishing clear guidelines on which tools are supported and how associated risks will be mitigated. Legal and ethical issues, including concerns about data privacy, security and algorithmic bias, must be addressed to prevent deepening disparities and to ensure that policies clearly define the intended use of digital technologies, rather than allowing technologies to shape policy. Moreover, governments must assess whether the benefits of adopting digital technologies outweigh the risks of widening existing inequalities.[xli]

To support UHC progress and secure data as a basis for policymaking on health financing and digital health transformation, decision-makers must:

- Design and implement health financing for digital technologies that support UHC objectives from the outset.
- Anticipate risks and develop mitigation strategies, in particular in relation to the use of AI and machine learning.
- Leverage digital technologies to enhance tracking of health expenditures (e.g. Health Accounts and the Global Health Expenditure Database, which has over 450 variables related to financing, provision and consumption).
- Track specific aspects of health expenditure, such as PHC and pandemic prevention, preparedness and response.

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4. Build workforce capacity, technical skills and digital literacy

Health and care workers are the backbone of a well-functioning health system, and sustainable investments in this workforce are critical to attracting, deploying and retaining skilled professionals capable of performing their roles effectively and in alignment with a global reference for digital health competencies.[xlii] With the projected shortfall of health workers estimated at 11 million by 2030,[xliii] the demand for digital technologies to support access to care and delivery of services is rising. Yet increased support for digital health tools and technologies among policymakers and health officials is not being matched by efforts to ensure digital literacy in the health and care workforce. As health systems become increasingly digitized, workforce competencies must be strengthened to support digital systems, data use, training, planning and management.

When properly integrated, digital tools enhance health worker education and training, improving performance, quality and productivity, supporting their management, and improving their interaction and links with broader system components such as medicine supply chains. However, successful adoption requires prioritizing health workers' needs and providing adequate training and support to understand and use digital tools effectively.[xliv] Factors that contribute to the successful uptake of digital technologies by the health workforce include user design and usability, changing roles and responsibilities, digital literacy and perceptions of value (benefits, utility and effectiveness), and the prevailing policy context. Central to this is understanding the fit between individuals, their tasks, the digital technologies, and the environment in which they are introduced. Building the capacities and skills of the health and care workforce is critical, but just as important is strengthening the broader workforce, including roles in data analysis, digital health governance, and regulatory oversight, to support a well-functioning digital health ecosystem. This shift requires rethinking workforce structures. Other sectors, like finance, rely on a larger proportion of back-office and technical staff than has traditionally been the case in health. Improving the uptake of digital solutions by the health workforce is closely linked to enhancing digital literacy,[xlv] which can be supported through appropriate incentives and context-specific learning opportunities.

To build health systems supported by technical and human capacity, stakeholders must:

- Involve health and care workers from the outset in investment, prioritization, development, and testing of digital tools to ensure they respond to their needs and priorities.
- Integrate digital health competencies into educational and training curricula for all health care-related roles (in alignment with the WHO Global Digital Health Competency Framework), and provide all categories of workers with pre-service and in-service training to enable them to effectively and ethically use digital tools and data.
- Reference existing toolkits for broader digital skills to create effective national digital skills, strategies and policies that go beyond the health sector.[xlvi]
- Invest in dedicated data analytics capacity within national health and statistical systems, including skills in health data management, statistical analysis, and the use of analytical tools, to ensure that digitally collected health data can be transformed into actionable intelligence for planning, monitoring and accountability.

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5. Foster trust by engaging with diverse stakeholders

When communities—especially vulnerable and marginalized groups—are actively involved in shaping digital health policies, they are more likely to trust and adopt them.[xlvii] That is why it is essential to incorporate diverse voices in the design, governance and implementation of digital health tools, taking into account demographic, cultural and socioeconomic differences. This strengthens accountability and transparency, ensuring these technologies serve the public interest, address health inequities and drive progress toward UHC. Involving communities, patients, families, the health and care workforce, civil society, policymakers and technology developers from the outset facilitates the development of equitable, culturally relevant, accessible and responsive digital health solutions. Meaningful engagement fosters trust, reduces skepticism, and promotes a sense of ownership over digital health innovations.

Institutionalizing mechanisms for social participation to ensure regular and sustained engagement—such as community consultations, feedback loops and participatory governance processes—and strengthening government and population capacities to design and implement them, is foundational to securing effective digital transformation which delivers results. Digital health solutions can encounter opposition due to low digital literacy and skepticism about the use of technology. Participatory mechanisms can help decision-makers understand public attitudes, practices and awareness of digital health, which is crucial for improving digital health literacy, engagement,[xlviii] and contributes to the development of solutions that respond to the diverse needs of the population. Digital technologies can also play an important role in supporting reaching more communities, such as young people and full-time working professionals, as part of a mix of mechanisms for social participation.[xlix]

To foster trust in the adoption of digital health services and tools, decision-makers must:

- Institutionalize mechanisms for social participation, including embedding it within legislative frameworks and allocating adequate sustainable financial resources to ensure regular and sustained engagement with populations in the design, governance and implementation of digital health tools, and to enhance usability, trust and equitable adoption.
- Establish inclusive and transparent feedback mechanisms to capture continuous community input and ensure digital health policies, solutions and services remain user-centered, adaptable and aligned with diverse population needs.
- Conduct stakeholder analyses and implement targeted actions to actively engage vulnerable and marginalized populations in digital health decision-making at all levels.
- Foster digital health literacy and capacity building among communities, by providing resources, training and awareness raising on patients' rights.

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6. Establish robust data governance

The increasing digitalization of health systems not only generates more data but also enhances its power and impact through advanced technological capabilities. Digital technologies enable intelligent use of data, which has the potential to improve safety and quality of care, help identify and address unmet health needs, support the development of safer, more effective and targeted treatments, and address disease prevention. However, while data use is crucial for digital health benefits, it also increases the potential for abuse. Without appropriate checks and balances, big data and digital technologies can exacerbate inequalities, perpetuate biases, threaten privacy and concentrate economic and political power, to the detriment of communities and public trust.[i]

Increased data generation raises the potential for vulnerabilities like data breaches and system disruptions. Effective and equitable governance protects the collection and use of health data, fosters responsible use, and improves health outcomes. It facilitates common classifications, terminologies and interoperability standards across systems for data representation, while establishing essential safeguards to create an environment that promotes data-driven decision-making, drives research and innovation, and strengthens health systems in line with UHC principles. More effective and equitable health data governance can also build public trust in health and data systems, which is essential for fostering data collection and use for public benefit.[ii] It can establish clear standards for data quality, fairness and accountability through regular audits and oversight to identify and mitigate biases. By ensuring diverse and equitable data sources are structured according to common semantic and syntactic standards, these frameworks reduce discriminatory practices and can, for example, ensure that AI models are tested and adjusted to minimize harm to marginalized groups, rather than undermining efforts to achieve health equity.

To establish robust data governance frameworks, decision-makers must:

- Strengthen robust policy and legislative foundations for the responsible collection, use and exchange of health data, including reviewing, developing and updating legislation, regulations and policies related to data privacy, security, confidentiality, standardization, accessibility and interoperability, in alignment with international standards.
- Build consensus and trust while leveraging networks such as GIDH and the Global Digital Health Certification Network (GDHCN)[iii] to learn from national, regional and international experiences to foster responsible data use within and across borders.
- Promote joint data and digital governance (including development of strategies) to manage the ethical data journey—from collection, to storing, sharing, analysis and use for policy, budget and programs—enabling trusted data with a transparent audit trail that is accurate, complete, timely and of good quality.
- Support countries in developing and institutionalizing competency and nationally-owned analytical pipelines—the end-to-end processes by which health data is collected, processed, analyzed and translated into official estimates and indicators at national and subnational levels. Ensure the full data continuum from collection to intelligence and action is anchored in country systems and not dependent on external analytical actors for core functions.

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Appendix A

About this strategic narrative

In the digital age, countries are designing the future of their health systems and determining how digital transformation can accelerate progress towards UHC. This narrative provides key advocacy messages and priority actions to align efforts among different stakeholders in addressing critical gaps and opportunities for health systems to address challenges towards equitable digital health implementation that delivers UHC. It reflects on the barriers that need to be overcome and risks to be mitigated for digitalization to be fully and equitably harnessed and to meet the needs of all, including lessons learned to help accelerate progress towards UHC.

The key messages and actions provided are not intended to be an exhaustive list but rather propose areas where targeted advocacy can support efforts to harness the power of digital technologies to unlock timely and cost-effective progress, while addressing challenges to digital transformation that would otherwise exacerbate barriers to advancing UHC.

Development process

This narrative was shaped by a series of workshops held during 2023, 2024 and 2025 with participants from countries across the spectrum of early digital health adopters to new entrants. Information about the workshop process and drafting methodology can be found in the Appendix.

Acknowledgements

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Description: Data manager, Flavia (left) shows new staff (right) how to document digital data on tablet at Railways Health Clinic in Kisumu, April 2024.

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Appendix B

Digital Health and UHC Workshops Method and Process

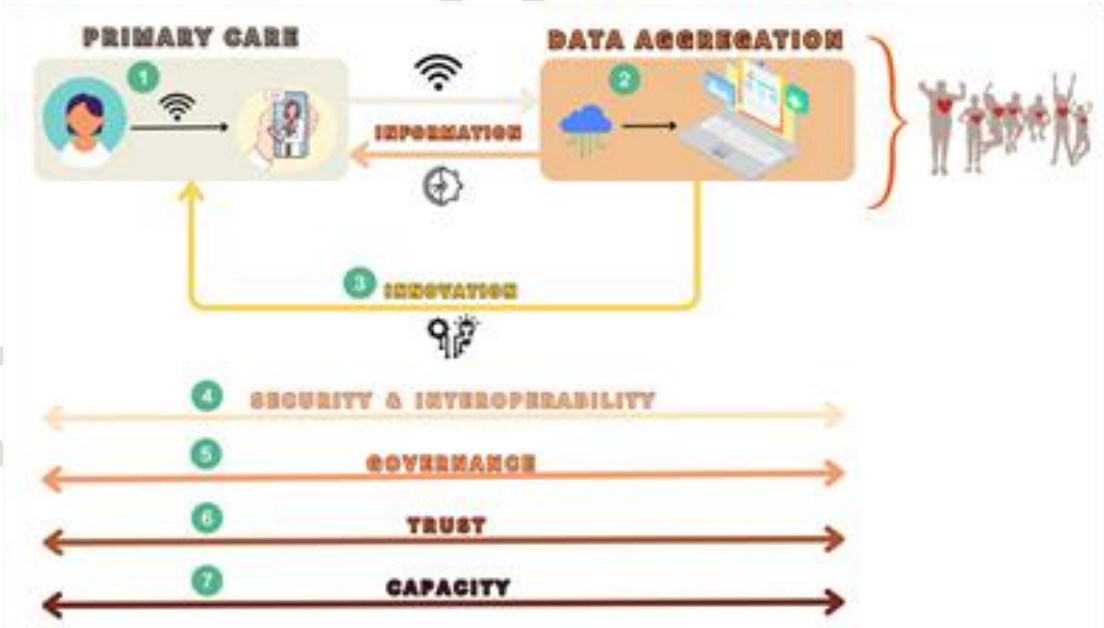
To explore specific actions that could be taken to advance UHC through digital innovations, the OECD and UHC2030 facilitated five workshops with the following stakeholders:

1. International technical experts (Global Digital Health Partnership member countries)
2. Parliamentarians (UNITE global network members)
3. Youth groups associated with Digital Transformations for Health Lab (DTH-Lab)
4. Civil society organizations (Transform Health and the Civil Society Engagement Mechanism for UHC2030)
5. Technical experts on digital transformation (GAVI, The Global Fund, ICRC, IFRC, ITU, WEF, UNU, UNICEF, UNDP, OHCHR, WHO, GIDH, PMNCH, D-Tree, Health AI, Joep Lange Institute, gdhub, FIND, Fondation Botnar)

Participants represented a range of personal perspectives (e.g. civil society, health professionals, academics, organization chairs, policymakers, etc.) across Europe, Asia, Africa and the Americas.

Each workshop followed a similar structure, validating the relationship between digital health and UHC as well as exploring priority actions for digital health as an accelerator of UHC. The scope of digital health was described using Figure 1. In this picture, digital health was simplified to seven interlinked components.

Figure 1. Scope of Digital Health Ecosystems for Workshops



Source: Authors

Workshop participants explored these priority areas, lessons learned from the rapid roll-out of digital health during the COVID-19 pandemic, and their recommendations to make digital health

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innovations trustworthy, effective and useable. Sessions sought to engage all participant through a series of survey questions, open-ended questions, and facilitated discussion.

The workshops were conducted both in person and virtually between December 2023 and April 2025. More than 270 responses were received throughout the sessions. Responses demonstrated a shared belief in the opportunity for digital health to help accelerate UHC.

Digital health ecosystem elements identified by workshop participants:

Functional Components of Digital Health

1. Grow Telemedicine and Remote Care: This enables the technologies for health providers to connect with their patients synchronously (e.g., teleconsultation) and asynchronously (e.g., remote prescription). This relies on secure and safe communication platforms as channels.
2. Integrate Data for Primary and Secondary Use: This brings together personal health data across virtual and physical health encounters to provide information for providers and patients to improve diagnostics and care. The same data collections can be leveraged – with appropriate privacy regulations – to inform population-level analysis including public health, research, innovation, effectiveness, and safety.
3. Embed High-Quality Digital Solutions in Clinical Workflows: This enables the insights generated through population-level analysis to be used in primary care settings (e.g., using artificial intelligence algorithms for individual care).

Non-Functional Components of Digital health

4. Build Secure and Interoperable Digital Infrastructure: This provides the digital infrastructure that (a) reaches across populations and geographies and (b) ensuring that connections are secure, stable, and robust.
5. Establish Digital and Data Governance: This provides the enabling policies and safeguards that improve the use of data while ensuring that privacy and security regulations are respected.
6. Foster Trust in Digital and Data Solutions: Working with the public and health providers; this builds trust in the use of novel digital solutions and in the appropriate and protected use of personal data.
7. Sufficient Capacity for Sustainable Digital Transformation: This provides funding and resources for digital technologies to be implemented and the people / training required to implement and effective use new innovations.

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The initial introduction presented the relationship between UHC and digital health and the aspects of digital health that could be addressed to strengthen UHC. Participants were asked to choose their top three priority areas for digital health investment to advance UHC (Figure 2.). While the order varied across the sessions, three areas had the most resonance with participants for action in digital health:

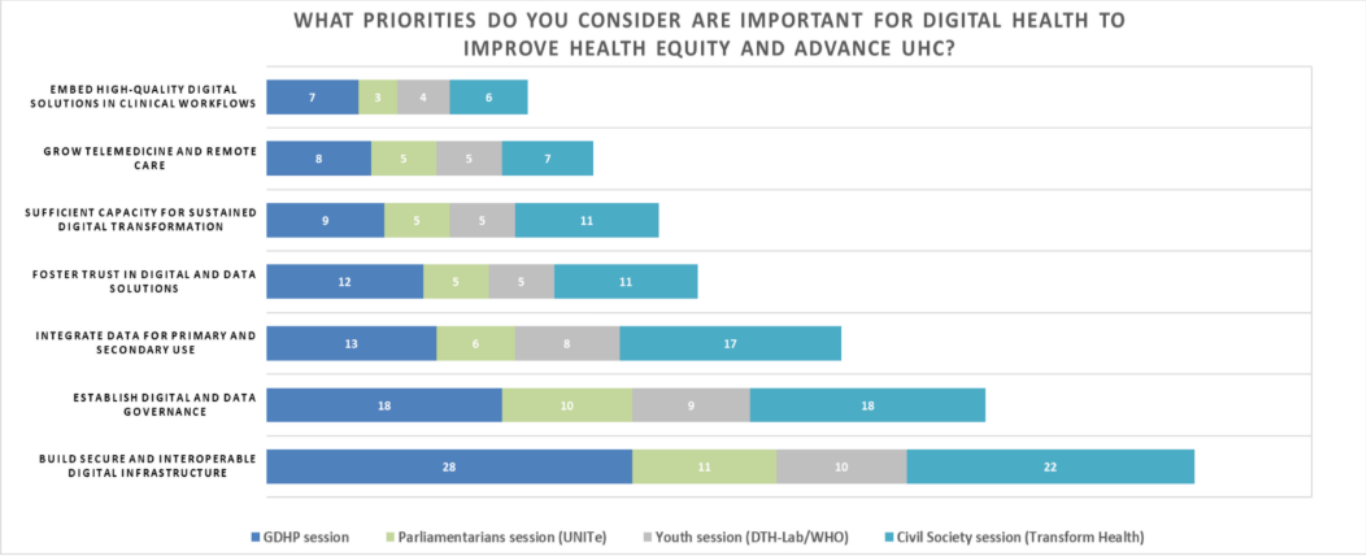
1. Building secure and interoperable digital infrastructure
2. Establishing digital and data governance
3. Integrating data for primary and secondary use

Participants emphasized the need to explicitly identify sustained funding as a priority action, in addition to the noted areas of interoperability of data, accountability for trust, and security of systems.

Recognizing that there are significant barriers to advancing digitalization of health systems, participants were asked to express their concerns in the form of a word cloud (Figure 3).
The groups emphasized that investments should not exacerbate existing inequities. Accountability for trust should include investment in digital literacy (for the public and health providers), public engagement in design and decision-making, and user-centered design. Policies should address security, privacy, access and transparency.

Overall, there was recognition of the importance of political will for clear and coherent strategic direction and funding for sustained action.

Figure 2. Workshop Priorities for Digital health to Achieve UHC



Source: Authors' summary from workshops

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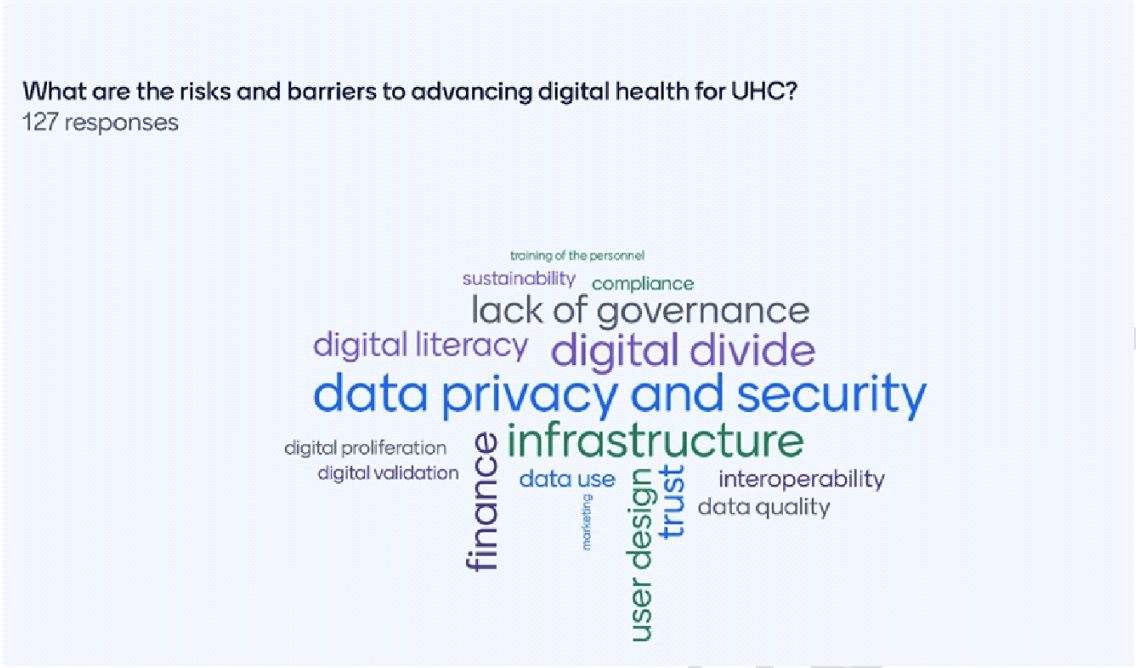
Figure 3. Perceived Risks and Barriers to Advancing Digital Health for UHC



Source: Authors – outputs from workshops

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Additional resources

- Global Strategy on digital health 2020-2025, Geneva: World Heath Organization; 2021Licence: CC BY-NC-SA 3.0 IGO (https://www.who.int/publications/i/item/9789240020924)
- Digital implementation investment guide: integrating digital interventions into health programmes. Geneva: World Health Organization; 2020. License: CC BY-NC-SA 3.0 IGO (https://iris.who.int/server/api/core/bitstreams/30f2bf2d-5574-417f-a1b1-d924fa39426c/content)
- Global Health Monitor: State of digital health 2024 brief, Geneva: World Health Organization (WHO) and the Global Initiative on Digital Health (GIDH); 2025 (State+of+Digital+Health+2024+Brief.pdf)
- Recommendation of the Council on Health Data Governance, OECD/LEGAL/0433, Paris: OECD; 2025 (https://legalinstruments.oecd.org/public/doc/348/348.en.pdf)
- Health Data Governance Principles, Basel: Transform Health: 2022, (https://healthdatagovernance.org/principles/
- Model Law on Health Data Governance, A blueprint for strengthening national legislation, San Basel: Transform Health; 2024 (https://healthdatagovernance.org/model-law/)
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