

E-health: Integrating digital in health systems

The digital transformation of health services has become a cornerstone of modern health systems. Enabel and its partners are frontrunners in the evidence-based strategic strengthening of health services through digitisation.

Introduction

Modern health systems need digital transformation, enabling countries to improve service delivery, to strengthen monitoring, evaluation and learning through data, and to respond more effectively to emerging health challenges. The World Health Organization's Global Strategy on Digital Health 2020–2025 emphasises that digital health tools are essential to achieving universal health coverage and strengthening health systems' resilience (WHO, 2021).

Enabel partners with stakeholders to implement e-health solutions across its partner countries to optimise healthcare delivery, foster innovation and resilience in times of crisis. This was particularly evident during the COVID-19 pandemic, where digital platforms served as gateways for technology-enabled interventions, accelerating service adaptation in real time.

The objective of this position paper is to share the Enabel experiences and mobilise e-health coalitions.

Positioning

Inclusive digital transformation is a critical driver of improved healthcare delivery. Enabel acknowledges its transformative potential and positions as a key enabler in achieving universal health access, health system resilience and sustainable health infrastructure.

Enabel follows a holistic approach for e-health through strategic partnerships with governments, academic

institutions, the private sector and civil society. The scope of e-health extends beyond the provision of Information and Communication Technology infrastructure.

Enabel actively contributes to shaping governance frameworks, data standards, and integration protocols essential for building resilient and nationally owned digital health ecosystems.

Enabel ensures this national ownership by supporting the development of national digitisation strategies, privacy and data protection legislation, interoperability frameworks, and capacity building through staff training locally. At Enabel, we view innovation as a driving force in shaping the future of healthcare. This is reflected in our active engagement with emerging technologies such as artificial intelligence (AI) to enhance service delivery, diagnostics and system efficiency.

As a subscriber of the [principles of digital-for-development](#), Enabel ensures that digital solutions are replicable across regions, designed with the users and for inclusion, in full understanding of the specific ecosystem.

E-health at Enabel: 5+1 level approach

Enabel's experience with e-health can be segmented into 5 specific levels and a transversal one:

Level 1. Digital for Strengthening National Health Systems

By integrating e-health solutions into National Health Strategies, Enabel has contributed to strengthening national health systems through enhancing decentralised access to health data, thereby facilitating decision-making. This contributes to timely, evidence-based decision-making, fostering inclusive and sustainable healthcare models. The synergy between e-health and D4D supports the creation of resilient health systems equipped to manage routine care, assure epidemic preparedness and respond to health emergencies.

In Niger, Enabel works with the Ministry of Health on the development of a digital health map, visualising the performance of the country's health systems and ultimately planning future investments (Bluesquare, 2023).

In Benin, Enabel equipped 244 health facilities with IT tools and an Internet connection, enabling the decentralised collection of health data and the development of dashboards to foster the use of data throughout the health system. A web-based platform was also developed to facilitate the recruitment of health(care) workers. Enabel also supported the development and implementation of the Integrated Results-Based Hospital Information System (IRHIS), a digital platform designed to streamline administrative, financial and clinical data management across hospitals.

Together with the Gates Foundation, Enabel strengthens health systems to fight against malaria, in a multi-country health system strengthening process with a specific focus on digitisation for improving disease surveillance and data management through the setup of the national malaria data repository for decision-making in high-burden settings (Enabel, 2023a).

Enabel's partnership with Africa's Center for Disease Control (CDC) targets digital health governance and epidemic response through research and development (Enabel, 2023b).

Level 2. Digital for Health Facilities & Insurance

In Burundi and the Democratic Republic of Congo, over 70 hospitals have been digitised, mostly in remote locations. This has enhanced patient record management with electronic medical records and optimised the management of financial, pharmaceutical, human and logistical resources. Pharmacy digitisation played a vital role in improving stock control and financial oversight, often the backbone of hospital sustainability. These digitisation efforts have improved data collection, reporting efficiency and patient tracking while reducing administrative errors (Enabel, 2023c).

In the DRC, digitisation allowed the introduction of sickness episode payment schemes and enabled the scaling-up of financial management systems. These advancements laid the foundation for new payment mechanisms that support progress toward Universal Health Coverage (Enabel, 2022a).

To strengthen financial protection and healthcare access in rural areas, Enabel supported the creation of Departmental Health Insurance Units in Senegal. These units aim to extend health insurance coverage to underserved populations. A key element of their sustainability and effectiveness lies in the use of digital information systems, which streamline membership management, service delivery and provider reimbursements, thereby enhancing the overall resilience and responsiveness of the system (Ridde et al., 2022).

Level 3. Digital for Healthcare Professionals

Enabel developed the "Stratégie-Plainte-Traitement" [SPT-Mobile app](#), a web-based and Android tool designed to support healthcare professionals in delivering consistent, high-quality care. The app supports health(care) workers from patient complaints through to appropriate treatment, improving clinical decision-making and standardising case management across health facilities (Enabel, 2022b).

In Burundi, Enabel and partners like the Ministry of Health launched a pilot project using an AI-powered tool, Health Pulse, to improve the accuracy of malaria rapid diagnostic tests and thus reduce misdiagnoses. The tool supports health workers in interpreting results and tracking cases in real time via mobile devices. Training sessions support the tool's rollout (Enabel, 2024).

In Benin, a platform was developed to digitise the blood transfusion process to optimise and improve the performance and safety of the use of blood products. In the same way, a platform allows teenagers and young adults to learn about sexual health, and make appointments with health professionals in complete discretion, or girls and young women to manage their menstrual cycle.

To improve diagnostic services, Enabel introduced e-radiology solutions for the digital transmission of radiographic images from remote health centres to specialists. This initiative accelerates diagnosis and improves clinical outcomes by fostering timely consultation and interpretation.

What makes Enabel's e-health approach different?



**Embeddedness
in the National System**



**Building capacity
locally**



**Digital health
as a governance tool**



**Economic options to
facilitate technology
adaptation**



**Cross-sectional and
strategic integration**

Enabel is exploring the use of smart glasses technology to assist community health workers in capturing and transmitting patient data in real-time. This innovation aims to enhance remote supervision, teleconsultation and diagnostic accuracy, particularly in underserved areas.

Level 4. Digital Tools for Patient Empowerment

In Rwanda, mobile money payments ensure vulnerable communities can access health insurance (Biallas et al., 2021).

In Benin, the mHealth application is used to empower blood donors by allowing them to easily participate in blood donation campaigns, make appointments with reminders and securely manage their medical information. In Niger, an application is used to support maternal health tracking and send vaccination reminders, increasing patient engagement and adherence to care schedules.

Level 5. Digital Community Tools

In Benin, Burundi and Guinea, Enabel supported performance-based healthcare financing complemented by SMS-based health feedback loops, enabling communities to provide real-time reviews and lodge complaints about healthcare services. This has fostered greater transparency, accountability and responsiveness in health facilities (Enabel, 2023d).

Transversal level. Digital for Learning & Capacity-Building

Enabel continuously develops e-learning resources for health. A prime example is the Socieux+ e-course '[Acting upon inequality](#)' (Socieux+, 2025) that explains inequity concepts and how to contribute to the reduction of inequity and do no harm. In addition, the e-course 'How to design equitable social health protection' aims at training current and future policymakers on the development of universal social protection in health (Socieux+, 2025).

Enabel's implementation of the SPICES model in Uganda has transformed health education by shifting from lecture-based to hands-on, problem-solving learning. Students are more

engaged and proactive, while community-based training allows learners to apply skills directly in real-world healthcare settings. (Enabel, 2023e).

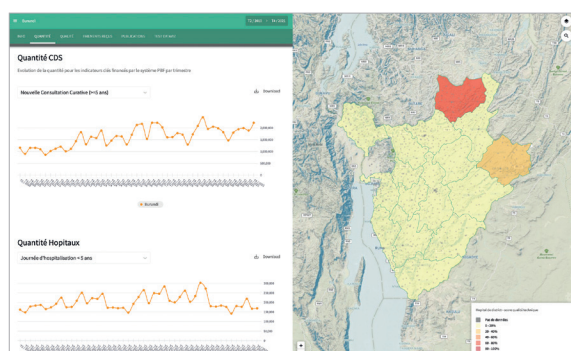
Enabel's WeTrain4Health project, launched in Uganda in collaboration with local health institutions, conducted an International Computer Driving License training. By equipping health educators with digital literacy skills, their ability to integrate digital tools into teaching improved. As a result, participants reported increased confidence in using digital platforms, enhancing the quality and efficiency of health education in Uganda (Enabel 2023f).

In Burundi, the Certified Information Systems Auditor training also strengthened the capacity of IT personnel, ensuring sustainable digital health infrastructure management.

In DRC, Enabel placed specific emphasis on reinforcing basic digital skills among health staff, improving technological connectivity and promoting e-learning and blended learning methods. Moving forward, initiatives under Technology-Enabled Interventions, in collaboration with the National Health Institute and National Health Information Systems, are expected to further institutionalise digital learning platforms and scale up access to capacity-building tools (Nyssen and Verbeke, 2024).

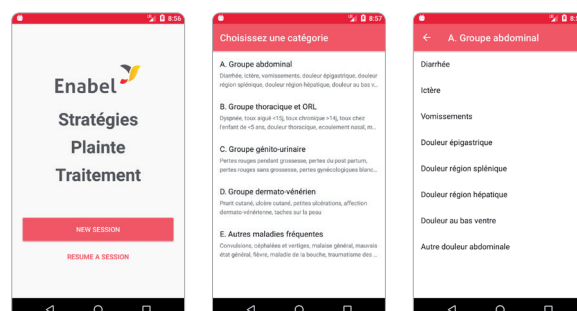
The e-AYSRH platform (Adolescent and Youth Sexual and Reproductive Health), supported by Enabel in Benin, aims to improve access to comprehensive sexual and reproductive health education for youth. In addition, an e-learning platform has been developed for the Ministry of Health to host a range of training courses and make it easier for health professionals to access training at any time. It also drastically reduces staff absences for training.

Performance-based reimbursement



Source: <https://fbpsanteburundi.bluesquare.org/>

SPT-decision-making tool



Source: SPT App

Recommendations

Working with e-health solutions in Belgian international cooperation partner countries has resulted in a set of key insights. Based on this experience, the following actions are recommended:

1. Strengthen National Health Information Systems (NHIS)

Support partner governments in scaling up interoperable and standardised NHIS platforms that enable real-time data access and evidence-based planning at all levels of the health system. This includes promoting supportive governance structures and legal frameworks, such as data protection regulations, interoperability standards and national digital health strategies, which are essential for sustainability, trust and compliance.

2. Position e-Health as a Driver of Systemic Change

Embed digital tools and strategies within national health reforms to foster long-term transformation. This requires aligning with national priorities, engaging in policy dialogue and ensuring that digital health serves not merely as a technological upgrade but as a strategic enabler for broader health system strengthening.

3. Empower Individuals through Digital Health

Leverage digital tools to support informed health decisions at the individual level, such as self-monitoring of non-communicable diseases, and to amplify community voices on equitable access and service quality. This includes promoting platforms that enable user feedback, strengthen digital health literacy and foster citizen engagement in health governance.

4. Scale and Replicate High-Impact Projects

Build successful pilot projects by scaling up proven solutions. This involves doubling implementation efforts and impact through strategic investments, support for digital entrepreneurship and evidence-based expansion.

5. Develop Context-Specific Digital Expertise

Tailor e-health solutions to local priorities by investing in regional digital health skills and capacity-building. Strengthen healthcare

professionals' and educators' digital competencies systematically through targeted training and knowledge exchange.

6. Integrate Digital Health into National Systems for Sustainability

The move beyond pilot initiatives is only possible by promoting institutional ownership, domestic financing, and embedding digital health into national policies and budgetary processes. This would require integrating IT maintenance into sectoral systems and enabling long-term investment via amortisation models. Strengthening governance and regulatory frameworks remains crucial.

7. Promote Learning and Synergy across different contexts

Facilitating country-wide learning to improve efficiency, avoid duplication and apply successful practices across contexts. Additionally, adapting administrative procedures can help support the agility and responsiveness required for digital health innovation.

8. Leverage Evidence to Catalyse Global Partnerships

Generate and share compelling, evidence-based case studies from e-health initiatives. Use these to generate interest, co-investment and alignment with international partners committed to sustainable digital transformation in health.

Conclusion

The digital transformation of healthcare is no longer an option, but a necessity for building resilient and inclusive health systems. As global health actors recalibrate their roles, the need for locally owned, sustainable digital health ecosystems has become even more urgent.

The road ahead presents significant challenges, but through a commitment to innovation, collaboration and sustainability, Enabel aims to be a key contributor to the digital health revolution, empowering local systems to grow stronger, more inclusive and self-reliant.

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