

The Journey of Health Information Systems and Digital Health in Yemen, 2021–2026

From Building the Foundation to Integration and Sustainability

By Dr Ahmed Nassr Al-Saeedi

Director General of Health Information and Research – Ministry of Public Health and Population, Yemen

Over the past five years, Yemen's health information system and digital health landscape have gone through a number of important stages. The journey began with building the foundation, followed by the expansion of digital systems and platforms, improvements in data collection, analysis and use, and has now reached a stage where we are working to strengthen integration and sustainability and to better connect information with health services, planning and decision-making.

This journey did not take place separately from the realities of Yemen's health system. The work has been carried out under difficult conditions and in the face of major challenges related to infrastructure, financing, human resources and continuity of services. Nevertheless, there has been a strong commitment to continuing the development of the health information system and to making technology an integral part of institutional work in the health sector, rather than simply a supporting tool.

From the **temporary capital, Aden**, the Ministry of Public Health and Population continued to lead this process throughout these years, working to build the different components of health information systems and digital health while health services continued to be delivered across the country.

The beginning: building the foundation

One of the major milestones came in 2021, with the start of the implementation of **DHIS2** as a key platform for digitising aggregated health data and reporting. Over time, its use expanded across different programmes and included a number of tracker applications, making it one of the main pillars for collecting and analysing health data at national level.

However, the experience made it clear from an early stage that building a health information system is not only about technology. A platform requires people who can use it effectively, quality data, clear roles and responsibilities, appropriate infrastructure, coordination and governance mechanisms, and resources that can sustain its operation and further development.

The work therefore gradually expanded to include data quality, analysis, information dashboards, tracker systems, facility and service information, and greater use of data for monitoring, planning and decision-making.

As the work expanded, it became increasingly important to have a national vision that could bring these efforts together and define their overall direction. This led to the **National Health**

Information System Strategy 2024–2028, which represented an important step towards viewing the health information system as an integrated national system rather than simply a collection of separate systems or projects.

The vision did not stop with the health information system strategy. The **National Health Strategy 2026–2030** placed information and digital transformation within the broader framework for health-system development and set a direction towards **a single institutional structure for health information systems in the country**.

This is an important shift because it reflects a move away from creating separate systems for individual needs towards building a more integrated system in which information becomes part of the institutional architecture of the health system itself.

Institutional work and multiple partnerships

This journey was not the work of one department or one team. It took place under the leadership and follow-up of **H.E. Professor Dr Qasim Mohammed Bahiebah, Minister of Public Health and Population**, with the participation of ministry undersecretaries, sectors and programmes, governorate health offices, and specialists and health workers at different levels of the health system.

Within this process, the **General Directorate of Health Information and Research** played a role in organising, coordinating and facilitating the technical work; developing national frameworks; connecting different efforts; following up on the development of information systems and the use of data; and facilitating collaboration among sectors, programmes, health offices and partners.

This role is important because building a national health information system cannot be the responsibility of a single entity. Information starts at the health facility and with the health worker, passes through different levels, and ultimately reaches decision-makers. The success of the system therefore depends on the participation of all these levels and on a shared understanding of each actor's role.

This journey would not have reached where it is today without the support and cooperation provided by our partners at different stages. The **World Health Organization, UNICEF, UNFPA, the World Bank, USAID, UNOPS and HISP**, together with a number of other partners, supported and facilitated different components of this work, each according to its respective area and role.

Their cooperation played an important role in enabling the Ministry to implement many activities, develop systems, build capacities and strengthen services under the difficult conditions in which Yemen's health system operates.

The contributions of these organisations varied according to programmes and stages of implementation and included areas such as health information systems development, capacity building, service improvement, infrastructure support and digital initiatives.

The objective has always been for these partnerships to support national priorities and contribute to building capacities that can be sustained within national institutions.

For us, partnership is a means of strengthening national capacity, not a substitute for it.

From information systems to digital health

As the health information system developed, the concept of digital transformation gradually expanded to include the delivery of health services themselves. One of the most significant areas to emerge during this period was **telehealth**.

In 2025, the Ministry worked to complete the regulatory and governance framework for telehealth services, creating a foundation for organising and developing this field within the health system.

In 2026, the establishment of the **Virtual Health Services Center**, under Ministerial Decision No. 13 of 2026, represented an important step in the institutional architecture for digital health.

This step does not mean that full-scale operations began immediately. Rather, it marks the beginning of a new phase focused on building partnerships and learning from the experiences of sister countries, with a view to gradual operationalisation and development.

More importantly, the Centre is not intended to become an isolated project. It was designed as an integrated component of the health information system, so that the digital patient record can eventually be incorporated into a unified database, whether care is provided virtually or directly through health facilities. In this way, telehealth can become an integral and connected pathway within the country's wider health information ecosystem.

Health education and training: a new path towards digitalisation

Digital transformation is not only about information and services. Health workers also need continuous access to knowledge and training.

For this reason, the Ministry is working within its vision to develop a **digital health education system** aimed at digitising training and strengthening continuing health and medical education through the Ministry's educational platform.

This is particularly important in a geographically extensive country where health workers are distributed across different governorates and levels of the health system. A digital educational platform can help expand access to training, reduce reliance on face-to-face training alone, and provide content that can be accessed more regularly.

This is also an essential part of sustaining digital transformation. Systems do not remain effective through technology alone; they depend on people who know how to use them, improve them and make meaningful use of them.

Yemen in the global digital health dialogue

The year 2025 also saw a broader presence for Yemen in international digital health and health knowledge networks.

Yemen joined the **Global Digital Health Partnership (GDHP)** and the **Global Initiative on Digital Health (GIDH)** managed by the World Health Organization, while also strengthening cooperation and engagement with the **Healthcare Information and Management Systems Society (HIMSS)**.

There has also been growing participation by Yemeni professionals in international knowledge networks, including **Healthcare Information For All (HIFA)**, creating broader opportunities for knowledge exchange, professional learning and sharing the Yemeni experience with the wider global health community.

This international engagement has given Yemen greater opportunities to learn from international experience and to participate in discussions related to digital health policy, governance, standards, data and capacity building.

It is equally important because it allows Yemen not only to learn from other countries, but also to present its own experience, context and needs to the international community.

2026: a new phase, not the end of the journey

After five years of this journey, it is important to look at the overall picture realistically.

Health information systems have expanded, tools for data collection and analysis have developed, national experience has accumulated, strategic and regulatory frameworks have been established, and new pathways have emerged in telehealth, digital education and decision-support systems. Yemen's participation in the international digital health dialogue has also expanded.

At the same time, there are still significant challenges. Infrastructure and connectivity require further development, sustainable financing remains an ongoing challenge, and system integration, data quality, cybersecurity, specialised capacity and continuity of operations all require sustained work.

For this reason, 2026 is not a year in which we can say that digital transformation has been completed.

It is a year of **continued development, addressing gaps and gradually moving from the expansion of systems towards their integration and sustainability.**

The challenge in the next phase is not to create a new digital system for every need. It is to make better use of what has already been built, enable systems and data to work together in a more organised way, and make information a stronger part of decision-making.

This brings us to an important point:

Digitalisation is not the same as digital transformation.

We can digitise a form without changing the way work is done. We can establish a platform without changing the way decisions are made. And we can collect large amounts of data without using it in ways that improve health services.

Real transformation begins when data becomes part of how an institution works, and when its use in planning, monitoring and decision-making becomes a continuous institutional practice.

Where are we heading?

If the years from 2021 to 2026 focused largely on building the foundation and expanding the use of systems and platforms, the next phase needs to place greater emphasis on **institutional integration, data quality, information governance, cybersecurity, capacity building, sustainability and national ownership.**

The integration of information and digital health into the **National Health Strategy 2026–2030** provides an opportunity to move towards a more unified and integrated health information system.

At the same time, telehealth, the Virtual Health Services Center, the digital health education system, decision-support systems and other initiatives should be viewed as components of one interconnected system rather than as separate projects.

International and regional partnerships will also remain important. Their value is not limited to technical or financial support; they also provide opportunities to learn from experience, strengthen professional networks and turn knowledge into capacity within national institutions.

When we look back at the past five years, I do not think the right conclusion is that everything has been completed. A more accurate picture is that **we have made important progress in building the foundation, and we now have accumulated experience, systems, human resources and partnerships, while significant work remains to complete the structure, connect its components and ensure its sustainability.**

This is not the story of one directorate, nor the story of one platform.

It is the story of institutional work involving the Ministry at different levels, governorate health offices, health facilities, health workers, technical partners and supporting organisations, each contributing from its own position and role.

For us in the **General Directorate of Health Information and Research**, our responsibility in the next phase will continue to be to organise, facilitate and coordinate this process, and to help the Ministry move from multiple initiatives towards a more integrated and sustainable national system.

The journey began with building the foundation. It developed into strategies, systems and digital services, and has now reached a new stage in which we need to connect what has been built, protect it and continue to develop it.

The foundation has been built. The next phase is about integration and sustainability.