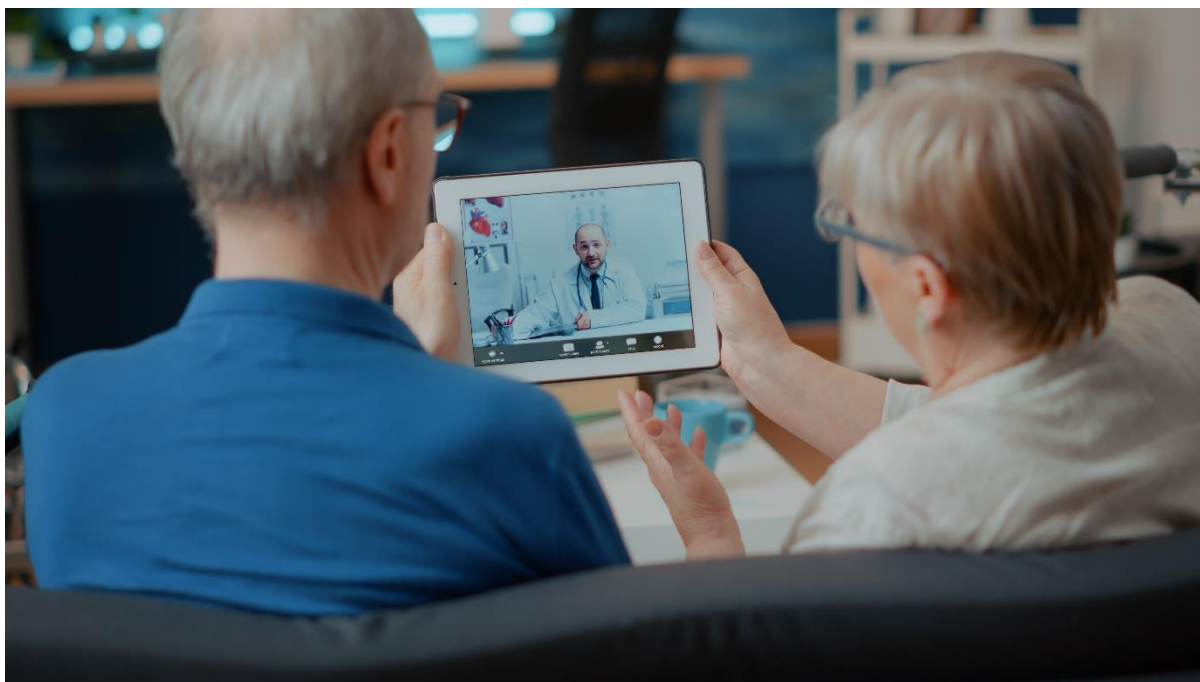# How can countries achieve digital maturity in healthcare?

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By Aurelio Arias

- **The pandemic accelerated the adoption of digital technologies in healthcare.**
- **Digital progress varies greatly between countries, even among richer nations.**
- **Lower-income countries can leapfrog ageing technologies and implement modern solutions.**

Healthcare systems have become increasingly digitised since the late 1960s, but in the last decade progress has accelerated, expanded in scope and been given a huge boost by the pandemic. From its beginnings in the early development of structured medical records through to the critical role telehealth played in continuing operations during the COVID-19 pandemic, digital technologies have allowed policymakers, caregivers and patients the ability to make informed decisions to better manage healthcare delivery.

Exacerbating this situation is an ageing demographic, changes in lifestyle and the continuing impact of COVID-19 due to a reduction in screening and diagnosis. These factors will impact patient needs and will continue to drive demand for digital transformation for many years to come as countries seek to increase cost effectiveness and improve outcomes.

The uneven progression towards digital maturity

The adoption of digital technologies, however, has not been uniform across countries. While digital transformation follows a common direction, the starting point varies considerably. Evaluating the relative digital maturity of healthcare systems is therefore critical to identify leaders and laggards, and the steps that countries must take to improve.

We examined the state of digital health across Europe, the Middle East and Africa using a framework consisting of multiple elements that accounted for the heterogenous nature of healthcare systems. Broadly, these were classified as follows:

- Initiatives (policy, funding, data governance, institutions) measure the foundations from which a country can begin its digital healthcare journey.
- Infrastructure (electronic health records, data standards, omics, interoperability) examines how a country creates a backbone of interconnected systems and high-grade data.
- Implementation (telehealth, artificial intelligence, information use, virtual studies) captures a country's ability to abstract this data to make a real impact in population health management.

Benchmarking digital maturity

Our findings suggest a positive correlation between a country's Digital Maturity Score and its GDP per capita (Figure 1), implying that richer nations score highly mainly due to their effective cultural, political, economic and regulatory foundations.

Figure 1: Digital Healthcare System Maturity Scores

Notes: *Initiatives: policy, funding, data governance, institutions. Infrastructure: Electronic health records, data standards, omics, interoperability. Implementation: telehealth, AI, information use, virtual studies
Source: IQVIA EMEA Thought Leadership; GDP per capita data obtained from World Bank Open Data; Framework scores are based on interviews and surveys with internal IQVIA experts
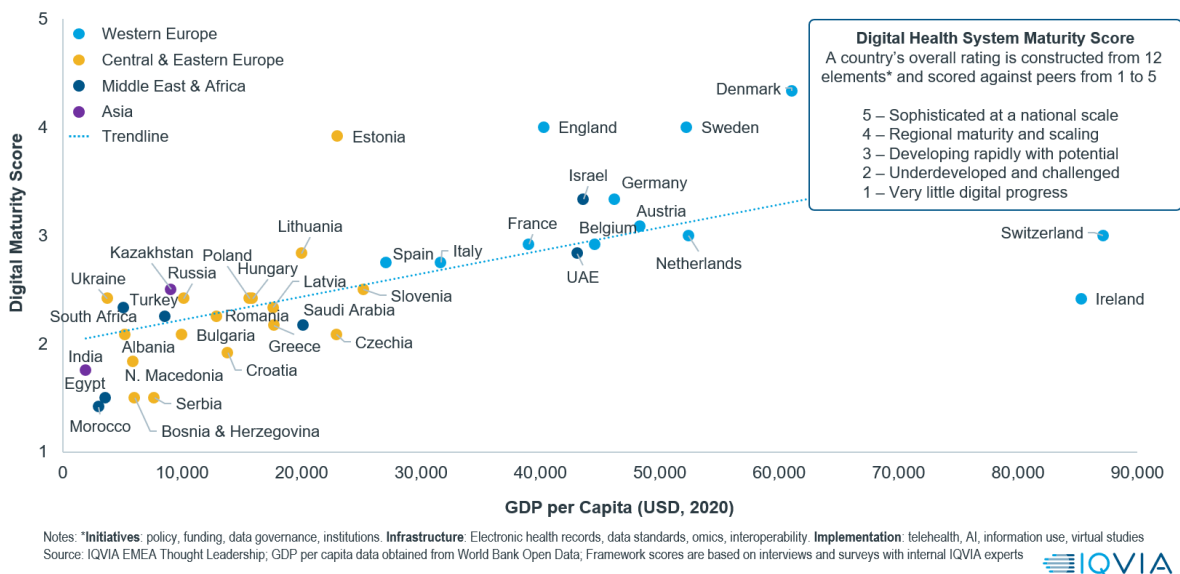
Figure 1: Digital healthcare system maturity scores. Source: IQVIA.

This per capita metric is important, as a comparison against total GDP alone does not show the same correlation. Populous lower and middle-income countries struggle to implement the necessary infrastructure evenly across their population as the ability to scale depends on fundamental prerequisites such as widespread access to fast internet, high levels of mobile use and technologically advanced healthcare institutions.

Smaller and centralised countries tend to fare well. Denmark, England, Estonia and Sweden are the largest positive outliers in our study. They are high on the maturity curve thanks to expansive genomic programmes, advances in decentralised trials and the use of national health data to make evidence-backed decisions.

In the same vein, highly devolved administrative states such as those found in Germany and Switzerland, or decentralised regions such as in Spain and Italy, see slower digital adoption due to the complexity in achieving national consensus across multiple cultural attitudes, languages and economic priorities. This has led to unsynchronised rates of development and poor interoperability between regions.

Countries with the lowest scores also share common traits. The majority have launched a digital healthcare policy but struggle to convert this into compliant infrastructure due to complexity and capital requirements. They also show pockets of digital excellence, whether through partnerships between local tech hubs and hospitals or through regional data-sharing platforms. The scale-up from regional to national continues to be an enduring challenge.

What do successful digital healthcare systems have in common?

The evidence suggests that there are shared themes between countries that have succeeded in creating highly digital healthcare systems. These can help uncover models that countries can assimilate in order to progress their own ambitions (Figure 2).

Figure 2: Digitally mature healthcare systems share common features

Dedicated Digital strategy
Clear vision and time-bound goals at the heart of policymaking

Designated funding
Transparent funding set aside for the purpose of advancing digital health

Well-managed data
Data protection safeguards combined with flexible access management

National Electronic Health Records
Rich data coverage linked by a flexible and national platform

Empowered institutions
With specific remits for setting policy, governance and enforcing standards

Emphasis on Interoperability
Ensuring that data is stored and transmitted using modern standards

Innovation
Investment in building new data sources which expand the scope of health data

Experimentation
Pilot projects initiated collaboratively between private and public institutions
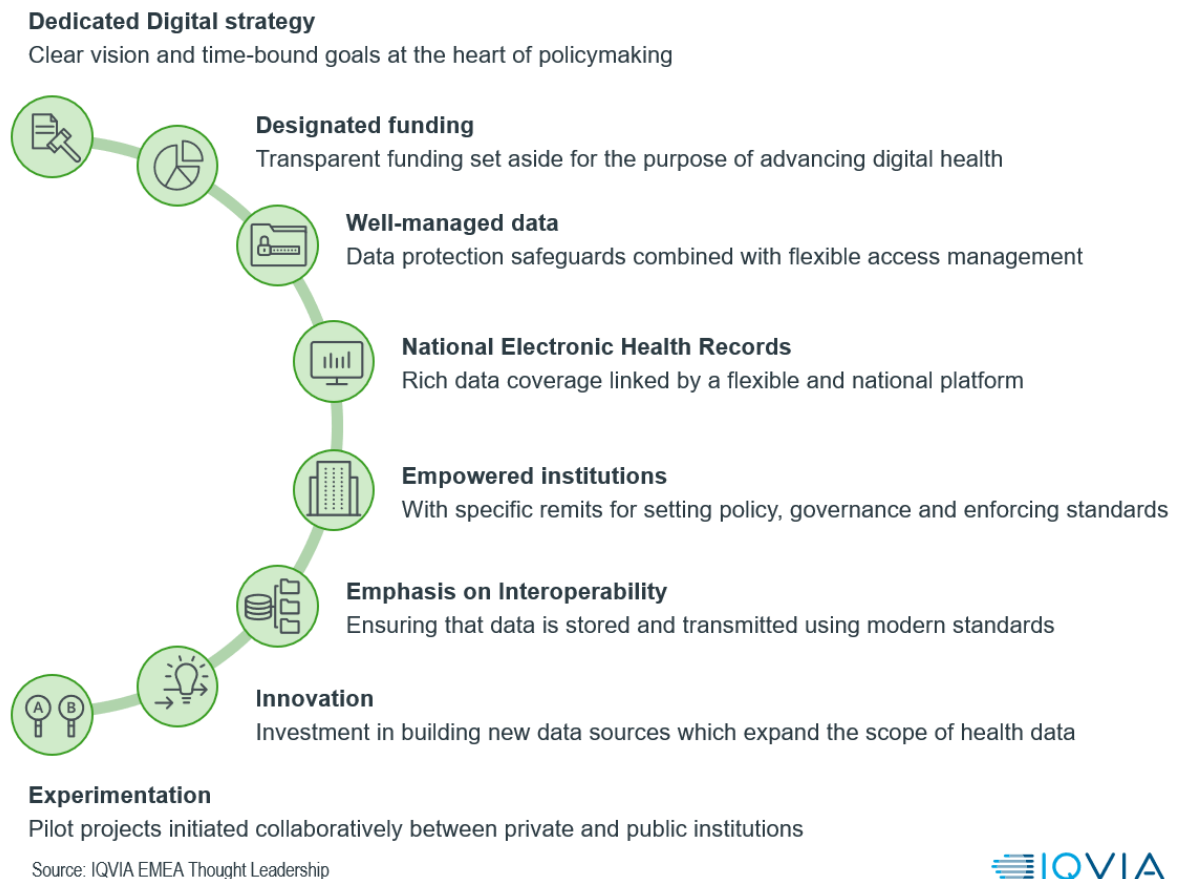
Source: IQVIA EMEA Thought Leadership

Figure 2: Digitally mature healthcare systems share common features. Source: IQVIA.

Traditionally, the path to maturity requires significant time and invested capital to alter the direction of institutional inertia. The payoffs are clear to see, with improvements in the use of artificial intelligence, personalised medicine and digital therapeutics exemplifying capabilities available to high scoring countries.

Skipping ahead

There is an alternative development path a country can take that shows future promise. Many lower-income countries, unburdened by legacy platforms, can leapfrog the barriers of ageing technologies and skip ahead. They can learn from countries such as England and Estonia that have matured through decades of stepwise improvement and directly implement modern solutions.

Leapfrogging is about making bold choices that fit within the confines of a country's available resources and not copying directly from higher-income countries. For

example the widescale adoption of consumer electronics has played a key role; with SMS reminders and phone consultations progressing to dedicated health financing and medical grade sensors in mobile phones. However, there is only so much expansion the private sector can provide, and so to truly build out a country's infrastructure, government mandates are required.

To conclude, the increased burden on healthcare systems, on top of the limited resources they possess, makes continued digital expansion an attractive proposition to drive healthcare efficiencies at scale. The real excitement, however, comes from the promise to provide superior population health management that will ultimately lead to improved patient outcomes. Striving for digital maturity is critical to achieve these aims, and tracking the progress of each country is the first step towards identifying the paths to follow and those to avoid.

For further insight, read IQVIA's white paper on Digital Health systems maturity: Switching On the Lights.

Accessed at: https://www.weforum.org/agenda/2022/08/countries-achieve-digital-maturity-healthcare/

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