Digital Health Tools in Europe – challenges and opportunities

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EUROPE

Overview

Experience from England

- Context
 - Long history of digital health initiatives
 - Wider challenges of investment and productivity
- Examples
 - Evaluation of digital health and how to use it
 - Diverging regulation of AI

Wider messages about implementing digital health

- Two European Observatory policy briefs
 - Digital health before, during and after Covid
 - Transforming health service delivery

Digital health in the NHS

National Programme for IT – over £10Bn. "expensive and largely unsuccessful" – National Audit Office

Why did it fail?

- Too much focus on technology, not enough on people;
- Centralised, top-down approach
- Rushed and unrealistic timetables

Digital health in the NHS

Lack of long-term planning and investment

Lack of stakeholder support has also undermined public trust in digital health systems

Wider NHS challenges

Freedman, Sam, and Rachel Wolf. 2023. 'The NHS Productivity Puzzle; Why Has Hospital Activity Not Increased in Line with Funding and Staffing?' London: Institute for Government. https://www.instituteforgovernment.org.uk/sites/default/files/ 2023-06/nhs-productivity-puzzle_0.pdf. Very low bed capacity, exacerbated by delayed discharges due to lack of care outside the hospital system



Low diagnostic capacity – the fifth lowest number of CT, PET and MRI scanners per capita in the OECD;



Long-standing low capital spending, becoming even more acute in recent years as capital budget is used for current expenditure;



Lack of appropriate staff (lot of experienced staff retiring; impact of prolonged industrial action by doctors following the pandemic)



Unclear governance through Integrated Care Boards

Overriding pressures of care delivery

| Costa Rica | 0.63* | 0.73* | 0.96 | 10.000 | 0.77* | 0.73* 0.74* | 0.74* 0.86* | 0.93* | | 0.95 0.87* | 0.69 | | | | | | 0.72* | 0.74* | | |
|-----------------|-----------------------|------------|-----------|--------|-------|----------------|----------------|-------|---------|---------------|-----------------|-------|-------|-------|-------|-------|-------|-----------|-------|--------------------------|
| United Kingdom | and the second second | 1. 5552 11 | 80.2222.2 | 0 74* | | LONG COL | | | 0.774.8 | Veres (| Contract of the | 00000 | 0.703 | 0.62* | | | 01020 | 1. 1.2325 | 0.67* | |
| Poland | 0.71* | 0.76* | 0.79* | 0.71* | 0.95 | 0.72* | 0.87* | 0.92 | 0.71* | 0.83* | 0.61* | 0.62* | 0.70* | 0102 | 0.614 | | 0.77* | 0.79* | | |
| Hungary | 0.72* | 0.75* | 0.88* | 0.67* | 0.90* | 0.87* | 0.88* | 0.99 | 0.68* | 0.85* | 0.85* | 0.62* | 0.69* | | 0.61* | - | 0.75* | 0.73* | 0.69* | |
| Lithuania | 0.73* | 0.75* | 0.86* | 0.71* | 0.94 | 0.72* | 0.78* | 0.98 | 0.68* | 0.78* | 0.69* | 0.69* | 0.86 | | 0.73* | | 0.75* | 0.68* | 0.68* | |
| Italy | 0.75* | 0.80* | 0.86* | 0.73* | 0.91* | 0.84* | 0.82* | 1.01 | 0.63* | 0.84* | 0.75* | 0.71* | 0.82* | 0.71* | | | 0.79* | 0.80* | 0.71* | |
| Slovak Republic | 0.77* | 0.74* | | 0.80* | 1.00 | | 0.93* | 1.00 | 0.75* | | 0.91 | 0.71* | 0.83* | 0.76* | 0.68* | - | 0.88* | 0.74* | 0.78* | |
| Belgium | 0.80* | 0.89* | 1.00 | 0.87* | 0.88 | 0.84 | 0.92* | 1.00 | 0.79* | 0.91* | 0.85* | 0.76* | 0.79* | 0.65* | 0.77* | | 0.78* | 0.95 | 0.80* | |
| Portugal | 0.81* | 0.84* | 0.88* | 0.79* | 0.92 | 0.91* | 0.82* | | 0.78* | 0.86* | 0.93* | 0.80* | 0.84* | 0.77* | 0.80* | 0.73* | 0.80* | 0.88* | 0,84* | |
| Spain | 0.81* | 0.83* | 0.96 | 0.84* | | 0.82* | 0.86* | 0.98 | 0.78* | 0.94 | 0.84* | 0.77* | 0.82* | 0.64* | 0.80* | 0,59* | 0.85* | 0.90* | 0.80* | |
| OECD | 0.83* | 0.88* | 0.95* | 0.85* | 0.90* | 0.91* | 0.90* | 0.98 | 0.77* | 0.88* | 0.83* | 0.79* | 0.83* | 0.74* | 0.78* | 0.65* | 0.85* | 0.89 | 0.80* | Observed-to-expected |
| Canada | 0.84* | 0.91* | 0.98 | 0.94* | 0.88* | 0.84* | 0.92* | 0.98* | 0.85* | 0.90* | 0.83* | 0,79* | 0.83* | 0.71* | 0.79* | | 0.85* | 0.94 | 0.82* | (OE) ratios |
| France | 0.84* | 0.95* | 1.01 | 0.91* | 0.94* | 0.93* | 0.91* | 1.00 | 0.84* | 0.90* | 0.85* | 0.80* | 0.87* | 0.75* | 0.78* | 0.66* | 0.87* | 0.93 | 0.82* | 1.2 |
| Austria | 0.86* | 0.90* | 0.90* | 0.89* | 0.88* | 0.91* | 0.90* | 0.98 | 0.83* | 0.91* | 0.89* | 0.82* | 0.89* | 0.79* | 0.81* | 0.69* | 0.86* | 1.04 | 0.90* | 1.0 |
| Slovenia | 0.86* | 0.87* | 0.94* | 0.80* | 0.98 | 0.89 | 0.89* | 0.93* | 0.78* | 0.90 | 0.84* | 0.85* | 0.93 | 0.76* | 0.89 | 41.58 | 0.84* | | 0.88 | |
| Sweden | 0.87* | 0.93* | 1.04* | 0.92* | 0.92* | 0.95 | 0.87* | 0.97 | 0.79* | 0.88* | 0.90* | 0.85* | 0.82* | 0.73* | 0.89 | 0.70* | 0.87* | 0.82* | 0.79* | |
| Czechia | 0.88* | 0.83* | 0.93* | 0.80* | | | 0.89* | 0.97 | 0.74* | 0.91* | 0.86* | 0.87* | 1.05 | 0.95 | 0.86* | 0.69* | 0.81* | 0.69* | 0.77* | |
| Luxembourg | 0.89* | 0.94 | 0.96 | 0.90* | 0.97 | 0.97 | 0.91 | 0.99 | 0.95 | 0.85* | 1.13 | 0.83* | 0.88* | 0.77* | 0.84* | 0.64* | 0.76* | 0.90 | | 0.5 |
| Iceland | 0.91 | 0.91* | 0.98 | 0.82* | 0.91 | 1.01 | 0.96 | 1.00 | | 0.77* | 0.94 | 0.91 | 0.87 | | 0.95 | | 0.79* | | 0.78 | |
| Estonia | 0.92 | 0.91* | 0.97 | 0.87* | 0.78* | 0.87* | 0.96 | 1.00 | 0.95 | 0.96 | 0.87 | 0.91 | 0.99 | 1.04 | 0.93 | 0.81* | 0.91 | 0.98 | 0.84 | |
| Norway | 0.92 | >1.20 | 1.06 | 0.95 | 0.95 | 0.93 | 1.07 | 0.98 | 0.90 | 0.92* | 0.95 | 0.89 | 0.90* | 0.92 | 0.91 | 0.80 | 0.95 | 0.74 | 1.01 | |
| Finland | 0.93* | 0.95 | 1.03 | 0.94 | 0.94 | 0.91 | 0.99 | 1.12* | 0.86* | 0.97 | 0.96 | 0.86* | 0.89* | 0.93 | 0.86* | 0.70* | 0.92 | 0.85 | 0.91 | |
| Germany | 0.93* | 0.95* | 0.97 | 0.94* | 0.97 | 0.94* | 0.91* | 1.01 | 0.84* | 0.89* | 0.88* | 0.94* | 0.92* | 0.89* | 0.96* | 0.76* | 0.90* | 0.92* | 0.88* | |
| Korea | 0.94 | 1.00 | 0.99 | 0.96 | 1.05 | 0.94 | 0.95 | 0.96 | 0.87* | 0.94* | 1.00 | 0.93* | 1.03 | 0.87* | 0.96 | 0.74* | 0.97 | 0.83* | 0.95 | |
| Denmark | 0.94* | 0.96 | 1.00 | 0.94 | 0.94 | 0.93 | 0.97 | 1.01 | 0.94 | 0.94 | 1.13* | 0.93* | 0.95* | 1.12 | 0.91* | 0.94 | | 1.03 | 0.92 | |
| Switzerland | 0.95* | 0.96* | 1.02 | 0.95* | 0.95 | 0.94* | 0.94* | 1.00 | 0.89* | 0.89* | 0.88* | 0.95 | 0.99 | 1.04 | 0.93 | 0.72* | 0.87* | 1.03 | 1.00 | |
| New Zealand | 0.97 | 1.00 | 0.99 | 1.03 | 0.95 | 0.97 | 0.97 | 0.99 | 0.88 | 0.93 | 0.96 | 0.93* | 0.92* | 0.94 | 0.91* | 0.73* | 1.01 | >1.20* | | |
| Israel | 0.98 | 1.01 | 1.05 | 1.01 | 0.97 | 1.00 | 0.95* | 0.99 | 0.90* | 0.97 | 0.90 | 0.99 | 0.92* | 0.85* | 1.01 | 0.85* | 0.99 | 1.03 | 1.06 | |
| _ | -9 | 5 | to. | to. | 4 | 6. | 24 | 2 | .0 | Fr. | 2 | S | à | à | A | to. | E. | to. | E. | |

Observed-to-expected ratios for surgeries by procedure, 2020. Source: Ledesma, Jorge R., Stavroula A. Chrysanthopoulou, Mark N. Lurie, Jennifer B. Nuzzo, and Irene Papanicolas. Health System Resilience during the COVID-19 Pandemic: A Comparative Analysis of Disruptions in Care from 32 Countries'. *Health Services Research* (2024).



digitally enabled care in diverse environments



Joint centre between the University of Oxford and RAND Europe



Carrying out evaluations of tech-enabled care, and specifically remote monitoring across a range of areas, including respiratory disease (Chronic Obstructive Pulmonary Disorder), hypertension and the use of home sensors in social care.



Key messages of interdependence of the technology with societal and human factors involved in shaping health systems to effectively deliver tech enabled care.

Di-Facto – digital facilitation in primary care



The range of processes, procedures and personnel which seeks to support National Health Service primary care patients in their uptake and use of online services



Some good examples – but mostly passive, reactive and unclear approaches, despite recognition of the issue



Need for further work to co-create digital facilitation approaches to underpin equitable access to primary care using digital health tools



Abel, Gary, Helen Atherton, Jon Sussex, Nurunnahar Akter, Abodunrin Q Aminu, Wiktoria Bak, Carol Bryce, et al. 2024. 'Current Experience and Future Potential of Facilitating Access to Digital NHS Primary Care Services in England: The Di-Facto Mixed-Methods Study'. *Health and Social Care Delivery Research*, September, 1–197. Diverging approaches to AI regulation in the UK and the EU

Differing regulatory approaches to AI

- General AI Act in the EU
- Principles and sectoral guidance in the UK

May mean less than it seems

• Similar underpinning technical standards

But does send quite different signals

- EU approach reassuring citizens
- UK approach encouraging innovation



Wide variety in the implementation of digital health



Challenges to uptake were not largely technical in nature; rather, they were primarily behavioural and systemic



Marked change driven by Covid Though not all that momentum has been maintained



Still need more evidence about effectiveness and safety; and support to adoption



- Implementation challenges inherent to the complex character of health systems
- Successful change comes through a combination of central leadership and local implementation
 - Centre needs to provide leadership on aims and vision, support a culture of change, and ensure sufficient resources for local transformation
- Distinctive challenges of digital health transformation
 - Importance of network effects



Panteli, Dimitra, Nicole Mauer, Juliane Winkelman, and Fahy, Nick. 2023. 'Transforming Health Service Delivery; What Can Policy-Makers Do to Drive Change?' Policy Brief 62. Brussels: European Observatory on Health Systems and Policies.

https://eurohealthobservatory.who.int/publications/i/transforming-health-service-delivery-what-can-policy-makers-do-to-drive-change.

Conclusions

Despite over two decades of ambition for digital health tools in the NHS, this potential is still far from being realized

• Still making progress, but in a patchwork way

UK experience illustrates wider messages

- About the human and systems dimension of digital health
- And about leadership and resources for implementation more generally