## Digital health technologies and health-care privatisation

The UK National Health Service (NHS) announced on July 10 that Seattle-based digital marketing giant Amazon has been contracted to deliver virtual health care to NHS patients—part of a pattern in which health information technologies are propelling the expansion of health-care privatisation in Brazil, Canada, India, Macedonia, the USA, and numerous other countries worldwide.

UK Secretary of State for Health and Social Care Matt Hancock described the NHS's deal with Amazon as part of a drive to make more NHS clinical services available digitally. "Technology like this is a great example of how people can access reliable, world-leading NHS advice from the comfort of their home," explained Hancock, who owns a software company, in a press release when the deal was announced.

The NHS's deal with Amazon follows on an earlier contract with Babylon, a London-based company that is diverting large numbers of NHS patients away from receiving care in traditional physicians' offices towards receiving NHS-funded virtualised care delivered through Babylon's "GP at Hand" suite of proprietary digital technologies.

In a statement released on Feb 13, the British Medical Association (BMA) warned that Babylon threatens the livelihood of British physicians. Rather than handing virtual care to private corporations such as Babylon, the BMA is calling for increased "investment in practice IT infrastructure—including improved broadband capability in surgeries—to create a level playing field with private companies."

Harpreet Sood, NHS England's Associate Chief Clinical Information Officer, echoes the BMA's call for greater investment in health information technologies. In an email interview, however, he told *The Lancet Digital Health* he is not concerned about privatisation of funding and

delivery for these services. "The adoption of health IT has not changed NHS financial models," he averred.

By contrast, David Oliver, an NHS consultant who serves as the vice president of the Royal College of Physicians, said in an interview that the UK Government's push for greater adoption of digital health technologies closely matches its enthusiasm for greater private sector involvement in the NHS. "There are huge industry opportunities here. Big pharma and the tech companies are circling around while the NHS sells its records and data. You've got a multibillion pound industry of providing technology, providing consultancies, and another huge new industry providing patients with wearable health monitoring devices and apps. The NHS doesn't have the capacity to do this. We are letting too many market entities in to monetise it."

Similar developments are underway in numerous other countries worldwide, including Canada, where Babylon partnered last year with TELUS, a phone company with extensive healthcare privatisation plans.

As in the UK, government underinvestment in digital health technologies within Canada's provincially run public health-care systems is creating rich opportunities for tech-savvy companies aiming to privatise health-care services. TELUS has pounced on the opportunity. "We're already the largest health informatics provider," Juggy Sihota, vice president, TELUS Health, said in an interview about her company's expansive role selling data services to public health systems across the country, "and now we're starting to offer health-care services." TELUS, Sihota notes, has invested at least CAN\$2.5 billion in recent years in a series of acquisitions that have made it a major force in the delivery of healthcare services for millions of patients across Canada.

In the USA, where health care is predominantly privately financed and delivered, digital health technologies are often designed to serve profitoriented health-care models. These profit-oriented technologies are now penetrating the Veteran's Administration (VA), which is the largest publicly funded US health-care service, with a budget of US\$90 billion and almost 30 million patients enrolled. In 2017, the VA abandoned VistA, its custom-designed, publicly funded open source software electronic health record system, and signed a \$10 billion contract with software giant Cerner to implement a new system intended to harmonise the VA's digital health systems with those of the Pentagon, which largely relies on private healthcare contractors to deliver health care to US military personnel.

At the same time, the Trump Administration passed legislation aimed at opening up VA clinical service delivery to private contractors.

Cerner's suitability to the needs of the VA is questionable, argues Stephan Fihn, a medical professor at the University of Washington who retired as Director of Clinical System Development and Evaluation at the VA in 2018. "Cerner is rooted in a billing system which makes it onerous to use," Fihn suggested in an interview for The Lancet Digital Health. Fihn muses that the decision to abandon VistA and procure the Cerner system rebuffed a 2010 report from researchers at Carnegie Mellon University that endorsed VistA as a highly efficient and cost-effective system. "Speaking on my own behalf, what Cerner has promised is pure fiction," Fihn says. The Cerner contract, which enjoyed the support of Jared Kushner, President Trump's son-in-law and senior adviser, "will help make the case for privatisation stronger. I also worry the VA will lose its database."

The US Government's support for commercially marketed digital health





For the **NHS** news story see https://www.gov.uk/ government/news/nhs-healthinformation-available-throughamazon-s-alexa

For more on the **contract with Babylon** see https://www.forbes.com/sites/parmyolson/2018/12/17/this-health-startup-wonbig-government-dealsbut-inside-doctors-flagged-problems/#58e1600eeabb

For the BMA statement see https://www.bma.org.uk/news/ media-centre/press-releases/ 2019/february/decision-toallow-gp-at-hand-expansion-tobirmingham-disappointing-andpremature-says-bma

For more on the Babylon partnership with TELUS see https://www.telus.com/en/about/news-and-events/media-releases/telus-health-and-babylon-to-bring-advanced-digital-health-technologies-to-canada

For more on the **Trump Administration legislation** see https://www.usatoday.com/
story/news/politics/2018/06/06/
trump-signs-law-expandingvets-healthcarechoices/673906002/

For more on the International Finance Corporation see https://ifcextapps.ifc.org/IFCExt/ Pressroom/IFCPressRoom.nsf/o/

D5AA39F73EAED274852583E 80030C062 For the **IFC study** see https://ifcextapps.ifc.org/IFCExt/

Pressroom/IECPressRoom.nsf/0/

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For more on **1mg** see
https://tech.economictimes.
indiatimes.com/news/startups/
online-pharmacy-1mg-closes70m-funding-led-by-corisol-

holdings/69981101

For more on the World Bank and Macedonia see https://www.worldbank.org/ content/dam/Worldbank/ document/eca/Macedonia-Snapshot.pdf technologies that are harnessed to health-care privatisation strategies also receives strong international support through the International Finance Corporation (IFC), a World Bank agency that is the largest multilateral investor in private health care in emerging markets, with more than \$4·3 billion of financing in more than 200 projects as of June, 2017.

The IFC vigorously promotes digital technologies. A recent IFC study, for example, describes, "a significant market size for teaching digital skills through 2030 across Sub-Saharan Africa, estimated at nearly \$130 billion with some 650 million people in need."

In the digital health realm, an IFC programme labelled TechEmerge recently convened large conferences of digital health vendors and executives from major hospitals and health-care networks in India and Brazil, with plans underway for Africa, Monique Mrazek, an IFC Senior Investment Officer specialising in the health sector, said in an interview.

In India, the IFC's efforts to promote digital health technologies bore fruit on June 30 with the securing of \$70 million in funding for 1 mg, a Gurugramheadquartered firm that plans to utilise the funds to expand its laboratory business to 100 cities, its e-pharmacy business to small cities and villages, and

expand its data science team to build new products such as a digital doctor and AI health bots. 1 mg claims it serviced 70 million unique patients last year across its pharmacy, diagnostics, and consultation businesses.

In Brazil, IFC's TechEmerge programme convened 42 tech companies and numerous health-care executives at a summit in late June that was coordinated by an advisory committee led by two executives from US-based MediSys.

Brazil is "one of the most attractive and promising healthcare markets globally", the IFC explains in a publicity brochure. "Although Brazilians are guaranteed free and universal public healthcare coverage, private spending surpasses public spending generating one of the largest private healthcare systems in the world. At the same time, the Brazilian healthcare system faces multiple challenges, including an overstretched and underfunded public system, a shortage of beds, and an uneven distribution of resources and physicians. Given this context, Brazilian healthcare providers are looking for new solutions that can improve care and reduce costs, offering great business opportunities to health-tech innovators."

The World Bank has long promoted private health-care delivery models,

Neda Milevska-Kostova, Executive Director of the Centre for Regional Policy Research and Development Studiorum in Macedonia, explained in an interview.

After health-care privatisation was introduced in Macedonia at the advice of the World Bank, says Milevska-Kostova, federal health officials there adopted a national digital health information system aimed at implementing private billing for health-care services. "In our case," Milevska-Kostova notes, "privatisation was a facilitating factor in introducing health information technologies."

Digital health information technologies are rapidly penetrating health-care systems worldwide. Many of these technologies are privately owned products oriented towards serving private health-care clients and developed by fiercely competitive software corporations. With these technologies comes the promise of vast new efficiencies in health-care services. But market-oriented visions of health-care delivery have been engineered into most of them, by design.

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