

Digital Development: Stories of Hope from Health and Social Development
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FROM 'POWER OVER' TO 'POWER TO'

New technologies in health and social care are always a pain, right? They get introduced top-down by people who don't understand front-line work, with the promise that they will increase the efficiency of our jobs – but those hopeful dreams are never fulfilled. In reality, technologies slow our work down; they divert us from our clinical roles into menial data entry tasks; and they allow faceless bureaucrats to monitor and manage us from a distance.

If that's your experience of new health and care technologies (and it's often been mine), you probably need to read this book. Its authors – two (a computer scientist and a human geographer) from India and two (an anthropologist and a socio-technical systems scholar) from Europe – are fully aware of the gap between what they call 'high modernist ideology' and on-the-ground reality. But they ask us to bear with them as they recount some hopeful narratives.

A key point made early in the book is that short-term 'failure' may contain the seeds of longer-term success, though these may initially be hard to spot. No technology is ever introduced seamlessly in a complex socio-technical system. Rather, people need to learn to use and trust it; pathways and technologies need to be mutually adapted; if front-line staff are being asked to do additional work (for example, complete templates) to make the jobs of back-office staff (for example, data aggregation and audit) easier, resources need to follow that work.

In a chapter about the introduction of a failed mother and child tracking system (MCTS) in India in the early 2010s, for example, Mukherjee and Sahay describe the worthy initial vision – moving from a numbers-based ('20 infants were immunised in this clinic today') to a name-based ('infant X was immunised today and the procedure can be tracked to his individual patient record') system – and the frustrating early months after its introduction. Front-line auxiliary nurse midwives (ANMs) found themselves working (unpaid) late into the night in internet cafés transferring data from paper records to the new (and distinctly clunky) web-based electronic system, which was linked to government performance targets and financial sanctions, and public-shaming for those who failed to meet them. For a host of material and logistical reasons including inadequate training and supervision, material challenges (such as having to scroll down dozens of screens to find where to enter today's data), technical glitches, and shortages of key consumables, data quality on the MCTS remained low despite the punitive targets.

DESIGNER AND USER INTERACTION

Up to this point, the story has a familiar and negative ring to it. But Mukherjee and Sahay exhort us to go beyond a narrow and binary definition of success (such as percentage of data fields completed or level of system usage) and look for what they call 'invisible gains'. Ethnographic work showed that, while the authorities saw the new system entirely in terms of the greater surveillance it enabled, the ANMs themselves gradually came to appreciate that, while this particular electronic system was not fit for purpose, electronic recording of individual patient data was clinically beneficial as they could now see immediately which infants had been immunised and when. This information, to the extent that it was complete and accurate, allowed them to plan and control their day-to-day work more tightly and make a major difference to local morbidity and mortality

figures. All they needed was a better-designed electronic system – and they were now hungry for such a system.

But this story is not a happy-ever-after tale of the MCTS being replaced with a bottom-up, co-designed system that supported creative, flexible front-line work. The gains were subtler and more long term. Between 2010 and 2014, the government of India remained more interested in top-down goals (surveillance, monitoring) than bottom-up ones (empowering front-line work). The new mother and child information system that replaced MCTS in 2015 was an improvement but not a revolution, and it, too, generated some important negative lessons.

As the authors comment (page 27), *'... digital systems by themselves will not guarantee positive outcomes. They need to be bolstered by changes in models of governance and of implementation that ensure increased decentralization. There must be active, free-flow mechanisms that allow designers and users to interact, for only through such symbiosis will designers be able to intimately understand the context of use.'* Over a period of 15 years, government and senior administrators of the MCTS and its successor began to learn this hard lesson. This learning fed indirectly into the design of a new, multi-component national electronic health records system across India – not just for maternal and child health but also for other aspects of patient care.

Much of that system remains a work in progress, but Mukherjee and Sahay describe one hopeful story-fragment. When in 2021 they returned to the site of their earlier fieldwork, they saw how ANMs who had embraced the potential of the MCTS a decade earlier had quickly grasped the potential of a new electronic system for logging and monitoring COVID-19 vaccinations. Based on a very similar data task to MCTS, but offering a smoother and faster technical interface, the COVID-19 vaccine database allowed them to record name-based data on shots and boosters as well as enabling each citizen to choose a convenient time and place to receive their

"All they needed was a better-designed electronic system – and they were now hungry for such a system."

vaccine. By supporting a digital system that gave citizens and front-line staff some control over local practices, the state paradoxically also achieved its own ultimate objective – high uptake of the intervention and high data capture for monitoring purposes. Commenting on this finding, the authors distinguish two forms of power that come with technological innovation: ‘power over’ (the top-down authoritarian power to monitor and punish front-line staff) and ‘power to’ (the bottom-up empowerment of front-line clinicians). Rather than these kinds of power being mutually exclusive, the latter may be the best route to the former. Now there’s a lesson for us all.

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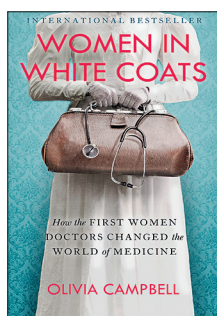
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Women in White Coats: How the First Women Doctors Changed the World of Medicine

Olivia Campbell

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GROUNDBREAKING WOMEN

This thoroughly researched book brings to life the personalities of the first women doctors. It focuses on Dr Elizabeth Blackwell in the US, and Dr Elizabeth Garrett-Anderson and Dr Sophia Jex-Blake in the UK, and explores the difficulties they faced in forging their way in medicine. The determination and resilience to prejudice that they had to maintain throughout their training was awe inspiring to read. I had naively thought that there was a first female doctor and that the rest of us women followed slowly but steadily

“At that point in history, social etiquette and lack of understanding of the female body meant that women and girls were disproportionately affected by ill health and poor medical care.”

afterwards. However, it took 28 years, from 1849 until 1877, for these three passionate women to qualify as doctors. The book reads as a compelling story as well as a historical account. The chapters tend to focus on one woman at a time – at some points I got a little confused about the age difference between the women and the exact sequencing of events, but this did not detract from my enjoyment of the book.

Elizabeth Blackwell’s admission to Geneva Medical School in New York (after multiple failed applications to other medical schools) was due to a misunderstanding. The professors at the medical school had put the suggestion of admitting a woman to a vote, so that it would be the fault of the students when she was rejected. However, the medical students thought it was a joke and voted to admit her! Blackwell had to ignore commotion and other’s people’s doubting throughout her 2 years of training, but when she graduated in 1849 the hall was packed with local women to see the first female MD in the country. At that point in history, social etiquette and lack of understanding of the female body meant that women and girls were disproportionately affected by ill health and poor medical care. There were the beginnings of an interest from women to be treated by other women who at least understood their bodies. However, due to the ongoing sexism of the time, it was very hard for Dr Blackwell to establish her career and the door to conventional medical schools was closed to other women.

Elizabeth Garrett-Anderson read about ‘the first lady doctor’ in the feminist publication *The English Woman’s Journal* in 1858 and she was inspired. Her first battle was to convince her father to allow her to even enquire about becoming a doctor. Eventually, after many setbacks, she qualified as a ‘physician’ via a loophole in one of the licensing bodies in 1865. It wasn’t until 1870 that she gained an MD and the right to call herself a ‘doctor’ and register with the GMC. In order to do this, she had to brush up her French to sit her exams in the Sorbonne, France.

Elizabeth Garrett-Anderson met Sophia Jex-Blake in 1861. At this point in the book, it seemed unbelievable that the third woman to qualify as a doctor should have an even more hostile and convoluted route

to GMC registration, but she did. There was exclusion from lectures, angry mobs, and legal battles among other obstacles. Each of these three women were unique in their personal lives and views: Dr Blackwell never married but adopted her daughter, Kitty, from an orphanage when she realised that she needed companionship. Dr Jex-Blake was a lesbian and initially it was heartening to hear that she didn’t need to hide this; however, this was largely because two women living together was viewed as nonsexual, so not the liberated view I had first thought. Dr Garrett-Anderson managed to continue working as a doctor while having three children, her eldest daughter also going on to qualify as a doctor.

The author doesn’t shy away from some of the controversies of opinion that these women had, but are explained with reference to the context of the time. All these women worked to help other women and children, particularly those living in deprivation by setting up dispensaries (a free service for patients unable to afford health care) alongside their private practices. They all understood the links between health and social class, hygiene, exercise, and education, and they promoted health education, before it was common practice. Although they didn’t always agree or even get along with each other at times, they worked together to set up a medical school when progress for women entering the profession continued to be slow.

This lovely book sets out the trials and tribulations that these first women doctors had to endure as well as the personality quirks that characterised them. I felt I really got to know them as individuals as well as the time in history that they were living through.

I have always felt grateful to the women that have forged the way before me, but to truly understand the difficulties they faced personally and professionally has been a humbling experience.

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