

# HEALTH INNOVATION: FROM ORGANISATION DISRUPTION TO OUTCOMES VALUE

By: Robert Madelin

OPINION PIECE

**Summary:** Innovation is always a challenge to human conservatism. Innovation is not always truly ‘disruptive’. Nor is innovation always technological in nature: it can be organisational, society-wide or behavioural in a professional class. We need to adopt an innovative mindset if we are to make the most of innovation opportunities for better health, more resilient health systems and better patient outcomes. We must see health as a value system, where all positive outcomes, however created, are sought and welcomed. We also need to ensure that we are resourceful in nudging our systems towards the changes needed, and thoughtful in providing health actors with the support necessary to accelerate the adoption of any innovation as the new normal.

**Keywords:** *Innovation, Mind-set, Nudge, Openness*

***Medicine since before Hippocrates is a risk-taking and innovative endeavour***

## Introduction

Not all innovation is ‘disruptive’.<sup>1</sup> Arguably, the risk-taking attitudes behind ‘do no harm’ get forgotten from time to time. For a century or so, from Nightingale to Crick, via the creation of state-funded universal health services, innovation ‘helped doctors do better’, with some spectacular step-jumps in outcomes. But it did so without creating too directly a challenge to the self-belief of health elites or the empowerment of the patient population.

Twenty-first century medicine is arguably ever more innovative, notably with the move towards using genetic tools and

personalised treatments. And it faces unprecedented disruption, as accelerating demographic ageing and increasing population movement combine to create less stable health needs, while fiscal limitations promise a moment of truth for health systems. We fear pressures that will likely require change and even threaten the abandonment or sell-out of the European model of state provision. Patients, their families and health professionals all feel disrupted, and not in a good way. Those concerned look back to better times, feeling disenabled and at risk.

In uncharted waters and severe weather, the roads thus far travelled are no reliable point of reference. In health, as elsewhere in life, there is no return, and no forward grand innovation strategy to be had.

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What health in Europe needs is rather an innovation attitude.<sup>2</sup> While plans may founder, an innovative attitude and small-scale tools and trials will create a pro-innovation system in health, and drive value for all concerned.

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The whole literature around disruptive innovation is new, extensive and fast-growing. It is not summarised here. Instead, this short text uses four themes to illustrate this approach:

1. Open Minds – Grandmother’s Footsteps
2. Innovation inside – Nudging for the Homeless
3. Appropriating technology – Reorganising for genetics
4. A new mindset – Welcoming challenge.

### Grandmother’s footsteps

I shall start with a heresy, dressed up as a childhood memory. As national reimbursement of homeopathy in parts of Europe hit the news this year, I thought of my grandmother.

She was a modest herbal and bone-setting and birthing “healer”, in an age and a society where even general practice medicine was beyond the pockets of 90% of her neighbours. For her, the experience of moving to the big town came with a (male, elite, informal but imperious) medical and religious instruction to stop doing what she did: Wales no longer burned witches in the 1900s, but it did not like reminders of the past at a time of universal exhibitions and the triumph of science. Modest working people did not revolt. Grandmother dialled down her work, which was not in any case a paid occupation, and went on quietly doing the bare minimum for difficult births in

the neighbourhood. The experience did not affect her luminous quietness. But, in the health “value network”<sup>3</sup> of a Welsh mining town, that was a net loss.

Europe is more tolerant of this practice today. Reimbursement is different. But we do need to invest some research effort in the synergies between Western Medicine on the one hand and on the other the assembled wisdoms of Traditional Chinese Medicine (TCM), Ayurvedic Medicine, and other non-allopathic practice. To its credit, the European Union has a modest programme doing just this for TCM.<sup>4</sup> At the global level meanwhile, the WHO has developed a Traditional Medicine Strategy (2014–2023) outlining how traditional medicine of proven ‘quality, safety and efficacy’ can act as a complement to mainstay health care delivery and help improve access to care.<sup>5</sup>

More open minds needed? If Hamlet could warn his friends that their philosophies might not cover all that is to be had in heaven and earth,<sup>6</sup> how much more open must we be in the Age of Innovation. Not to swallow blindfold every assertion, but to seek more evidence to inform others’ ideas of ‘what works’.

### Innovation inside – nudging for the homeless

Much innovation is not ‘new technology’. But creating an innovation dynamic inside established organisations is far from easy. In the United Kingdom, the National Health Service (NHS) offers “start-up grants” to test new ideas. For £34,000 (about €38,000), one such experiment (the creation of a single homeless officer in a big hospital, with 40 hours a week and a smartphone) was enough to shift the attitudes and practice of his fellow health workers. Instead of largely ignoring the high costs, low effectiveness and poor humanity of patching up the homeless and sending them back into the streets, the hospital in question (both emergency and acute medical) saw a shift of 20% towards engaging with the need to find accommodation and a future perspective for each homeless patient, and was able to do so without creating longer stay times in the establishment itself.<sup>7</sup>

The experiment was small, cheap and fast. The intervention was largely a social nudge,<sup>8</sup> showing hard-pressed individuals that more was possible, that it produced more health value and that it eased their burden rather than the reverse. Making a more effective choice an easy choice requires imagination and a willingness to try things.

### Appropriating technology – Reorganising for genetics

When cutting edge technology creates new potential, innovation refers NOT to the technology, but to its appropriation by the health system in ways that accelerate and maximise the creation of value outcomes for people.

Genomics is a crucial case for Europe today.<sup>9</sup> And there is a lot to do.

First, to accept the ‘miracles’ of genetic testing more readily than is so far the case. None of us notices that we consent to the blood tests our doctor prescribes. And we need to rather quickly get to the same sense of normality for genetic testing. Here, the innovation mindset of health professionals is trammelled by all too much red tape. We need a greater sense of political and policy leadership to encourage us all to accept genetic tests as the new normal. Of course, while encouraging greater adoption of genetic testing, the many ethical and legal questions surrounding its use must be answered and addressed. For instance, society must ensure that I do not lose protection and solidarity (whether state or insurance-funded) just because my genome is better known, and my privacy rights must keep pace with medical advances.

Second, to engage while understanding that this IS still new. So the results of a battery of tests may require more careful risk-risk analysis than patients and doctors find easy. Not all BRCA2 variants are yet confidently classified as threats of breast cancer or likely benign – in uncertain cases, where a patient faces an option of preventive (‘risk-reducing’) bilateral mastectomy, the patient may decide to

do the operation, and then learn that the variant is no longer uncertain but definitely benign.

Third, to be patient and yet engaged for the long term. There are happily increasing numbers of cases where a patient 5 or even 20 years ago could not get a clear genetic diagnosis and yet today has had a diagnosis that enables clear treatment to be defined, and can in some cases open the path to preventive screening tests for family members. We are all guinea pigs.

“creating an innovation dynamic inside established organisations is far from easy

To shape the existing health value system for all, these genetic opportunities is no mean task. Centres of expertise need to be established across the continent, with accessible paths to funded access, so that (as with the European Reference Networks<sup>1</sup>) all health professionals can easily get the advice they need for specific cases. This sort of network must also help whole systems to accumulate and use (including with Artificial Intelligence and Machine Learning) the data generated in exponentially increasing quantity by genomic mapping. Health is a data business, and the fastest progress to new value outcomes for patients will come (in genomics, and elsewhere) from novel partnerships between clinics, innovators and data experts<sup>1</sup>.

### A new mindset – welcoming challenge

How long will it be before all doctors turn towards the patient the computer screen with the patient's data on it? How long before doctors and hospitals pay for their inclusion in the crowd-sourced benchmarking offered by the likes of

[IWANTGREATCARE.com](http://IWANTGREATCARE.com), instead of grumbling at the unethical nature of the resulting transparency?

Much of this desirable pressure and insight will be digitally intermediated.

Doctors are increasingly willing to use Google themselves to explain to patients what is going on. Hospitals are increasingly alert to online soft signals of even ward-specific dissatisfaction or overload.

Even in the hyper-sensitive field of the second opinion, digitally-enabled systems can enable an individual to acquire alternative views of treatment options, in days not months and without travelling to distant teaching hospitals<sup>2</sup>.

Properly embraced, such innovations can bring added value into the system, cut the costs of repeated improvable treatments, and improve patient outcomes.

### Conclusion – Only Connect!

History, if not ethics, seemed in the last century to be on the side of the priests and doctors who assured my grandmother's charges that a state-funded health service would be along shortly.

In the current phase of our human health journey, things are less clear. With unprecedented technological disruption, fiscal uncertainty and our demographic transformation into a grey continent, the health value system needs to be more open to outside knowledge and pressure.

The tools of such openness are themselves largely data-driven and digital. BUT they will not be incorporated in a system of health innovation without a positive and pervasive change in the health community's mindset. The biggest new step today could just be to teach “disruption” to first-year medics and hospital managers. So that young leaders with innovation mindsets pull into the health value system all the great potential that is at present “out there”. Health needs innovation inside.

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<sup>1</sup> In the field of advanced oncology, see one excellent path-finder example at: <https://www.code-cancer.com/>

<sup>2</sup> For example see: <https://www.advance-medical.net/services/expert-medical-opinion>

