

HACKING THE HEALTHCARE SYSTEM

By Nicholas Bornstein and Stephan Sigrist

Health is our greatest asset, and its social significance is likely to rise further in the coming years: with increasing life expectancy, more people will be affected by age-related chronic diseases. In parallel, society's expectations of high physical and mental capacity and good looks will rise. Added to that, opportunities to optimise the state of our health will increase: driven by digitalisation, we will be able to diagnose or even treat our own health problems with the aid of the Internet and wearable computer systems. This empowerment will make the patient the master of his own body again. Consequently, our awareness of the state of our health will also continue to grow. In future, we won't check out our bodies in real time alone: readily available genetic analyses will also tell us of our future health risks and predispositions. We can then take or implement health-related decisions alone.

These developments are likely to improve the quality of the healthcare system significantly in future. However, they will also raise a number of fundamental issues. For example, what illnesses will still be insured in the age of widely available genetic analyses? And how will we be able to handle mounting volumes of data? An excessive volume of health-related facts and the difficulty of verifying the degree of truth in data from the web may lead to disorientation rather than increased certainty. Within this context, how can we empower the population to actually play their role as the „enlightened“ patient one day, and make decisions independently?

The silo mentality

In contrast to these long-term topics, the political and social debate on the healthcare system generally confines itself to present challenges: the increase in insurance fund premiums, changes in insurance companies' tariffs or the spread of risk among health insurance players. There's no doubt that all

of these topics are highly relevant to the optimisation of the current system. However, three aspects are neglected:

Firstly, reform efforts focus almost entirely on changing individual parts of the structure, not the system as a whole. Secondly, these efforts concentrate on the traditional structures instead of on future requirements. And thirdly, the debates have reached such a high level of complexity and detail as to overwhelm the population – and even experts.

An unintended side-effect is that the high complexity cements the silo mentality and familiar structures, since it demands an equally high level of specialisation from academic research, the service providers and industry. Holistic solutions thus recede more and more into the background, and innovativeness in the individual sectors becomes fragmented.

An ecosystem for innovation

With the focus on technological solutions described at the beginning of the article and the constant search for new drugs and therapies, there is a growing risk that medicine will be „dehumanised“ – and that humans will be unable to cope. This results in three goals for a future healthcare system.

Firstly, innovation has to focus on people and not just on the treatment of diseases – however, economic value doesn't count as the sole value added of such a „social innovation“; the main concern is to empower citizens to manage their therapy actively. Secondly, innovation has to be implemented throughout the system, not in individual areas. This would mean, for example, evaluating the benefit of an entire treatment plan and financing services along the treatment chain. The focus on acute care would then be abandoned in favour of a healthcare system in which the different functions are

ranked on an equal footing. Thirdly, we are faced with the challenge of rethinking strategy and planning tools against the background of a fast-changing, unknown future.

Our orientation towards the future is mostly based on a definition of the known – and rarely on working out scenarios or unknowns. But what therapies will be available in five or ten years? How can we develop patients' decision-making capabilities in the age of data-based medicine? What approaches can improve the population's health-related behaviour?

The straight answer to these questions is: we don't know. In the light of the increasing fragmentation of the healthcare system, the transition to the aged society and personalised medicine, we are faced with an unprecedented situation with virtually no past experience or studies to indicate a clear way to the future.

Rethinking and shaping the healthcare system

The path to the future of the healthcare system is therefore based on two foundations: on the one hand, defining a long-term vision, and on the other, strengthening innovation bottom-up. Although a process of this nature pursues long-term goals, it remains adaptable so that insights gained along the way can be integrated into the process step by step. The initial effort is likely to be more than that for a classic strategy, but the prospects of success are greater, since real and changing environmental conditions can be accommodated on an ongoing basis.

In particular, lessons have to be learned from other sectors or countries here. For example, the Great Ormond Street Hospital (GOSH) in the UK improved its interface management in transfers from the operating room to the intensive care unit by involving Ferrari's Formula 1 team. With more effective processes, such as are common in Formula 1 pit stops, GOSH was able to significantly reduce the rate of errors occurring in both equipment and information, creating direct value to the patient.

In the context of social innovation, networks such as the Portuguese project „Patient Innovation“ or

the US platform „PatientsLikeMe“ enable patients to share their experiences and coping strategies with fellow sufferers.¹ A feature common to both projects is that they are not just sharing platforms: the advice they produce and data they gather are also incorporated into research.

In order to better satisfy patients' needs and tap into the value added of innovations, we need long-term projects that provide an approximation of an uncertain future. And a culture of exchange and mutual learning. Switzerland's federalist, directly democratic system is ideal for this. It would be conceivable to expand its existing strengths along the lines of a future-oriented innovation system. The aim would be to give all players the opportunity to help shape the system and tailor it to their needs – or in the jargon of the 21st century, to hack it.

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¹ (see also NZZ 9 November 2015)