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# Changing healthcare vulnerabilities

The way society delivers healthcare is changing and will continue to change in the next two decades. The costs of healthcare globally are increasing due to the expense associated with some treatments and technologies, and providing for the needs of an ageing population. This is placing more emphasis on preventing poor health from occurring in the first place, rather than trying to cure it once it does.

Preventative treatments are based on a greater understanding of what leads to poor health and the link between lifestyle and health outcomes, reducing the need for expensive emergency treatment and rehabilitation for non-communicable diseases. Technological advances ranging from remote diagnosis to the quantified self are allowing individuals to take on more responsibility for their health. [1]

## Implications

- Access to technology and other innovations that can improve health and fitness will need to be evenly distributed, which may require more effort from government, healthcare systems and business. However, people might also be expected to take more responsibility for their own health in future.
- Technological innovation, empowering women, removing social and financial barriers to healthcare access and an equity-based approach to healthcare could lead vastly improve returns on investment.
- Opportunities for healthcare innovation may arise indirectly in sectors that influence our health, such as construction, food and retail, transport and planning. Smartphone apps that reveal detailed or hidden nutritional information simply by scanning an item's barcode are already available, for example. In many countries there is also an increasing focus on encouraging people to walk and cycle, accompanied by greater investment in the infrastructure and technologies that support healthier modes of travel. The sophistication and uptake of wearable technologies, as well as fitness apps and games, is rapidly increasing as well.

## Current trajectory

In 2010, IBM economists ranked healthcare as the least efficient industry in the world, owing to extensive fragmentation and wastage within the system. [1]

- From 1995 to 2012, emerging economies' health expenditure grew at an annual average of 7.4%, partly driven by strong GDP growth (5.5%). From now to 2022 this is expected to increase to 10.7% (compared with 3.7% in developed economies over the same period), according to the World Economic Forum. [2]
- A survey carried out in 2012 found that 54% of UK doctors believe the National Health Service (NHS) should have the right to withhold non-emergency treatment from patients who do not lose weight or stop smoking, given

that unhealthy behaviour can make procedures less likely to work. [3]

- Shipments of the sensors used in wearable electronic devices are expected to rise by a factor of seven from 67 million in 2013, to 466 million in 2019, driven by rising demand for self-monitoring exercise, diet, pulse and blood pressure features, as well as improved user interfaces. [4]
- Venture capital firms like Greylock Partners and Kleiner Perkins Caufield & Byers, as well as the corporate venture funds of Google, Samsung, Merck, and others, have invested more than US\$3 billion in health-care information technology since the beginning of 2013 – a rapid acceleration from previous years, according to the Mercom Capital Group. [5]
- Because they are less shackled by legacy labour practices and infrastructure, low and middle-income countries have proven to be fertile ground for healthcare innovations. India’s hospital chain [Narayana Hrudayalaya \(NH\)](#) now carries out hundreds of basic heart operations each month, costing between \$2,000-5,000 each – a fraction of the same operation’s cost in the US. [7] And for just \$5 a month, Mexico’s [MedicalHome](#) provides a bare-bones primary healthcare system for around 1 million Mexican households. Almost two thirds of the health issues are resolved over the phone, saving patients consultation fees and travel costs. [6]
- US-based Kaiser Permanente has implemented a new computer system, HealthConnect, to ensure data exchange across medical facilities and promote the use of electronic health records. This integrated system has improved outcomes in cardiovascular disease and achieved an estimated US\$1 billion in savings from reduced office visits and lab tests. [7]
- In Sweden, in Ryhov County Hospital, Jönköping, the clinical team has introduced a system that enables patients to administer their own haemodialysis, making the procedure more flexible for patients and freeing up nurses to work as patient educators. [8]
- In China, Microsoft has sponsored the development of an open-source smartphone app that enables diabetes patients to manage their condition more effectively, using games and innovative data logging techniques. [9]
- In Denmark, a system to give patients online access to their own health records has been established – a move that produced several positive side-effects, from getting patients more involved in their own healthcare to substantially reducing the number of errors in recordkeeping. [10]

Footnotes:

1. [IBM Healthcare and Life Science \(2012, Feb\)](#)
2. [World Economic Forum \(2014, Jan\)](#)
3. [The Guardian \(2012, April\)](#)
4. [MEMS Journal \(2014, Oct\)](#)
5. [Mercom Capital Group \(2014\)](#)
6. [The Guardian \(2014, Sept\) - The Future of Healthcare: Life-saving innovations for the bottom billion](#)
7. [McKinsey \(2013, April\) - The big data revolution in US health-care: Accelerating value and innovation](#)

8. [Imperial College London, Global Health Policy Summit \(2012\)](#)
9. [Imperial College London, Global Health Policy Summit \(2012\)](#)
10. [Imperial College London, Global Health Policy Summit \(2012\)](#)