Connected Health and the Creative Destruction of Health Care

By Joseph F. Coughlin, PhD

Abstract: More than sixty years ago the economist Joseph Schumpeter coined the phrase “creative destruction.” He offered the foreboding prediction that the seeds of destruction for every social system, enterprise, or firm are sown from the day it is created. Healthcare, as we know it today, is built on centuries old processes that deliver specialized knowledge, practice, and care. The introduction of increasingly affordable and ubiquitous computing power and related information communications technologies is changing the face of the modern healthcare enterprise. However, is the new connectivity promised in this world of technology-enabled “connected health” improving on the enterprise or accelerating the creative destruction of healthcare as we know it?

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Connected health offers a means for wide distribution of specialized knowledge. For several decades telemedicine made it possible for patients in remote and extreme environments to access physicians so as to receive diagnosis or management of conditions. Telemedicine is becoming increasingly common – from the ubiquitous cell phone that can be used to consult a nutritionist on meals in real time, to the use of information technology to monitor the health of elderly patients in their homes. These applications offer more than just a “lean” way to manage large groups of patients. They are creating a market for a new lower cost health professional that touches the patient in a virtual sense. This, in turn, prompts a

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redefinition of the general practitioner’s role from primary care provider to consultant. Specialists are not immune either. As knowledge becomes more easily packaged, accessible, and deliverable, many specialists will see new roles for themselves. In order to address an increasing range of patient needs, a new category of IT-enabled care will facilitate specialist administered treatment.

Connected health is even changing the standard operating procedure of healthcare. For example, the near pedestrian application of email is driving new rules of engagement between patient and physician. The novel use of the television to access everything from a physician consultation, a longitudinal personal health record, to a reminder to take medication, will become as common for the healthy as it is for the chronically ill. Soon we may see a check-up-a-day from home becoming the norm through which data are monitored and managed by the next generation disease management company in collaboration with employees, employers, and insurers. This arrangement will alter the purpose and frequency of the often sporadic and costly visits between patient and physician.

Institutions are built upon an understanding and level of consensus surrounding the problems and solutions at the time they are formed. The institutions that make up today’s healthcare enterprise were created to address acute illness. The new realities of costly chronic disease and a rapidly aging population are stressing the capacities of providers, insurers, and government agencies. The most recent answers to this dilemma include wearable computing, body area networks, and the more common health kiosk and telehealth set. The explosion of new technologies is pushing the delivery of care to the workplace, home, and perhaps soon into mobile environments.

The availability of these technologies and services, coupled with demographically driven urgency and a growing consensus for change, will transform roles across the healthcare field. The large general hospital may change from care center to information hub. Insurers may morph from risk administrators to affinity organizations that manage the data collected by various connected health applications. In doing so, they will provide both incentives and dynamic guidance for consumers to manage their wellness instead of paying for illness alone. The related retailization of health is a way through which once unthinkable players are now entering healthcare. One such example exists in Japan and the United Kingdom, where networks of smart toilets are enabling utility companies and retailers to provide health monitoring services in the home.

The frequently discussed concept of “consumer directed healthcare,” is made possible through connected health. Internet-ready health information, the ability to monitor selected conditions, and increased access to care anywhere anytime will empower patients. That empowerment may drive improvements in quality and cost. It will also change the consumer’s view of all facets of the healthcare enterprise.

Real innovation does not improve what we do – it changes what we do. The information technology revolution has destroyed some industries and given birth to others. It has forced profound changes on some firms to simply survive and to later thrive. The highly specialized workers, who could not be hired fast enough a few years ago, are now being outsourced to professionals who, for a few dollars an hour, are only an email away. Connected health may be a better way to do the business of health. History suggests that this may be the beginning of a new world of healthcare, complete with new roles, different institutions and players, and a reallocation of power, costs, and benefits. As we celebrate the introduction of connected health technologies, one must ask-- are we ready for the real changes that follow?

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About the AgeLab

The AgeLab is a multi-disciplinary research center dedicated to improving quality of life for older adults. Based within the Engineering Systems Division at Massachusetts Institute of Technology, the AgeLab is uniquely suited to translate cutting edge scientific and technological breakthroughs into innovative solutions that help address challenges posed by the world’s aging population.

The AgeLab views longevity as an opportunity to innovate – to invent a new definition of quality living throughout the lifespan. AgeLab activities set agendas of government and business, serve as a catalyst for change, and act as platforms to create new ways to remain engaged, connected, independent, and healthy.

Funded by businesses around the world, AgeLab research focuses on transportation, health & wellness, caregiving, longevity planning, shopping, lifelong engagement, and even play. AgeLab research informs the design of new technologies, aids in government policy decisions in the United States and abroad, and educates older adults and their families on important consumer issues.

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