

# Chapter 17

## Health, Digitalization, and Individual Empowerment

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### ABSTRACT

*Internet, eHealth and digitalization have opened information access for patients and medical health users. Digitalization provides an opportunity for telemedicine, storage of Electronic Patient Records (EPRs) and net communication for both medical staff and patients with access. Digitalization and technical improvement have increased the usage of Internet based technologies and telephones for positive health coaching and digital-learning applications for all medical users, school staff, and students. The effect of Information Technology on healthcare and medical services can be described as revolutionary. Increasingly, the utilization of digital equipment and medical technology are employed in patients' homes.*

### INTRODUCTION

The term 'information society', which encapsulates globalization and Information Technology (IT) phenomena, is often used to describe a society in which data production and consumption becomes increasingly vital in society functions. Many individuals are connected to different networks of one form or another in an information society. Such networks include cable and satellite television, telephone, computer-to-computer, person to computer communications and online information services (Webster, 2014). There are many benefits of IT in healthcare including the utilization of computer software application programs to enhance safety, efficiency, and real-time decision support to medical and healthcare practitioners (Blumenthal & Tavenner, 2010). IT presents solutions to current complex healthcare challenges. Progress from IT comes with higher medical expenses (Callahan, 2008; Deloitte Centre for health solutions, 2015; Wang et al., 2003). Also, long-term care of individuals and the cost of hospitalization are increasing significantly in different countries for different reasons (Callahan, 2008).

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Several complementary investments are required for the integration of successful techniques in organizational, business, and educational developments. In other words, Information Technology does not simply mean the implementation of new technology. The need to adapt and integrate existing systems with care work operations and processes is essential. Equally essential is the education of clinical personnel, nurses, and physicians. Finally, an integrative approach to the resolution of legal issues and responsibilities associated with home and ambulatory care is essential.

The first objective of the chapter, from a Swedish perspective, is to explore the above issues and highlight the importance and difficulties involved in using information technology in globalized healthcare and medical services. These measures are concerns of politicians, policy-makers, healthcare authorities, schools, and private participants. The second objective is to explore how the information society has dealt with the challenge of integrating IT in healthcare in response to citizens' expectations and requirements.

### **Cost of Healthcare**

Rapid development in medical science can offer new medical solutions, however, with potential high costs. Future development and improvement of medical techniques should relieve the currently overloaded primary healthcare system. Ethical concerns include justification of cost constrained solutions to the increasing complexity of individuals' health requirements. Technical progress is more than a prerequisite for the integration of information technology in healthcare and medicine.

Many countries are facing an aging population, which requires increased budgetary allocations for the elderly segment of the population due to disproportionate healthcare costs. For example, Sweden and Japan are countries known for low mortality. According to the World Health organization (WHO, 2014), Life expectancy for women in Japan is 87, the longest in the world. This is followed by Spain, Switzerland and Singapore. Men in Japan have a life expectancy of 80 years. life expectancy in Sweden it is 81.1 years (OECD, 2013). However, individuals with increased longevity can experience poor health from diseases such as dementia, mental health disorders, cancer, diabetes or other ailments. Possible chronic diseases or mental health illnesses may require multiple points of care by primary and specialist health care providers. Increased life expectancy drives the need for treatment capabilities in terms of long-term treatments and planning across complex care provider chains (Gröne, & Garcia-Barbero, 2001; Kodner, & Spreeuwenberg, 2002; Mur-Veeman, Raak van, & Paulus, 2008). Chronic diseases can require more than one point of care. The multiple care points can cause potential risks of errors that can cause additional health complications.

### **Information Technology**

Documentation and regulatory compliance activities detract from actual face-to-face meeting between patient and medical staff. In the past years, technology push has been increasing. The term 'technology push' refers to new technology research and development that drives the production and sales of new products onto the market without market research or proper consideration of whether or not such products satisfy individual needs (Martin, 1994). Examples of technology push in medical care include wearable technologies such as bio-sensing wearables, digital hearing aids, blood pressure monitors and so on. Technology-Enabled Care (TEC), and collecting telemedicine, telecare, digital and mobile health are also examples of eHealth. Cultural and regulatory barriers to the adoption of TEC in different countries,

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