

# Chapter 68

## E–Healthcare Disparities Across Cultures: Infrastructure, Readiness and the Digital Divide

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### ABSTRACT

*As e-healthcare becomes a reality for healthcare service provision across the world, challenges in acceptance, implementation, usage and effectiveness have begun to emerge. The infrastructure, readiness and literacy levels required for the effective delivery of e-healthcare services may be prohibitive in providing access to those most in need. As research brings to light the real effectiveness of e-healthcare programmes across the globe, this paper explores how e-healthcare has been implemented worldwide and how populations have been served by an innovation in Information Technology and healthcare that has sought to bring health services to remote areas, improve access to healthcare and narrow the divide between healthcare providers and patients. While notable achievements have seen real time clinical data captured and medical records digitalised, the very determinants responsible for actual health and social disparities are equally responsible for disparities in access to e-healthcare.*

### INTRODUCTION

We live in the digital age. There is an app for everything. Every aspect of our lives, from the phones glued to our hands to home-shopping networks, depends on the Internet; why, then, would the manner by which we access healthcare be any different? The potential benefits of applying every advance in telecommunications and online technology to healthcare are enormous. In hospital alone, electronic

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patient records, radiological images and reports, blood results, endoscopy results and pathology results - even the images of the slides - may be retrieved at the click of a mouse. No clinician with the correct access to this data would want to go back to the days of manual searches for patient files and X-rays.

In community medicine the potential benefits are even more far reaching in terms of monitoring and managing chronic diseases, and reaching patients who live far from specialist services. Body sensors and monitoring devices worn by patients may convey real time data to distant health professionals for immediate analysis or to send automated reminders to patients to take their medication. They may even trigger alarms for emergency response, say, in remote homecare of the elderly or for patients with dementia, with monitors fitted to walking sticks, walking frames or even vital sign body sensors worn on their person. It is reassuring that as we prepare our health services for ageing populations across the world, help for someone who has fallen at home could be on its way in minutes (Center for Technology and Aging, 2009). Clearly, however, the scenarios described above are not applicable in every part of the world, or, indeed, in every part of every nation. This chapter gives examples of e-healthcare in action across the globe, and highlights disparities inherent in the resources necessary to both *provide* e-healthcare and in order to benefit from *access* to this. It is no accident that the determinants of e-healthcare are inexorably linked to the determinants of health itself.

## **DEFINITIONS**

The World Health Organization, WHO, defines e-health as *the transfer of health resources and health care by electronic means*. They explain that e-health comprises three main areas:

- The delivery of health information, for health professionals and health consumers, through the Internet and telecommunications.
- Using the power of information technology and e-commerce to improve public health services, e.g. through the education and training of health workers.
- The use of e-commerce and e-business practices in health systems management. (WHO, 2015)

They describe telehealth as including *surveillance, health promotion and public health functions - a broader definition than telemedicine as it includes computer-assisted telecommunications to support management, surveillance, literature and access to medical knowledge. Telemedicine is the use of telecommunications to diagnose and treat disease and ill-health. Telematics for health is a WHO composite term for both telemedicine and telehealth, or any health-related activities carried out over distance by means of information communication technologies*.

LeRouge asserts that telemedicine is so integral to the development of healthcare services that it “serves as the vital connective tissue for expanding health care organization networks” (LeRouge, 2012). As Kalema (2014) and Ackerman (2010) put it, the opportunity in e-healthcare is to break down barriers to healthcare, improve access for all - especially those underserved by healthcare services - and enable medical personnel to better connect with their patients – especially those remote from healthcare services - in other words, to improve equity in healthcare and access to health care: to improve Global Health. The intention is to do this at a lower cost, while improving efficiency and effectiveness. The importance to both developed and developing world health services is, therefore, clear. The vision, in particular in the developing world, is to harness information technology towards meeting crucial public health needs.

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