Chapter 25
E-Health in Australia and Germany

Manuel Zwicker
RMIT University, Australia

Juergen Seitz
DHBW Heidenheim, Germany

Nilmini Wickramasinghe
Epworth Healthcare, Australia & RMIT University, Australia

ABSTRACT

This chapter focuses on two specific e-health solutions, the PCEHR in Australia and the German EHC. National e-health solutions are being developed by most if not all OECD countries, but few studies compare and contrast these solutions to uncover the true benefits and critical success criteria. The chapter provides an assessment of these two solutions, the possibility for any lessons learnt with regard to designing and implementing successful and appropriate e-health solutions, as well as understanding the major barriers and facilitators that must be addressed. Finally, ANT is used to provide a rich lens to investigate the key issues in these respective e-health solutions.

BACKGROUND

Healthcare industries continue to be at the forefront of agendas globally. Between 1970 and 1997 the average percentage of Gross Domestic Product (GDP) on healthcare by members of the Organization for Economic Cooperation and Development (OECD) countries rose from about 5% to roughly 8% (Huber, 1999). Since 2000, total spending on healthcare in these countries has been rising faster than economic growth, which resulted in an average ratio of health spending to GDP of 9.0% in 2008. Challenges including the technological change, longer life expectancy and population ageing will serve to push health spending up further in the future. Hence, this growing health spending creates a significant cost pressure for several countries (OECD, 2010a).

Reducing these expenditures as well as offering effective and efficient quality healthcare treatment is a priority worldwide. Technology and automation in general have the potential to reduce these costs (Ghani et al., 2010). Moreover, the use of information and communication technologies (ICT) in e-health solutions in particular appears to be the key to respond to these challenges (Wickramasinghe & Schaffer, 2010).

In addition, several countries are changing their thinking about healthcare, because they know that the current situation is no longer feasible. Therefore, we are witnessing new healthcare reforms. Based on this fact, countries like Australia, Finland, Germany, UK and U.S., to name but a few countries, have started to change their healthcare system because they have recognized that with the use of information and communication technologies (ICT) in general and specifically e-health, healthcare costs can be reduced, while the quality of healthcare delivery can be improved (Wickramasinghe & Schaffer, 2010). This means that e-health is becoming an essential part of modern healthcare delivery, which in turn means it is now an essential one to fully understand.

In their enthusiasm to develop e-health solutions, it appears to us that countries are focusing efforts to only address the internal issues. However, healthcare delivery is a global phenomenon and in an age where global business operations are prevalent, it is essential for e-health to also have a global, network centric perspective, including being able to support healthcare information exchange between different countries. This is the central thesis behind the doctrine of network centric healthcare (Wickramasinghe et al., 2007). Thus, a current problem is that in an attempt to address escalating healthcare costs countries are turning to developing e-health solutions, but because these solutions are not being designed with a global perspective rather than provide effective and efficient quality healthcare solutions they are likely to exacerbate the current situation and create more costly, poor quality healthcare solutions. One way to develop an e-health solution, which has a global perspective, is to investigate the possibility of transferring an e-health solution across countries. In this way, it will be possible to support healthcare information exchange between countries. This is essentially the strategy that the banking industry adopted. Hence, this paper serves to explore the research question "How can we transfer e-health solutions?"

In looking at the possibility of transferring different e-health solutions it is also necessary to have a rich theoretical lens to facilitate in depth analysis of all critical issues as well as their interactions. We therefore adopt ANT (Actor Network Theory) as such a lens.

LITERATURE REVIEW

In order to investigate the proposed research question it is necessary first to examine key issues of NCHO (network centric healthcare operations). In addition, it is important to discuss the different healthcare systems and to define e-health. Finally, ANT is briefly presented.

Network Centric Healthcare

The doctrine of network centric healthcare operations (NCHO) has been defined as "unhindered networking operations within and among the physical, information, and cognitive domains that govern all activities conducted in healthcare space based on free, multidirectional flow and exchange of information without regard to the involved platforms or platform-systems, and utilizing all available means of

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