Chapter 5.10
Ageing, Chronic Disease, Technology, and Smart Homes:
An Australian Perspective

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ABSTRACT

This chapter explores ageing, chronic disease, technology and social change. Healthcare has been transformed through medical technology but there is much still to be done to enable seamless exchanges between all carers, which is expected to improve safety, quality and efficiency. There is massive potential for technology to transform the experience of ageing including assisting with the management of chronic disease, coordinated care and guided self-care for consumers. Innovative technologies are increasingly available to assist in maintaining health and independent living. This includes telecare, telehealth, assistive technologies, robots and smart homes. A challenge is in providing access to and support in the use of technologies where there are clear benefits to consumers, carers, providers and funders of healthcare. The chapter also reports on the Queensland Smart Home Initiative which is one of several organisations internationally that share a mission of assisting people to be supported through these technologies.

INTRODUCTION

An aspect of the grey digital divide is the difference between the support that older people currently receive and the potential that technology has for enabling independent living and better access to care. That there are opportunities for the support that smart homes and assistive technology can provide is evident in the rates of events such as falls, medication difficulties and social isolation. Technology can help to maintain social connections, provide access to information for self-care, enhance access to professional services, and it can also help to ensure people are safe, receiving needed support and participating in activities of daily living.

Over the subsequent sections of this chapter we will explore technology and social change, healthcare technology, ageing, chronic illness and disability, coordinated care and self-management, guided self-care, ageing and technology, robots, adoption issues, smart homes and the experiences of the QSHI (Queensland Smart Home Initiative).

Technology has the potential to transform ageing, aged care and healthcare just as it has other industries. Technology is highlighted in the healthcare reform agendas of Australian and other governments. It has the potential to overcome the digital divide and provide the elderly with better access to support arrangements, information, care and other services; technology can also reduce travel of patients and carers across often vast distances and sometimes just for routine checks which could be provided more safely and conveniently through telecare and telehealth systems. There is increasing interest and attention given to the unprecedented ageing of populations which has captured the attention of the public and policy-makers. The phenomenon of ageing is discussed along with associated issues of increasing chronic illness and disability. Recent strategy around chronic illness self-management is explored along with the needs to ensure the availability of quality, relevant and timely sources of consumer health information.

The technology itself is developing at a dramatic rate and there are prototype robots that are expected to be our carers of the future. The robot may be a mechanical device or it may take the form of software that interacts through other devices, or it may be a combination of both. Given how pervasive robots are in automobile production and other manufacture it is reasonable to expect they will be available in people's homes. There are smart homes as demonstrators in many countries and some of these are discussed. An exciting development has been the large-scale deployment of some of this technology into people's homes in some countries and localities.

The QSHI is discussed as one of a number of industry-government research consortia around the world that promotes the adoption of smart home and assistive technology. The QSHI does this through research evaluating the benefits of technology for consumers, families, carers, provider organisations, funders and governments.

TECHNOLOGY AND SOCIAL CHANGE

There are many aspects to the grey digital divide that will be explored in this paper. These include a lower level of use of ICT (Information and Communication Technologies) by older people (Madden & Savage, 2000), the unequal availability of ICT across sectors of healthcare and aged care, the need for ICT infrastructure and applications for home and community care, the need for technology to assist with chronic illness and the need to help consumers and carers with access to information.

That our lives have been and continue to be transformed by technology is a given. It has liberated people from drudgery and has been the key to social transformation over millennia. Where modern technology is applied, there are many-

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