

Chapter 5

The Use of Assistive Technology to Support the Wellbeing and Independence of People with Memory Impairments

Claire Huijnen
Smart Homes, The Netherlands

ABSTRACT

This chapter presents the research, results and lessons learned from a project to evaluate currently available assisted living technologies for elderly people with mild to severe memory impairments who want to age in place. During the project a number of households were equipped with assistive technology to enable the end users to better cope with the barriers and problems associated with their forgetfulness. End users were involved in different phases, starting with a problem and needs analysis and ending with an evaluation of the technology installed in their homes. It seemed that technology did have a positive impact on their lives as well as on the lives of the informal caregivers who often live with those who suffer from amnesia. This project gives insight into how we are coming closer to optimizing the positive effects which assistive technology holds for the elderly with memory impairments. Key insights are presented.

INTRODUCTION

In many European countries, including The Netherlands, the proportion of elderly people in the total population is growing rapidly. Simultaneously, care resources are shrinking. Many elderly people want to live independently in their own homes (age in place) for as long as possible despite the presence of age-related difficulties including memory impairments or early dementia. Low

cost, low maintenance innovations are needed to enable people to retain their independence in a secure, safe and inclusive environment for as long as possible. A generally agreed upon vision is that assistive technology has the potential to make a contribution to the demographic challenges of the ageing population (Maciuszek, Aberg, & Shahmehri, 2005).

The study outlined in this chapter sought to empower elderly with memory impairments. The aim of the research was to gain insight into how to increase people's independence by assisting

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them to live in their own homes for longer periods of time. Assistive technologies were installed in homes and evaluated.

BACKGROUND

In common with other developed regions, the European Union is experiencing rapid growth among its ageing population. The European Commission's statistical reporting (2004) shows that in 2003 there were 74 million people aged 65 and over in the EU-25, compared with only 38 million in 1960. Life expectancy has increased considerably during the last 40 years, and by 2050 projections show that one third of Europe's population will be over the age of 60. Growth among the 80 years and older cohort will be particularly strong during the next few years. This unprecedented growth will have significant implications for the state of health of Europeans and pose distinct challenges to health and social care systems (European Commission, 2004). Moreover, in 2010, around one-third (32%) of the EU-15 elderly population (aged 65 and over) will be living alone. More than half (54%) will live with a partner (in a household that might also include children or adults). The remainder will live with children (or other relatives/friends) or in a home/institution. It is clear, however, that the demand for housing and care will continue to change considerably as people grow older.

Dementia is one of the diseases associated with ageing. Dementia is a brain disorder in which a progressive loss can be seen in affected areas, such as cognition, memory and learning, language and problem solving. Changes in personality are often reported as well. Dementia places a heavy burden on both the patient and carer. Typically, people with dementia are disoriented in time, place and person. They experience progressive cognitive impairments that start with working memory problems but can encompass speech production, planning, monitoring and visiospatial

difficulties as the condition advances (Alzheimer Nederland, 2009).

The prevalence of dementia in Europe is around 2% for those aged 65-70, and doubles with every five year increase in age, reaching around 25-30% for all those aged 85 years and over (Lobo et al., 2000). In The Netherlands 250,000 people are suffering from dementia of whom 180,000 are actually diagnosed with dementia (Alzheimer Nederland, 2009). This means that there are estimated to be 70,000 people who experience symptoms and problems caused by dementia, but who have not yet been diagnosed with the disease. It is estimated that in 2020 there will be 350,000 people with dementia and in 2050 this will most likely increase to 580,000 people. Seventy percent of the people with dementia, in The Netherlands, live at home and receive care from family or close friends (Alzheimer Nederland, 2009).

However, another demographic trend, the decrease in the working population, compounds societal difficulties associated with the rising incidence of dementia and the burden of care faced by informal caregivers. In 2008 there were 57 potential working people for every demented person. In 2050 this number is expected to fall to 27 (Alzheimer Nederland, 2009). An almost inevitable consequence of this decrease is that there will be fewer qualified people to care for the increasing numbers of people who are in need of care.

Aging in Place

The home is an important symbol of a person's identity and personality. Oswald, Wahl, Naumann, Mollenkopf and Hieber (2006) note that older people perceive the danger of losing their homes as akin to losing an important part of themselves. They use the "environmental proactivity" hypothesis to explain the actions of older adults in adapting their homes to their changing needs, in order to maintain control and enhance competence in the house. For example, the residents themselves

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