Foreword

It is almost an axiom to say that the world population is ageing. 'Everybody' knows this. By the year 2050 it is projected that more than one in every six persons throughout the world will be at least sixty five years old (UN, 2002) and people in this cohort will exceed the number of children in the world. By 2050 around 22% will be over 65 years old and the fastest growing group, the over 85s, will account for 2 in 10 of the world population. Disability affects a large number of older people – and their carers. Dementia is considered to be one of the major contributors to disease burden. Other conditions that often result in social isolation, reduce quality of life and have a significant impact on health care costs include: arthritis, hearing loss, depression and incontinence.

Figures suggest at least 32-42% of people over 70 fall each year and falls are a factor in 40% of injury related deaths.

There are many causes and types of disability but I want to focus on these here to provide some human faces to the rather dry statistics.

Elly is aged 94; she lives alone in the home she shared with her husband of 70 years. She is determined to live out her days and die in this house where she raised six of her eight children and has so many memories – good and bad – but special to her. Elly's children, like many these days, have moved to various parts of the country and Jim, the eldest lives in the UK. Most of the family members generally try to get home for Christmas. Her daughter Emma, who lives in Tokyo, calls Elly on the phone every Sunday.

Before Jack died, he was very reluctant to leave the house unless he knew there would be a convenient toilet and people to assist him to access venues. He was incontinent of urine but too embarrassed to discuss this with anyone. His incontinence restricted his social activity. In addition he had fairly debilitating arthritis. Public transport was not an option and he could no longer drive so he depended on local service clubs for any social outings.

When Emma had her first child Elly travelled to Japan alone to spend a couple of weeks with her. When she returned home she found Jack dead, on the bathroom floor – he had fallen and died alone. This was desperately upsetting for Elly; not only did she feel guilty for leaving him alone but she also developed a dreadful fear of falling and went from being a very social community member to socially isolated. When her family and local doctor tried to suggest perhaps it was time to think about moving into a hostel, Elly just became more determined to stay put. Gradually her mood changed and she appeared to her local doctor to be developing depression. She was also having some difficulty hearing Emma on the phone and so many times did not bother to talk to her when she rang.

It was too difficult now for her to do many of her usual household chores but her determination to be independent meant she refused most community services. She ate less as getting to the shops was too much of an effort. Her younger sister Kate, who recently was widowed, moved in with Elly. Sadly,

within a few months, it became obvious to neighbours that Kate had dementia and was becoming more of a burden to Elly than a help. Kate would forget to take her medications, wander off to do the shopping and forget either to buy the food and/or to come home. Elly hated to worry the neighbours so she would sit for hours just wondering if Kate was okay. She worried if she tried to find her she might fall – she worried maybe Kate had fallen. The neighbours tried to check in on them and called the police when Kate was missing. They usually found her quite quickly, until on one occasion it took several days before she was found drowned in a lake six kilometres from the house.

Tim, the son living in the UK, knew if he could interact more with his mum and she could see the grandchildren that would help but he could not afford to come home. Emma arrived from Tokyo and found Elly was sleeping on the couch and washing in the sink because she could not get up the stairs to the bedrooms and shower. The garden, once her pride and joy, was a mess. Mum could not get down the stairs and consequently she was also suffering Vitamin D deficiency from lack of exposure to sunlight and poor nutrition.

You can see what we have here is a complex and degenerating situation – not uncommonly experienced by older people. Assistive technology could have improved the quality of life for all concerned and probably prevented Kate's drowning.

Alongside the ageing of the population we have a shrinking labour-force. The movement of women into the employment market is increasing the need for paid support for older people both at home and in nursing homes. Internationally, governments and other health care providers are exploring ways in which to cope with fewer doctors, nurses and allied health professionals. A potential contributor is of course workforce redesign taking account of the growing acceptance and uses of assistive technology.

This book demonstrates how Smart Houses and intelligent devices can improve social participation, reduce fear of falling, facilitate access within and external to houses and negotiation of stairs, and generally allow older people to remain 'in touch' with loved ones and their communities.

There are of course ethical issues that must be considered, for example, are tracking devices an abuse of privacy? I would argue that assistive technology should be embraced provided it meets the principles of person-centred care. Does the technology improve quality of life for the older person and is it acceptable to them, individualized and safe – or is it simply making life easier for staff and family? If the former I would support it.

This book opens up many possibilities for using assistive technology to ensure older people continue to enjoy independence, dignity of risk and harm minimization. I recommend it to practitioners, policy makers, researchers and students.

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