

## Use of Energy to Maintain Health and Well-being in Older Households

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### Introduction and literature review

The population of Australia is ageing (Australian Institute of Health & Welfare 2017). As at 2017, there were 3.8 million Australians aged 65 and over (comprising 15% of the total population) and it is estimated that this will grow to 8.8 million older people in Australia by 2057 (comprising 22% of the population) (AIHW 2017). Alongside the need for planning around an ageing population, the issues of electricity prices and fuel poverty are a concern for the government and for householders and the subject of policy development (Yergin, 2006; Chester, 2010; Simshauser et al 2011; Department of Climate Change and Energy Efficiency, 2012). Chester (2014) has outlined the concerns for low-income households as they manage electricity prices often at the expense of their health and Waitt et al (2016) have demonstrated that older households are extremely frugal with their household practices. There is evidence that with ageing there is a greater vulnerability to the extremes of temperature that can precipitate ill health and serious outcomes for older citizens (Ormandy & Ezratty, 2012). In this study we draw upon ideas from practice theory (Hui et al., 2017) and the concept of energy capitalism (Chester, 2014) to understand how older populations navigate the tensions between health and well-being and the costs of energy and to develop appropriate policy underpinned by empirical research.

### Method/Approach

This project employed quantitative and qualitative methods though this paper exclusively discusses the qualitative insights. Our qualitative methods were employed over two stages and included 1. a semi-structured interview, 2. a cue-card activity and an in-home video component. Using established community networks we recruited 38 individuals aged over 60 years in the Illawarra region of NSW from a range of household types and configurations. There were 11 single women, 12 single men, two married women and seven couples aged between 60 and 93 years of age. All had lived in the Illawarra for a minimum of 12 months, none were employed though many were active in volunteering and church related and community activities. At the completion of each stage, participants were given a \$50 shopping voucher to compensate them for their time.

The first stage was a qualitative interview. The semi-structured interview was designed to investigate how older people used energy in their homes to maintain health and well-being. Open ended questions were structured around five themes: how energy was used to heat and cool the home; practices for maintaining health (for example cooking practices, washing and bathing practices, cleaning practices and socializing); special medical equipment; concerns over energy costs; and the relationship between energy and ageing. All interviews were audio recorded and transcribed with the informed consent of participants. Transcripts were analyzed using Nvivo 13 qualitative software.

The second stage employed projective techniques through a video recorded cue card activity (see Lewis et al 2008) that was designed to prompt a conversation about how energy use practices and associated appliances helped to maintain health and well-being. We asked participants to place a series of cards which named household electrical appliances as well as medical devices onto a board and to explain why they positioned them towards one side of

the board (health) or the other (well-being). This method encouraged in-depth reflections on ageing and health which can be a deeply personal issue. Domestic appliances were frequently taken for granted in the everyday practices of maintaining health so this approach allowed for thoughtful and insightful discussion. The video method also allowed us to capture body language and visual cues during the discussion. This activity was video recorded, transcribed and analysed in Nvivo 13 software. Following this activity, participants were invited to demonstrate to use energy use practices and related appliances they determined to be most instrumental in maintaining health and wellbeing as a part of the video recording. A total of 1230 pages of transcripts and 15.7 hours of video were collected.

### **Results/Findings**

All households expressed concerns about the rising costs of energy and all were consistently frugal with energy use, for example using heating and cooling appliances for short periods, turning off lights, using curtains and blinds to reduce heat transfer, and using washing machines or dishwashers only with a full load, drying washing outdoors. Of the cohort (n=38) three low-income households owned a smaller number of older less energy efficient appliances and were extremely frugal with their use. Two single men and two single women did not use any heating or cooling appliances and one single man did not use hot water for showering during both summer and winter. Their concerns over the cost of energy resulted in them wearing more clothing while indoors and reducing or eliminating the use of some household appliances (heaters, vacuum cleaners, irons). This group was less likely to cook on the stovetop or oven and instead prepared frozen food in the microwave oven and stored the cooked food in the refrigerator. Eight low-income households were less likely to have digital devices and were more socially isolated.

The majority (34) recognized that as they aged they required increased levels of thermal comfort to maintain both comfort and health. They drew on experiential knowledge and related the costs of providing for ageing parents and partners. As well, increased age often meant decreased physical mobility and so there was a greater reliance on appliances that minimized physical exertion. Electric beds and armchairs, mobility scooters, chair lifts and clothes dryers helped to maintain a sense of independence and reduced reliance on other family members. Households with resources had implemented solar electricity generation to minimize their energy costs and thus were more likely to employ preventative health devices. For example, four households had heated pools or spas to allow exercise and to alleviate muscle and joint pain. However, six with special medical devices (for example sleep apnea machines CPAP, BPAP, medical alert pendants, blood pressure machines, blood sugar monitors, hearing aids, chair lifts, electric chairs and beds) were not aware of the amount of electricity required to maintain this equipment yet felt that these were essential to their health and therefore costs were unavoidable.

### **Discussion and implications**

The findings point to the difficulties for ageing households to maintain health and well-being practices while negotiating the cost of electricity. Government policies focused on ageing in place need to acknowledge that the cost of running essential health appliances falls to householders and that this should attract discounts and rebates. Our participants narratives point to how energy needs to be rethought as a basic human right, rather than as free market commodity under energy capitalism.

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