

MEETING FOOD HYGIENE CHALLENGES IN OLDER PEOPLE:
MOBILISING HEALTH ASSETS FOR HEALTH PROMOTION

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Abstract

Background: Listeriosis is a serious foodborne infection with significant rates of morbidity and mortality in the older population. The majority of food safety research has focused on food behaviour, practices and perceptions of ‘risk’; isolating actions from their social and health context and historical significance. The alternative, positive and novel approach presented in this dissertation is to identify the accumulated resources, or health ‘assets’, that older people draw upon in daily life at home to protect themselves against foodborne illness informing future health promotion interventions. This research will also further the theoretical development of the ‘asset model’ and its contribution to health promotion theory and practice.

Methods: There were three chronological phases to the study. *Phase I:* Sought to gather contextual information about the older people recruited in Phase II through the collection of socio-demographic, health and summary current food hygiene asset related data collected through a researcher completed questionnaire at i) five AgeUK lunch clubs ii) one County Council-run lunch club and iii) via a ‘University of the Third Age’ webpage advert across Buckinghamshire and Hertfordshire. Fifty respondents were recruited via self-selection (20 men, 30 women, mean age of 78.98 years (SD 8.82) mean Visual Analogue Scale of subjective health, 6.89 cm/10cm). Quantitative data were analyzed using SPSS. *Phase II:* Fifteen semi-structured interviews with older people selected via purposive sampling from the questionnaire cohort to seek their accounts of how food is acquired, stored and cooked and the historical events and influences that shaped these practices (7 men and 8 women, mean age 77.87 (SD 8.06) years, mean Visual Analogue Scale of subjective health, 6.62cm/10cm). *Phase III:* Three semi-structured interviews with sheltered housing staff in Buckinghamshire recruited via snow-ball sampling. Qualitative data were analyzed using a Grounded Theory approach with NVivo software.

Results and Discussion: All of the data indicated that older people have a multiplicity of external food hygiene assets through which to acquire 'safe' and 'fresh' food. Differences in the frequency and type of external asset utilisation were identified between men and women and those reporting severe restrictions in activities of daily living recorded by the EQ5D Quality of Life tool from the questionnaire employed in Phase I.

The qualitative data from Phases II and III indicated that food hygiene assets were context-dependent, many being accumulated through the life course and fulfilling non-food related purposes. A number of historically formed internal assets were also identified which served to either facilitate or hinder access to the external food hygiene assets. Members of the social network, specifically the family, were identified as being the principal food hygiene asset throughout the life course from all data sources, fulfilling the newly conceptualised role of 'foodcarers' in the lives of (older) people in a context-dependent manner.

Conclusions: The cause of foodborne infections in the older population may be influenced by complex historical factors beyond specific food hygiene knowledge and practice. Current competing or allied concerns in daily life may also serve to motivate or demotivate the employment of 'safe' food hygiene practice. Strategies aimed to reduce the incidence of foodborne illness in the older population could be addressed by placing health promotion within the home setting through the mobilisation of the social network. The context-dependent nature of asset mobilisation has called in to question the validity of some sections of the asset model for use in negotiated small-scale health promotion initiatives and whether the model can serve as a coherent whole.

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1. Part One: Chapter One: Introduction

Health promotion is at the forefront of international (World Health Organization, 1986; World Health Organization, 1995; World Health Organization, 1997; World Health Organization, 1998; World Health Organization, 2012) and national governmental public health policy (Department of Health, 1999; Department of Health, 2001) to enhance the physical, mental and spiritual health and well-being of everyone and can be viewed as an effective complementary adjunct to medical care (Kalache, 1996; Victor and Howse, 1999; Bernard, 2000; McMurdo, 2000; Andrews, 2001; Chiva and Stears, 2001; Cattan *et al.*, 2005).

Caring for the older population is central to UK governmental policy and legislation (Department of Health, 2001; HM Government, 2012) and predicting the future health and social care needs of the older population and tailoring care to those needs remains a priority. Older people are considered to be at greater ‘risk’ of contracting foodborne infections due to a host of immunological (Chandra, 2002), physiological (Roberts and Rosenberg, 2006) sensory (Schiffman, 1997) and cognitive changes (Albanese *et al.*, 2007). Rates of infection attributed to one foodborne pathogen, *Listeria monocytogenes*, have been recognised as high in those who are immunocompromised, including the older population, and constitutes a considerable health ‘risk’ due to the high mortality rate (Food Standards Agency, 2012a). Infections due to *Listeria monocytogenes* have increased three-fold in those aged over 60 between the early 1990s and 2010 (Food Standards Agency, 2009a). However, even after taking into consideration the estimated under-reporting of foodborne illnesses, the vast majority of older people manage to remain unaffected by foodborne illness despite their increased ‘risk’; suggesting that coping mechanisms are mobilised to preserve health.

The interdisciplinary research presented in this dissertation will explore the historical and current context of food hygiene practices to identify which resources, or ‘assets’, serve as

coping mechanisms to enable older people remain to well and independent in their own homes. The research will identify, characterise and discuss the ‘food hygiene assets’ that older people draw upon to protect themselves from foodborne illness, using this evidence to inform health promotion initiatives aimed at reducing the rates of foodborne infection and provide an opportunity to reflect on current social care policy. In addition, this will provide the opportunity to re-visit the asset model and appraise its alignment to differing forms of health promotion.

The dissertation has been divided into two parts; the first comprises chapter two which contains the Literature Review which justifies the subject area and the rationale behind the aims and objectives of the study. The second part of the dissertation provides the details directly pertaining to the study and contains chapters on the asset model (chapter three), aims and objectives (chapter four) and the study methods (chapter five). The results from the quantitative data (study Phase I) are presented in chapter six and the results from the qualitative data (study Phases II and III) in chapter seven. An explanation and justification of the development of the analytical and theoretical themes is the focus of chapter eight. Chapter nine discusses the assets mapped and the implications the findings have for wider health care policy and health promotion practice. Chapter ten critiques the asset model and its alignment to health promotion theory and practice and appraises the study’s limitations. Further sections in chapter ten provides direction on how work in this area could progress and draw out the conclusions of this research in the context of its aims and objectives.

2. Chapter Two: Literature Review

2.1 Introduction

The Literature Review chapter has been divided into five sections. The first will provide an overview of the demographic context of the older population. The second section will discuss the prevalence, source and economic burden of various foodborne pathogens, including that of *Listeria monocytogenes*, with a particular focus on older people. The range of food safety research which has been conducted to date will then be discussed and shortfalls in current food safety research methodologies. Formal and informal care will be the focus of the fourth section; exploring the issues surrounding provision for the frailer older person resident in the community. The fifth section will discuss health promotion theory and practice and the research undertaken by those seeking to understand the social context of the older population in order to develop effective health promotion interventions.

2.2 The demography of the older population

Similar to many other countries globally, the population of the UK is currently ageing (Office for National Statistics, 2012a; Office for National Statistics, 2013a). In 2012 there were 10.8 million people aged over 65 in the UK, constituting 17% of the total population, a rise from 16% in 2001 (Office for National Statistics, 2013a). It is the rising proportion of the oldest old which is most pronounced, in 2011 there was an estimated 440,290 people aged over 90 years, 1% of the total population, a 26% increase from 2002 (Office for National Statistics, 2013a). Frequently presented in the media as an economic burden to society and an ‘apocalyptic demography’ (Vincent, 1999; Evans *et al.*, 2001), the ageing population could alternatively be viewed as the result of successful political, economic, technological and healthcare initiatives.

The demography and composition of the current older population largely reflects social change (improved working conditions for men, greater proportion of women working, implementation of the welfare state), improved medical and public health (implementation of the NHS, improved sanitation and living conditions in post war new housing stock), advances in medicine for previously untreatable or fatal conditions (development of antibiotics and chemotherapy) resulting in a reduced mortality rate (Vaupel, 1997; Grundy, 2006). These ‘advances’ can be viewed against a backdrop of male life lost through world war, fluctuations in fertility and migration/immigration/emigration, and the long-term effects of health reducing behaviour such as smoking in earlier life (Victor, 2005a). Such changes have resulted in the current ageing population and in the greater numbers of females compared to males, particularly in the oldest old.

Results from the 2011 census indicated that there are 2.7 women for every man aged 90 and over, and six women for every man aged 100 and over (Office for National Statistics, 2013a). This current difference in the sex ratio is due to a number of historical social and

environmental factors. Women are currently living longer than men due to historically lower rates of risk-taking behaviour such as smoking in earlier life compared to men. Older men were also exposed to more work-place environmental hazards in earlier life (Victor, 2005a) and in the current middle-aged generation, greater likelihood of continued ‘risky’ behaviours than women such as smoking, drinking and having a poor diet (Townsend *et al.*, 2012). These factors, combined with the social trend for men to generally get married at a later age, (Bhrolcháin, 2005) and that they are less likely to access healthcare (Noone and Stephens, 2008) has led to more women outliving their spouses. Table 1 shows a summary of the differences in the demographic profile of those aged 65 and over from the 2011 and 2001 censuses.

Table 1: Summary demographic profile of the over 65s from 2011 and 2001 Censuses (Office for National Statistics, 2013a).

Category	2011 Census	2001 Census
% Married or in civil partnership	57	53
% Divorced	8.7	5.2
% Living as co-habiting couples	2.8	1.6
% Single (never married or had civil partner)	5.5	6.0
% Living alone	31	34
% Households occupied by home owner	75	68
% Living in communal establishments	3.7	4.5
% Of 65-74 age group who are economically active	16	8.7
% Report that they are in very good health (<65 and >65)	88% and 50%	-
% With activity limiting LTC* or disability	52	50
% Providing unpaid care	14	12
% Providing 50 hours of unpaid care a week	5.6	4.3

***Long-term condition**

Data from the Office for National Statistics (Office for National Statistics, 2013b) predicts that the sex ratio is set to change in the future due to more men living longer. Hence the demography of the older population and that of the wider general population are subject to

further change due to the interplay of complex health, political, social and technological factors outlined above.

The current older population is ageing, constituting an increasingly greater proportion of the national population with greater numbers of women than men living beyond 90 years. Table 1 also shows that the population is heterogeneous with an increased proportion of the population being economically active and undertaking caring roles between the two census dates. The table also shows that half of those over aged 65 state that they are good health, and that approximately half have a long-term condition or disability. Foodborne illness is a threat to health in the older population and this will be discussed in the next section.

2.3 Foodborne infections and older people

Acute gastroenteritis is a major health threat and occurs as a result of an inflamed gastrointestinal system; symptoms include nausea, vomiting, abdominal pain and diarrhoea and if persistent and uncontrolled, can lead to severe dehydration and eventually death (Cumberland *et al.*, 2003). There are many causative factors (World Health Organization, 2007), one of which is infectious intestinal disease (IID) caused by foodborne pathogens that are present in foodstuffs at high levels pre or post food-processing or preparation/cooking (Käferstein, 2003). Acute gastroenteritis is an important vehicle for the life course of the foodborne pathogen as diarrhoea provides a vehicle for the agent to spread and find other biological hosts (Flint *et al.*, 2005; Newell *et al.*, 2010).

The World Health Organisation (WHO) estimates that 2.2 million people die annually from ingesting food and waterborne pathogens (Food Standards Agency, 2011). Estimates of the prevalence of IIDs in the UK vary widely between one million cases (Food Standards Agency, 2011) and 17 million (Tam *et al.*, 2012a), with the Food Standards Agency (FSA) estimating 500 deaths and an economic burden of £1.5 billion as a result of these infections (Food Standards Agency, 2011).

The true extent of the prevalence of IIDs is difficult to calculate due to the under-reporting of mild symptoms and the difficulty in identifying the origin of the pathogen (geographical and food source) of any outbreak. Wheeler *et al.* (Wheeler *et al.*, 1999) estimated that one in five people contract an IID each year and one in six report their symptoms to their GP. Tam *et al.* (Tam *et al.*, 2012b) in their follow-up to Wheeler's study on the longitudinal reporting and prevalence of IIDs in the community, estimated that for every case of IID reported to the UK national surveillance systems every year that there were another 10 GP consultations and 147 cases present in the community. In comparison with the former study (Wheeler *et al.*, 1999) conducted during 1993-1996, Tam *et al.* (2012b) estimated a 43% increase in the incidence of

foodborne illness, with an associated 50% *decrease* in those affected reporting the illness to their GP. This suggests that the scale of foodborne illness is far greater than those cases that are brought to the attention of the NHS and the Communicable Disease Surveillance System, part of Public Health England which reports to the FSA.

A foodborne pathogen can be either viral (e.g. Norovirus, Sapovirus) or bacterial (e.g. *Campylobacter*) in origin, with each pathogen more prevalent in some foodstuffs over others (Newell *et al.*, 2010). This prevalence is due to its existing presence and/or due to its ineffective eradication in the food production process. These processes include the preparation and cooking of food in the home, which is referred to (Käferstein, 2003) as ‘the third and final line of defence’ (p. 105) against foodborne illness, but also considered to be the weakest (Brennan, McCarthy and Ritson, 2007). It is estimated that 12-17% of outbreaks of foodborne illness originate in the home (Cowden *et al.*, 1995), and of the total 1729 foodborne illness cases detected by Hughes *et al.* (Hughes, Gillespie and O'Brien, 2007) (between 1992-2003), home related outbreaks resulted in 12% of hospital admissions and 3% of all deaths. An understanding of the pathogens that cause these infections in the home is therefore critical in assessing strategies to reduce foodborne infections.

2.3.1 The five biggest pathogenic threats

The FSA have identified that five foodborne pathogens account for the majority of IID episodes in the UK (Food Standards Agency, 2012a). These are: *Salmonella*, *Campylobacter jejuni*, *Escherichia coli* 0157:H7, *Listeria monocytogenes* and Norovirus (Food Standards Agency, 2012a). An overview of the relative rates of cases, hospital admissions and deaths resulting from these five infections are provided in Figure 1:

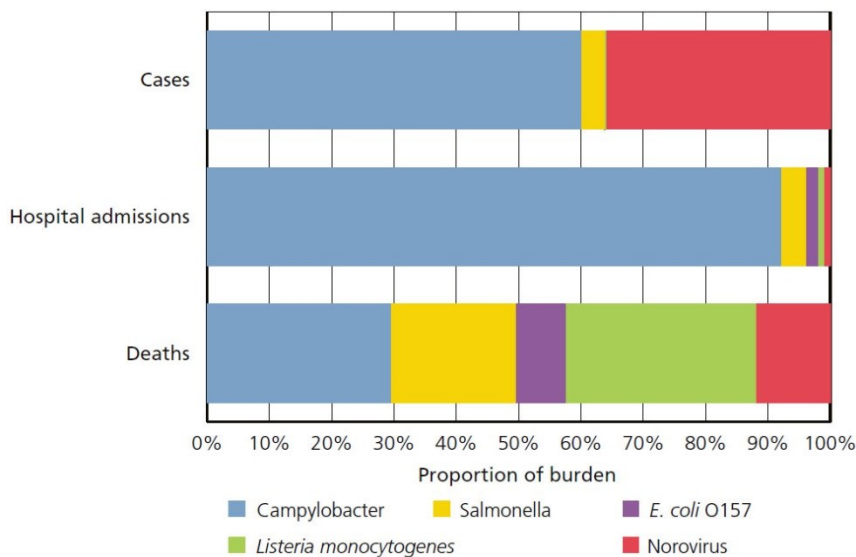


Figure 1: The proportion of cases, hospital admissions and deaths relating to the key five foodborne pathogens (FSA, 2012a, p. 8).

The FSA are focusing their efforts on three of these major threats due to the severity of the foodborne illness or due to the low bacterial load required to cause infection, these are *Campylobacter jejuni*, *Listeria monocytogenes*, and Norovirus (Food Standards Agency, 2012a). *Campylobacter* causes the majority of bacterial foodborne illness due to the low bacterial load required to induce illness. *Campylobacter* infections are primarily from infected poultry and incidents continue to rise (Food Standards Agency, 2012a). Norovirus or the ‘winter vomiting bug’ is a viral food poisoning and the most common cause of infectious intestinal disease (Food Standards Agency, 2012a). The virus is passed through faecal contamination of the food rather than the food itself harbouring the virus (Newell *et al.*, 2010). Direct person-to-person contact and the ability of the virus particle to remain infectious on surfaces makes this virus highly contagious but usually self-limiting and short-lived (Food Standards Agency, 2012a). In comparison, *Listeria monocytogenes* infections, although rare, cause more deaths from food poisoning in the UK than any other pathogen (Gormley *et al.*, 2011), killing up to 41% of those infected (Food Standards Agency, 2009a).

The bacterium is present in pre-packed cooked 'ready-to-eat', cold sliced meats such as ham, beef, turkey, chicken and in smoked fish and dairy produce (Food Standards Agency, 2013). Clinical symptoms of a *Listeria monocytogenes* infection, known as Listeriosis, include septicaemia, encephalitis, meningitis, and miscarriage and still-birth in pregnant women. Decreasing the incidence of Listeriosis has been identified as a priority for the FSA's 'Foodborne Disease Strategy 2010-2015' (Food Standards Agency, 2011), due to the high hospitalisation and mortality rate which is estimated to cost the UK economy £245 million a year (Food Standards Agency, 2011).

Establishing the rates of specific individual foodborne infections within population subgroups is difficult due to a number of factors relating to reporting, detection and classification (Wheeler *et al.*, 1999; Flint *et al.*, 2005; European Food Standards Agency, 2007), although recent technological advances are making classification more precise such as Multi Locus Sequence Typing of the organism's genetic make-up (Food Standards Agency, 2012a). From the data that have been collated (Hughes, Gillespie and O'Brien, 2007) it is the recent increase and fluctuations in the rates of Listeriosis which are of particular concern, especially when they occur in the immunocompromised, such as older people, pregnant women and those on long-term immunomodulatory medication and/or those with long-term medical conditions (Food Standards Agency, 2009a).

Being aged over 60 years is considered to be a predisposing risk factor for contracting Listeriosis, with a higher than average associated mortality rate due to the high prevalence of bacteraemia (presence of bacteria in the blood) upon presentation (Gillespie *et al.*, 2009). There has been a three-fold increase in the number of cases of Listeriosis in the over 60s age groups between the early 1990s and 2010 with the highest proportion of deaths occurring in those aged over 80 years (44% of those infected) (Food Standards Agency, 2009a). This rise in incidence in the older population was paralleled by a dramatic rise in the numbers of

laboratory-confirmed cases of all *Listeria monocytogenes* infections between 1990 (109 average cases per annum) and 2010 (191 average cases per annum), and a doubling in real terms between 2000-2009 (114 to 234 cases). Although there has been an overall decrease in cases since 2003, the figures fluctuate (see Figure 2) and 2012 saw more cases than in 2011; both of which were above the rates seen in the 1990s. Furthermore, this changing profile is not limited to the U.K with similar changes in the incidence of Listeriosis being reported across many other countries in Europe (Food Standards Agency, 2009a).

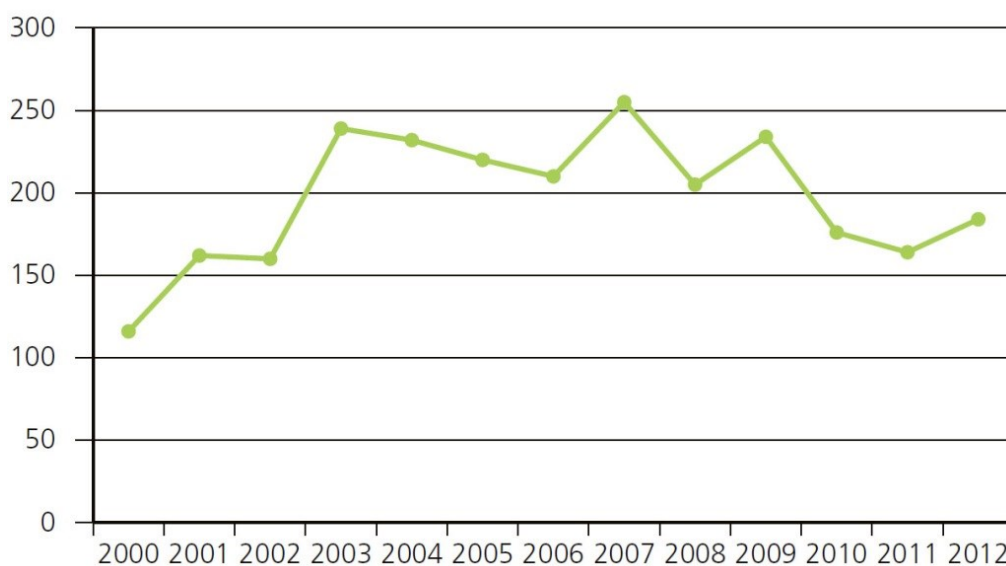


Figure 2: The fluctuations in rates of Listeriosis in the total population in the UK 2000-2012 (Food Standards Agency, 2012a, p. 17).

Alerted to the rise of Listeriosis, the FSA commissioned the formation of an advisory committee (The Advisory Committee on the Microbiological Safety of Food (ACMSF) to establish the possible causative factors that could explain the rise in Listeriosis in ‘at risk’ populations groups. Several factors were identified and postulated as causes, and some discounted, including increased pathogenicity of the bacterium, reduced use of salt as a food preservative, and increase in the sensitivity of laboratory diagnostic techniques, and the general demographic increase in the numbers of older people (Food Standards Agency,

2009a). The FSA's 'Food and You' survey (Food Standards Agency, 2012b) examined the food safety and healthy eating attitudes, knowledge and behaviour of a sample of people in the UK. Common domestic food hygiene practices formed the basis of a 'composite index' which formed an 'objective' weighted risk of contracting foodborne illness on a scale of 0 (low risk) to 10 (high risk). It reports that older people aged over 75 years, and men in particular, were more likely to report not undertaking 'safe' food safety practices from a list of fourteen 'ideal' common domestic food hygiene practices compared to 33-45 year olds, but the reasons for this behaviour was not explored in the study. This shortfall has been recognised in the final recommendations from the ACMSF and the Social Science Research Committee (SSRC) to the FSA (Food Standards Agency, 2009a). These recommendations include exploring the social contextual factors in which food hygiene practices are performed, with the following specific recommendations:

'6.28: A study on the food handling behaviours of the over 60s, including those in vulnerable groups, in this age group is recommended in order to better understand factors potentially contributing to the increasing risk of Listeriosis' (p. 59).

'6.38: ..general advice should be developed and communicated to the over 60s (including those in vulnerable groups), as well as those who prepare and provide their food...' (p. 61).

These recommendations were taken up by the newly formed Listeria Risk Management Programme 2010-2015 within the FSA which aimed to explore consumer behaviours and actions, including carrying out studies exploring the actual domestic food safety behaviours in the over 60s (Food Standards Agency, 2010). The management programme objectives include expending efforts to target 'high risk' population groups, providing them with updated food safety advice (Food Standards Agency, 2010) in order to achieve a 'sustained reduction in the number of human cases of, and deaths from Listeriosis in the UK by 2015'

(p. 1). Current *Listeria monocytogenes* initiatives include sending staff working in hospitals, nursing and residential care homes a fact-sheet, although information provision alone is now thought to have limited effectiveness in inducing behaviour change (Foster and Käferstein, 1985; Nichols *et al.*, 1988; Curtis *et al.*, 1993; Ackerley, 1994; Redmond and Griffith, 2005; Brennan, McCarthy and Ritson, 2007; McCarthy *et al.*, 2007; Green and Tones, 2010; Milton and Mullan, 2010; Wills *et al.*, 2013). Clearly an increased understanding of consumer domestic food-related practices is an important aspect in tackling the transmission of IIDs.

2.3.2 Food hygiene practices

Domestic food hygiene practices are complex as they are dependent on many contextual factors. Practices differ according to the foodstuff, time and mode of purchase, transport, storage, preparation, cooking and consumption in the home setting. The complexity of food hygiene practices can be demonstrated by a recent study that asked survey respondents about a total of 55 different food handling practices that have a bearing on food hygiene, providing an indication of the diversity of possible food practices that can be performed (Fischer, Frewer and Nauta, 2006).

Attempts to simplify the range of food hygiene practices to aid health promotion campaigns have been addressed at international and national levels. Derived from the comprehensive Codex Alimentarius (World Health Organization and Food and Agriculture Organisation, 1962) covering all matters relating to standards of food quality, composition and safety (Boutrif, 2003), the WHO issued ‘Ten Golden Rules for Safe Food Preparation’ (World Health Organization, 1989) for public domestic use. This was then simplified to five rules, using the Hazard Analysis Critical Control Point (HACCP) system (Ropkins and Beck, 2000) (keep clean, separate raw and cooked, cook thoroughly, keep food at safe temperatures, use safe water and raw materials). These broad principles are captured in a poster, seen in Figure 3, as a form of health education and promotion, ‘Five Ways to Safer Food’ with the ‘tag-line’

‘knowledge = prevention’ despite it being an academically contested claim (Nichols *et al.*, 1988; Curtis *et al.*, 1993; Ackerley, 1994; Redmond and Griffith, 2005; Brennan, McCarthy and Ritson, 2007; McCarthy *et al.*, 2007; Wills *et al.*, 2013). The five principals from the WHO were adapted into the ‘4Cs’ Strategy by the FSA (Food Standards Agency, 2012c) which focused on even fewer tasks (cooking, cleaning, cooling and avoiding cross-contamination) in an attempt to simplify the food hygiene practice message further. This reduction of the range of practices to a ‘key’ number may allow for simple health education, but fails to capture the complex, nuanced nature of food hygiene practices (Wills *et al.*, 2015) as it ‘pulls apart’ and isolates behaviours’ (p. 124) removing them from the context and meaning of practice.

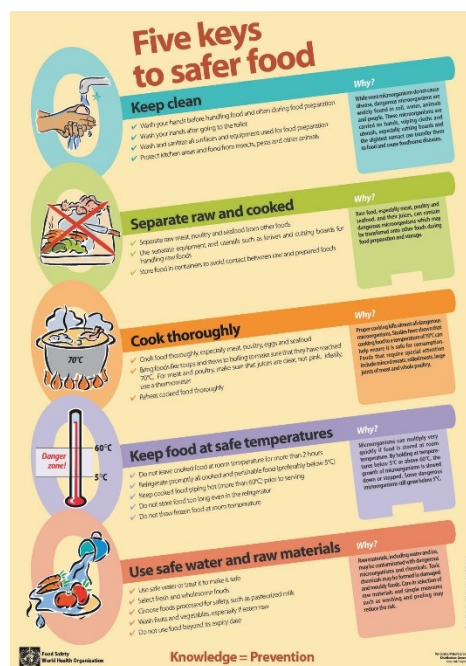


Figure 3: WHO food safety education poster (‘Five keys to safer food’ World Health Organization, 2015).

2.3.2.1 Learning food hygiene practices

Consistent with ecology theory (Bronfenbrenner, 1977; Bronfenbrenner, 1979), the natural learning environment of the home or ‘activity setting’ (Farver, 1999) offers a person the

experiences and opportunities to learn a variety of activities and tasks such as those around daily living, family routines and community celebrations and traditions (Dunst *et al.*, 2000) which are considered critical for successful development. This type of learning is classified as ‘situated learning’ and is particularly relevant to childhood where a child learns how to undertake certain practical and social tasks (Lave and Wenger, 1991). Situated learning has been defined (Dunst *et al.*, 2000) as;

‘learning that occurs in the context of real life experiences that happens day in and day out...that promotes acquisition of competence that is culturally rooted, functional, and makes increased child participation in these settings, both social and non-social’ (p. 152).

Situated learning contributing towards childhood development may be planned or unplanned, structured or unstructured and intentional or incidental (Rogoff *et al.*, 1991; Lancy, 1996; Göncü, 1999).

Research by Dunst *et al.* (2000) has identified that ‘cooking/preparing meals’ and ‘food shopping’ were two of over 20 activities identified within the ‘family activity setting’ that are important for child development, which is likely to include the associated learning of food hygiene practices. There may be varying levels of child or adult leadership in the task purpose (Dunst *et al.*, 2000) e.g. ‘adult activity in which a child becomes a participant such as cooking and food preparation’ (p. 160). In addition, learning to cook at home is contextually relevant and can therefore be categorised as deep-learning (Lindström and Eriksson, 2010). This type of learning also has elements of emotional and social intelligence (Gardner, 1985) as it may use inter-personal non-verbal communication (Green and Tones, 2010). It also involves a quality relationship between the teacher and student (Rogers, 1967) and a form of evaluation (absence of illness) is reinforced following every home-cooked meal. Active engagement with undertaking some food preparation tasks allows for hands-on active

participatory learning (Belbin, 1981) via a peer educator (Sciacca, 1987) such as a member of the family. In this way the learning of cooking skills, and possibly the associated food hygiene skills, are potentially incorporated in to family life, negotiated with others who share the same physical space (Wills *et al.*, 2015) and create a ‘melding of parent and child beliefs about the ‘best’ way to do things’ (p. 123).

Food practices are therefore complex, reflecting the historical learning environment in the home context and those who participate in cooking activities. This lack of contextual understand was recognised as a shortcoming by the FSA from their ‘Food and You’ report (Food Standards Agency, 2012b):

‘..Food and You is also limited in that it does not illuminate *why* respondents undertake certain practices or *why* these practices may differ across population groups’ (p. 110. Emphasis in original).

‘..sociological approaches proceed from the assumption that the ways in which risks are framed and acted upon are embedded in particular social contexts (p. 110).’

In light of the rise of Listeriosis in the over 60s, and the severity of those infections particularly in those aged over 80 years, the research presented in this dissertation aims to address the above subsequent FSA recommendations by exploring the causative factors that predispose older people to undertake both ‘safe’ and ‘unsafe’ food hygiene practices. This thesis will explore the historical and current social and health context of older people’s lives to increase understanding as to why older people undertake certain food hygiene practices related to *Listeria monocytogenes* and all other IIDs. To put this research in to context, attention will turn to a critical analysis of previous food safety research.

2.3.3 Food safety research

Previous food safety research can be placed in to five categories;

1) Establishing the level of risk-perception of foodborne illness, 2) establishing the food safety knowledge of the public or population subgroup, 3) the utilisation of socio-cognitive models, or their respective components, to explain or predict food behaviour, 4) the exploration of the source and perceived credibility of food hygiene safety messages and 5) research exploring the social context of food purchasing and consumption. The first four areas of research have attempted to understand or change lay perceptions or knowledge surrounding food practices to align with recommended practice, whereas the fifth area has been to understand the social context of food practices which could indirectly inform behaviour change initiatives. Literature falling into each one of these research categories will now be discussed.

2.3.3.1 Risk perception, food hygiene and the public

Public perceptions of risk (a situation involving exposure to a danger) and hazards (the causative agent that contributes towards the risk) incorporates myriad social, cultural, scientific, political and personal factors; however, the majority of food safety research has focused on how the public perceive food risk. It is then hoped that by increasing or altering the lay perception of risk that the public will change their food practices.

Most research surrounding risk has focused on food production technology from the areas of genetically modified foods and bovine spongiform encephalopathy and how the public deals with scientific uncertainty surrounding food risk presented to them through the media (Frewer *et al.*, 2002; Kuznesof and Brennan, 2004; McCarthy *et al.*, 2006). These studies surrounding food risk have examined the response to dramatic food crises related to a hazard in the food production chain. The public have been identified as having a greater level of

concern over ‘technological’ (e.g. pesticides and food additives) rather than ‘life-style’ related risks (food poisoning, nutrient consumption) (Miles *et al.*, 2004); the reverse of expert hazard perception (Brewer, Sprouls and Russon, 1994). This is a possible response to late modern society where issues of risks are on a vast scale due to a global economy and technological advances; extending beyond geographical and spatial boundaries (Lupton, 2005). Risks are therefore statistically calculated from an authoritative position; which is difficult to translate into certainty/uncertainty by the public and interpreted on a personal level (Hinchliffe and Draper, 2012).

Research has been undertaken surrounding the perceived risk from foodborne illness and how this large scale risk filters down to the personal level (Frewer, Shepherd and Sparks, 1994; Redmond and Griffith, 2003; Parry *et al.*, 2004). Optimistic bias (Weinstein, 1980) is thought to lead to people under-estimating the probability of becoming ill from food poisoning (Weinstein, 1987; Frewer, Shepherd and Sparks, 1994; Peterson and De Avila, 1995; Parry *et al.*, 2004; Redmond and Griffith, 2004) particularly inside the home (Frewer, Shepherd and Sparks, 1994), due to an illusion of control (McKenna, 1993). The perception of food safety risk is orientated according to the individual’s perceived vulnerability towards foodborne infections (Green, Draper and Dowler, 2003). The identified attitude of survivorship and invulnerability in the older population (Green, Draper and Dowler, 2003) may partly explain why older people have also been reported as being less likely to change their food purchasing and food storage behaviour in response to risk communication (a hypothetical foodborne infection outbreak) (Steelfisher *et al.*, 2013) although the reasons for this were not explored by the researchers.

The factors discussed above (focus on food technology risks, optimistic bias and perception of invulnerability) have been found to have implications for the receptiveness of people to domestic food safety communication where people may be ignoring communication or

dismissing it as irrelevant (Menon, Block and Ramanathan, 2002), hampering efforts to communicate risk and thereby failing to alter food-related practices. These barriers to effective communication may explain the a discrepancy between food hygiene safety concerns reported in the media (Sparks and Shepherd, 1994; Fife-Schaw and Rowe, 1996; Miles, Braxton and Frewer, 1999; Yeung and Morris, 2001; McCarthy *et al.*, 2006) becoming translated in to time expended in domestic food safety practices (Brennan, 2010). The issue of effective communication in the context of health promotion design, delivery and assessment is discussed in section 2.5.2.1.

Communication of a hazard has to be carefully balanced between attuning the message to personal relevance and mid-level arousal (alerting but not debilitating), (Yerkes and Dodson, 1908) as fear is known to inhibit behaviour change (Janis and Feshbach, 1953) without accompanying encouraging messages of self-efficacy (Green and Tones, 1999). Material from a 'fear arousal' 'Germwatch' health promotion campaign undertaken by the FSA is presented in Figure 4. The poster might be one example where striking the balance between heightening a sense of risk awareness, sensationalising it (within the format of a film poster) and communicating risk control to the reader can be challenging.

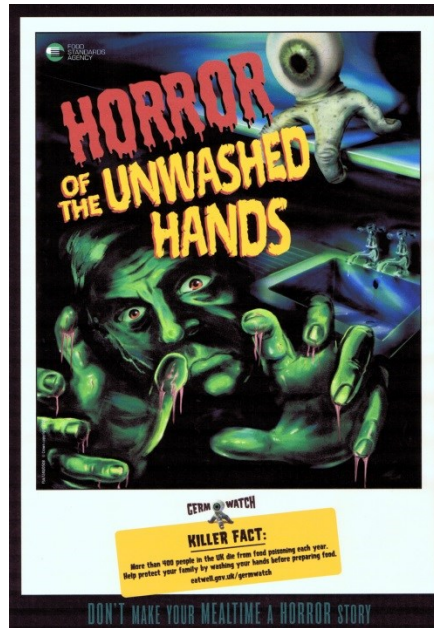


Figure 4: ‘Germwatch’ health education campaign to increase hand washing rates (Food Standards Agency, 2009b).

Contributing towards risk perception is the academic or professional biased perception of risk which has a direct impact on directing food safety research. Due to the higher incidence of IIDs in the older people, this population has been a particular focus of food safety research. This has led to a degree of ‘lifestyleism’ (Petersen and Lupton, 1996) and ‘victim blaming’ (Ryan, 1976) ignoring wider contextual conditions that may impact on food practices. For example, older people have been identified by some as a high-risk group for foodborne infections (Gerba, Rose and Haas, 1996; Gettings and Kiernan, 2001), from a cognitive and physiological viewpoint (Schiffman, 1997; Chandra, 2002) whereas in practice, observational evidence has also been provided to the contrary (Food and Drink Federation, 1996; Griffith, Worsfold and Mitchell, 1998; Redmond and Griffith, 2004). Furthermore, some (Johnson *et al.*, 1998; Hudson and Hartwell, 2002) assessed the food hygiene knowledge and practices of older people in their home, and identified multiple points of cross-contamination in the kitchen and ‘poor’ knowledge and practice, and Milne (Milne, 2011) undertook focus groups

to identify 'risky' behaviours. These researchers explored food safety knowledge in the older population only, and postulated that it was unique to older people whereas the findings could be more widely applicable to the general population. Hence academic perception of who is at risk may bias research results; symptomatic of a wider societal issue termed 'risk distributing society' (Beck, 1992) recently attributed to food practices (Meah, 2013) 'with all participants seeking to find ways of passing the responsibility on to someone else' (p. 4) whether they be academics, retailers, food producers until responsibility lands on the shoulders of the consumer.

Some researchers have aimed to categorise and understand population sub-types (Gerba, Rose and Haas, 1996; Kennedy *et al.*, 2005; McCarthy *et al.*, 2007) who are 'at risk' of contracting a foodborne illness. Gerba, Rose and Haas (1996) undertook a review of previous outbreaks of foodborne infections in the United States and concluded that the very young, elderly, pregnant women and the immunocompromised were at greatest risk, constituting 20% of the population. Both McCarthy *et al.* (2007) and Kennedy *et al.* (2005) assessed the level of food safety and science knowledge in Ireland and both concluded that young men (18-24 years in McCarthy *et al.* (2007) and under 45 years in Kennedy *et al.* (2005)) were at greater risk from infection. McCarthy *et al.* (2007) also found the at risk population were limited to primary level education, whereas Kennedy *et al.* (2005), found the opposite with men of higher levels of education being at greater risk. The at risk group in the study by McCarthy *et al.* (2007) also considered those over 65 years to be at risk, and when extrapolated, estimated that 13% of the population of Ireland were within this at risk group. When the at risk groups from all three studies above are combined it would suggest that large segments of the population could somehow be at risk, particularly when extrapolated to the 64 million residents of the UK (Office for National Statistics, 2012b).

There has been criticism of this approach from those undertaking this research themselves (Brennan, McCarthy and Ritson, 2007) in that ‘risk’ is an academic term, and that the purpose of food hygiene education seems to be to align public perception of risk with expert opinion (Kuznesof and Brennan, 2004) rather than improving food hygiene in practice. Risk research and communication may therefore be subject to the academic epidemiological definition of risk, which reflects a danger rather than chance of an event actually occurring. In contrast, Schröder-Butterfill and Morianti’s four domain framework for old-age vulnerabilities (Schröder-Butterfill and Marianti, 2006) presents risk without dismissive views of passivity and recognises that individuals have coping capacities to overcome the risk of a ‘bad outcome’ in daily life:

‘A person’s risk of suffering harm – her vulnerability – is the incremental outcome of a set of distinct but related risks, namely: the risk of being exposed to a threat, the risk of a threat materialising, and the risk of lacking the defences to deal with a threat’ (p. 3).

2.3.3.2 *Increasing consumer knowledge*

A second category of food safety research has been based on the premise that people may not be undertaking ‘safe’ food hygiene practices due to lack of knowledge on how to perform them. Informing people of the ‘correct’ practices through educational approaches (Barrett, Penner and Shanklin, 1996; Woodburn and Raab, 1997; Ropkins and Beck, 2000; Gorman, Bloomfield and Adley, 2002; Li-Cohen and Bruhn, 2002; Medeiros *et al.*, 2004; Gauci and Gauci, 2005; Azevedo *et al.*, 2013; Marklinder, Magnusson and Nydahl, 2013) is then presumed to be translated into changed domestic behaviours as if individuals exist in a social vacuum. There is increasing recognition that the traditional educational approach is ineffective at reaching some consumers (Redmond and Griffith, 2005) and does not necessarily translate into practice (Nichols *et al.*, 1988; Curtis *et al.*, 1993; Ackerley, 1994;

Brennan, McCarthy and Ritson, 2007; McCarthy *et al.*, 2007; Wills *et al.*, 2013). As Foster and Käferstein (Foster and Käferstein, 1985) eloquently summarise:

‘...human beings are not empty vessels in which correct information can simply be poured which in turn will eliminate undesirable customs’ (p. 1274).

A simple health promotion strategy that illustrates the underlying assumptions about how messages are translated into action is produced below. The annual FSA Food Safety Week focused on Listeriosis in the older population in 2007 and produced the following literature shown in Figure 5 which was reproduced in Giles (Giles, 2009). This campaign took a limited educational approach by reminding the reader of the need to use reading glasses only. The limitations of poor eyesight on practising safe food practices was echoed by a recent promotional campaign for the Royal National Institute for the Blind (RNIB), beneath in Figure 6. Although the FSA campaigns are clear and bold, they are rather simplistic in presuming that poor eyesight is the main cause of IIDs in the older population, and that people are unaware that they need to use reading aids.



Figure 5: Food hygiene educational material produced during food safety week in 2007 (Giles, 2009).



Figure 6: National Newspaper Advertising Award (NANA) winning RNIB promotional material from 2011(National Newspaper Advertising Awards, 2011) (Reproduced with permission from the RNIB).

As a result, there is a recognised knowledge-behaviour ‘gap’ between what people know and what they do. Furthermore, without a baseline assessment of national food hygiene knowledge it is impossible to know if knowledge is actually limited and what the minimum level of knowledge should be, consequently the effectiveness of any educational intervention cannot be evaluated. Indeed, some research suggests that the UK public are already in receipt of a considerable quantity of food safety advice (Redmond and Griffith, 2006a) but of varying quality and with indeterminable effectiveness.

2.3.3.3 The utilisation of socio-cognitive models

Originating from the field of psychology, a third category of food safety research has been surrounds the use of social cognition models (SCM). These fall in to two types, the first, models of behaviour, aim to explain, understand and predict an existing behaviour. Two examples are the Theory of Planned Behaviour (TPB), (Ajzen, 1991; Conner and Sparks, 2005), and those directly pertaining to health behaviour such as the Health Belief Model (HBM) (Hochbaum, 1958; Rosenstock, 1966; Rosenstock, 1974). There are also models that

relate to the process of altering behaviour such as the Transtheoretical Model of Change (Prochaska, DiClemente and Norcross, 1992).

These models of behaviour and health behaviour categorise a range of influencing constructs which consciously or subconsciously direct behaviour. Examples of these influencing factors are the expectation of a particular outcome (TPB) and the perceived benefits and barriers to adopting a healthy behaviour (HBM). Some recognise the influence exerted by social norms (TPB), whereas others lack this proposed influence and focus instead on the personal appraisal of threats to health and coping strategies available (e.g. Protection Motivation Theory) (Rogers, 1975). In comparison, models of behaviour change focus on the cognitive processes which influence an individual to shift between a number of stages which precede behaviour change such as 'consciousness raising' or 'precontemplation' (Koelen and van den Ban, 2004) in a non-linear manner. All of the models seek to characterise the thoughts and behaviour of individuals in terms of bracketed constructs and simple thought processes which can be represented diagrammatically and statistically analysed to predict actual behaviour.

These SCM or their component constructs, have been used to predict (Mullan and Wong, 2009; Mari *et al.*, 2012; Soon and Baines, 2012), and design (Jenner *et al.*, 2002; Mullan, Wong and O'Moore, 2010) food hygiene interventions using interdisciplinary expertise (Griffith, 2006). In return, self-reported behaviour (Nies and Laanen, 1995; Cody and Hogue, 2003; Takeuchi *et al.*, 2005; Dharod *et al.*, 2007; Unusan, 2007; Angell, 2008), observed behaviour (Redmond and Griffith, 2006b) and behavioural intentions (Nauta *et al.*, 2008) in relation to food hygiene practices have all been used to explore models of behaviour and behaviour change. The majority of the above studies relied on the self-reporting of behaviour change from participants with highly variable results, possibly due to the methodological issues discussed in the forthcoming section 2.3.3.6.

The component sections of SCMs could be thought as a form of reductionist thinking (Navarro, 1984), as empiricism or atheoretical pragmatism i.e. the ‘analysis of the variables without reference to their structural determinants’ (p. 473) which belittles the exogenous determinants of mental or spiritual health such as the quality of the physical environment, ethnic background and social relations. Furthermore, they readily overlook systems of formal and informal healthcare that by definition, exist to improve the health of individuals. There are therefore more complex structural elements that influence individuals’ health behaviour than are readily apparent in models of behaviour and behaviour change.

The simplistic structure of the SCMs may be related to their origins; derived from expected utility theory (Edwards, 1954) originating from mathematical formulae (Bernoulli, 1738), which then became incorporated into the discipline of psychology to predict behaviour and formulated into the ‘normative’ (Morrow and Brown, 1994) individual and collective health behaviour. The models suggest that people will consciously or subconsciously weigh up the costs and benefits of certain actions to act in their best interests, which can be converted into a mathematical variance of actual behaviour or their antecedents. These variance calculations are seemingly so unrelated to actual behaviour in real life settings that the value of them is questionable when other, more direct methods (such as observation) could be better indicators of actual behaviour.

The use of some SCMs have had mixed results (Mullan and Wong, 2009) when used to predict behaviour through the calculation of a percentage ‘variance’ used to estimate ‘intention’ (a construct precursor to behaviour in TPB for example) and self-reported behaviour. Considerable efforts are made by some to weight components of SCMs such as ‘past behaviour’ (Wong and Mullan, 2009) in the TPB model for example, to increase the percentage variance. This has been deemed preferable to concluding that whilst behaviours

are complex, SCM are simple and that models do not differentiate between individuals and instead attempt to represent a standard individual (Darnton, 2008) when studying behaviour.

Social norms, or environmental influences often only have a small part in health behaviour models and the importance of normative influences may have particular relevance when considering food practices (Mullan and Wong, 2009) as ‘normative influences may play an important role in behaviours which are performed publically or, which impact on other peoples’ health’ (p. 758). Consequently the importance of social norms as components to SCMs may show immense variability and be dependent on the context of behaviour which is not likely to be measurable through SCMs. It may be therefore that the above models could be used to aid heuristic thinking, as tools to try to understand more complex systems, rather than using them as empirical devices to predict behavioural outcomes.

2.3.3.4 Exploring the source and credibility of food safety messages

A fourth category of food safety research has surrounded the source and perceived credibility of the food hygiene message. The source and the mode of food safety communication are thought to be critical in instigating effective and sustained behaviour change. A review of sources of food safety (Redmond and Griffith, 2005), found that the public must trust the source of the information in order to consider changing behaviour. The message must also be provided from a convenient and appropriate location, such as a supermarket, making accessibility to the message a difficult balance with issues of credibility. Television cookery programme chefs were identified as a source of food hygiene information (Green and Tones, 2010) providing ‘edutainment’ (p. 374), as a convenient source for mass delivery of messages. Cooking programmes have also been viewed as an ideal medium for food hygiene health promotion (Griffith, Mathias and Price, 1994), and ‘a missed health education opportunity with respect to food safety’ (p. 18). However, television cookery programmes may raise awareness of food safety issues but have little impact on actual behaviour change at

best (Whitehead, 2001), or promote unsatisfactory behaviour at worst (Griffith, Mathias and Price, 1994; Mathias, 1999). Instead the same authors (Griffith, Mathias and Price, 1994; Mathias, 1999; Griffith, 2006) conclude that consumer-orientated food safety education should be pursued, tailored to the perceptions of the target audience, utilising social marketing techniques incorporating a multi-disciplinary approach which will be discussed in section 2.5.2.5. Others have considered that social and cultural factors could hamper the acceptance of food safety communication (Jacob, Mathiasen and Powell, 2010) but there has been little exploration on how the socio-cultural background of individuals could be positively harnessed to promote 'safe' food hygiene practice.

The studies outlined above have removed 'practices' from their geographical, social and temporal setting; isolated them from their meaning, value and the history that formed them. They have also looked at food practices from a 'deficit' perspective, focusing on deviance from recommended practice and personal responsibility deemed to be due to the ignorance of 'correct' practices (Meah, 2013). They have ignored the 'coping' mechanisms employed daily by individuals consistent with ecological approaches to health and fail to appreciate the wider health and social sphere that can influence compliance with 'safe' food hygiene practices. In contrast, a recent study funded by the FSA has looked at the sociological context of food practices and this will be discussed in the next section.

2.3.3.5 Understanding the social context of food safety research

The FSA funded 'Kitchen life' project report (Meah, 2013; Wills *et al.*, 2013; Wills *et al.*, 2015) was a study utilising sociological research methods to explore the utilisation of the kitchen space in terms of its users, practices and objects. It studied the interaction of those who used the kitchen space with others (family members, pets, visitors) and the fluid pathways of practice (Wills *et al.*, 2015); a 'constant flow or sequence of small events' (p.124) in daily life rather than isolated actions. Their ethnographic approach has helped

increase understanding of how practices develop to become habitual, or shift temporarily, or permanently, in response to physical or sociological change such as ill health, having people move in to the home or simply due to the installation of a new kitchen.

When food practices can be viewed as being embedded in daily life alongside the rhythm of other non-food related practices which take place in the kitchen (e.g. feeding a pet, homework completion, craft hobbies), it can be seen that:

‘Habitual practices often emerge from a scheme of reasoned and practical logistics in which food safety is but one dimension’ (Meah, 2013, p. 12).

Those not involved or witnessing the whole concert of action and their historical relevance, could see these isolated behaviours as illogical and irrational. Taking this sociological perspective also allows for the recognition that there are concerns that compete with food safety, for example, those surrounding the environment and food waste which may be ‘more significantly motivating factors than food safety’ (Meah, 2013, p. 12) for some, sometimes. Hence, judging an individual practice or set of practices performed without wider consideration of space, place, and the evolution of those events over time and with an understanding of the competing demands on behaviour will undoubtedly be insufficient.

2.3.3.6 Methods used to research food safety

The projects used to study food safety discussed above have relied on a range of methods and methodologies which have been framed by professional biases underpinned by ontological viewpoints and beliefs. The methods employed as a result of these perceptions can however lead to partial data and the reasons for this will be now be discussed.

The self-reporting of behaviour either through quantitative or qualitative data is problematic for a number of reasons. Firstly food safety research is hampered by the highly habitual nature of food hygiene practices. Habit is learned, automated and highly repetitive behaviour,

and is associated with unconscious action. Consequently, people may be unaware of what practices they undertake in the moment if not the very recent past as they are mundane and difficult to articulate (Power, 2003). Secondly, social desirability bias may influence some respondents to claim that some behaviours have been performed, or not, to conform to the expectations of 'the expert' or researcher, also known as the 'Hawthorne Effect' where behaviours are distorted as a result of being studied (Redmond and Griffith, 2003). Both of these issues are confounding factors (Redmond and Griffith, 2006b; Milton and Mullan, 2010) which are known to accentuate the lack of reliability of self-reported measures as indicators of actual behaviour (Griffith, Mathias and Price, 1994; McKenzie-Mohr, 2000). As an example, Milton and Mullan (Milton and Mullan, 2010) critiqued the evaluation methods (telephone/postal surveys, home visits, online surveys, observations, laboratory simulations and reviews) employed in a range of educational or psychosocial food safety interventions. Methods used in the studies explored were generally from self-reported questionnaires, and *all* studies reported an increase in post-intervention self-reported desirable behaviours of between 22.2-100% which gives the impression that all were a tremendous success (Milton and Mullan, 2010). However, reviewing the adjunct aims in other studies to assess food hygiene knowledge post intervention showed mixed results, and gaps in knowledge remained (Cody and Hogue, 2003; Medeiros *et al.*, 2004; Dharod *et al.*, 2007; Angell, 2008) suggesting that actual behaviour would likely be unchanged. When considering the knowledge-behaviour gap, self-reported behaviour is consequently a poor indicator of actual behaviour.

An alternative research method then to self-reporting is observational, drawing on visual methods to view 'actual' practices in a kitchen, either in the home or in a proxy environment. However, the use of these methods to explore food hygiene practices has been criticised as they may not collect routine habitualised behaviour due to issues of validity and interpretation and observer effects (Denzin and Lincoln, 1998a) whereby the researcher

influences the action of the study participant (Kidder and Selltitz, 1981; Adler and Adler, 1987). Indeed, in food safety research, observation merely highlights confounding issues of social desirability bias and the gap between self-reported and actual behaviour (Wills *et al.*, 2013). Observation in a laboratory setting are more controlled for extraneous variables for increased validity, but are less naturalistic and are therefore less reliable as exemplified in the study by Redmond and Griffith (Redmond and Griffith, 2004) who undertook an observation study (via a closed circuit television camera) focusing on preparation of a chicken salad in a controlled kitchen environment.

Ethnographic methodologies are another possible option for health researchers but rely on researchers finding willing-enough participants to allow the total immersion of a researcher into their homes and lives. Even so this approach still risks the influence of the researcher's presence on practices performed. The multi-method approach employed by those in the 'Kitchen life' project (Wills *et al.*, 2015), supplemented self-reporting methods with photo-elicitation and video-observation, engaging the 'participants' to become co-researchers, filming and taking photos of what was deemed relevant to them. This allowed the researchers to be as unobtrusive as possible, as the participants could film practices and activity at all points of the day, and night, when they would not have been granted access in person. This was considered effective by the researchers in overcoming the barriers of households whose occupants can only 'account for or explain the origin and relevance of *some* of the things that they *know* that they do.' (Wills *et al.*, 2015, p. 123. Emphasis in original) and that it would have been impossible to consistently mask behaviours performed by many people at multiple time points engaged with a myriad objects.

In summary, to address the FSA's call for research into the social factors that may contribute towards the increased rates of Listeriosis in older people, there is a need to expand the repertoire of methodological approaches available to the researcher. Those at greatest risk of

foodborne infections are those who are aged over 80 years, and therefore issues of existing health and sources of care provision provide an important health, policy and social context to the interplay of potential food hygiene assets available to the older person which will be the subject of the next section.

2.4 Issues of care provision for the older population

Although older age is not synonymous with poor health, information from the 2011 UK Census, reports that 50% of those aged over 65 stated that their health is not good and 52% of those aged over 65 have a long-term condition (Office for National Statistics, 2013a). It is therefore important to consider the care structures and networks that contribute towards maintaining the health and well-being of the older population which may have an impact on food provision and food hygiene. These are the formalised care structures and agencies that comprise social care, and the informal care that comes from the members of the social network, both of which will now be discussed.

2.4.1 Formal social care

Newman, Glendinning and Hughes (2008) characterise the structure of community adult social care services in the UK. Firstly, private citizens make a significant contribution towards paying for social care, through private purchase, co-payments and the 'unpaid' contribution made by members of the social network which will be discussed in the next chapter. This makes the boundaries between public and private care 'unstable and blurred' (Newman, Glendinning and Hughes, 2008, p. 533), particularly for those whose care needs are considered to be below the threshold to be eligible for publically funded services. The second characteristic is that of those who provide formal care, either the large, national profit seeking organisations who dominate the provision of care in residential and nursing homes, or the smaller, local organisation who provide domiciliary and day-care services from a range of charitable, voluntary and non-profit and for-profit organisation (Newman, Glendinning and Hughes, 2008). These smaller local organisation offer low pay rates, have a high staff turnover and therefore struggle to improve the skills and status of their workforce (Eborall, Fenton and Woodrow, 2010). Many of these small organisation fail to survive due to the challenge of balancing workforce turnover with the constraints and pressures from local

authorities whilst maintaining profits (Newman, Glendinning and Hughes, 2008). The last characteristic is the melding of relationships between those who ‘co-produce’ care, viewed by Daly and Lewis (Daly and Lewis, 2000) from the feminist perspective as an expression of the social relationship between care-giver and recipient and discussed by Fine and Glendinning (Fine and Glendinning, 2005) as an interdependent relationship. This is as relevant a characteristic in the caring relationship between those who give and provide formal care as it is when given informally by relatives (Newman, Glendinning and Hughes, 2008).

These characteristics of social care in the UK have been shaped by the ‘modernisation agenda’ proposing to move away from paternalism and bureaucratic models of service delivery influenced in part by the action of certain user-groups (e.g. disabled people, mental health service users and carers) (Priestley, 2000). This process of modernisation started with the New Labour government of 1997 (Scourfield, 2007) but more recently the government Papers ‘Modernising Social Services’ (Department of Health, 1998) and ‘Our Health, Our Care, Our Say’ (Department of Health, 2006) have been instrumental in the ongoing process of reform and modernisation of social care policy. The first Paper, (Department of Health, 1998) was concerned with strengthening services through inspection systems, joint working and improved training, while the second report (Department of Health, 2006) focused on service-user control, choice and preventative care. Individualism has come to the fore in this later Paper and initiatives such as direct payments and individual budgets became more widespread. This gives the service user the option of being the holder and manager of allocated finances in order to buy their own care enabling them to experience ‘independent’ living in their own homes (Newman, Glendinning and Hughes, 2008) through an underpinning philosophy of ‘personalisation, independence and choice’ for social care structures and care users (Newman, Glendinning and Hughes, 2008, p. 532).

Modernisation has heralded changes that causes a number of concerns for older people (Lymbery, 2010), two of which are the tensions between the narratives of consumer and citizenship for some older people. Direct payments and the more flexible cash-based individual budgets (Netten *et al.*, 2012) enables the service-user, supported by their family or others, to deploy these resources to purchase the care which most meets their needs after they have been assessed by the local social services department. This involves the ‘transformation of citizens into both managers and entrepreneurs in negotiating support and monitoring quality and control’ (Scourfield, 2007, p. 112). However, uptake of direct payments is low in the older population (Lymbery, 2010) with only 5.4% taking up this option and those who have are well-educated, affluent and middle class (Leece and Leece, 2006). This low-uptake may reflect the erroneous presumption that all older people are both willing and able to realise this level of control over their lives. Significant and accessible information needs to be provided to help people make these care purchasing decisions. Much of the information to guide care choices can be found on the internet and the ability in accessing this information may privilege already advantaged users and increase inequity (Loader, Hardy and Keeble, 2007). Furthermore, for some older people the sense of control offered by managing their individual budgets was offset by feelings of anxiety reported by those around them (Netten *et al.*, 2012). It may be that the real ‘choice’ that service users want is based on the time of care, of carer (continuity of care) and being flexible on tasks undertaken (Petch *et al.*, 2007). Hence older people may struggle to exercise the choice and control that is central to the personalisation agenda, particularly when it is not perceived to be central to their needs (Oldman, 2003).

The options for ‘choice’ are also further reduced by the limited amount of funds available. Social care funding has not matched the increases in NHS funding, despite the ongoing shifts in caring responsibilities across the NHS-social care boundary dating back to the second

world war and culminating in 2004 (Glendinning and Means, 2004). This has led councils to provide care to those who have substantial or critical care needs (Lymbery, 2010), allocating resources using local eligibility criteria. The Wanless Report (Wanless *et al.*, 2006) concluded that there is substantial unmet social care need, particularly for those with moderate care needs and that the current model of care will fail to meet the future needs of the UK population.

The Care Act (HM Government, 2014) is being implemented in April 2015 and seeks to redress some of the current issues in social care, for example placing the onus on local authorities to provide guidance on care provision and make the guidance available to everyone. Independent advocacy will also be available to those who are unable to understand the systems involved and there will be greater financial recognition of the contribution that carers make. Lastly, the statutory principle of well-being underpins the new Act and lays out how local authorities should ensure it remains central to the processes of preventative services (Skills for Care, 2015). The benefit of these changes remains to be seen.

2.4.1.1 Formal social care in sheltered accommodation

Those living in all forms of shared establishments (managed residential accommodation) such as sheltered housing and ‘extra care’ housing are likely to be greater users of formal care. The proportion of those living in shared establishments has dropped from 4.5% to 3.7 % of the general older population (337,000) between the 2001 and 2011 censuses (Office for National Statistics, 2013a). 84% of those living in shared establishments stated that their health was ‘not good’, which is above the national average (see Table 1).

Much of the literature surrounding those living in sheltered accommodation is old. The most recent study located (Field, Walker and Orrell, 2002), found that the mean age of 84 residents in three sheltered accommodation schemes was 80 years, and that 64% lived alone, 24% had

been diagnosed with depression, 8% with dementia and 90% of residents reported health problems. Reasons given for moving into sheltered housing were poor health of self or spouse, problems with old home (e.g. reduced mobility and stairs in their property) and wishing to have warden care or the security of an alarm. Sheltered housing has therefore been characterised as a bridge between fully independent living and residential care (Field, Walker and Orrell, 2002). The care provided by wardens therefore may or may not be available alongside home care as outlined above dependent on where the older person resides.

Research literature on the work undertaken by wardens in sheltered accommodation schemes from their own perspective is scarce. Boldy (Boldy, 1976) sought to examine the consistency of the role of wardens and Heumann (Heumann, 1980) studied the British model of warden care in sheltered accommodation to determine a warden role typology. Both studies identified expectations of the role which were; to act as an advocate for and to be a 'good neighbour' to residents, to organise social events and liaise with external care agencies, and family. Wardens were also expected to carry out domestic tasks at times when a resident was experiencing 'temporary illness'; in some cases to delay transferring a resident into full-time residential care. Wardens also held the role of 'unobtrusive observance' of tenants (Boldy, 1976, p. 64) to notice and alert others to a change in their tenants physical, social or psychological well-being as, in some circumstances, the wardens may have more regular contact with the residents during their daily rounds than any other member of their social network.

The balance between the professional and emotional 'distance' between the warden and older person was found to be critical in providing sufficient levels of support, monitoring and coordination with other agencies and network members whilst maintaining levels of independence and autonomy for the older resident (Heumann, 1980). However, both Heumann and Boldy found sheltered accommodation a setting of care of varying intensity. A

large proportion of wardens in Heumann's study (1980) voluntarily undertook additional tasks not required of their role to help the older people in their care. This may be as a result of the conflicting expectations of the wardens' role between residents, families and the management of the housing scheme. To avoid these conflicting demands, some wardens 'coped' by expanding the list of duties carried out and working very long hours. This was categorised by Heumann as those who 'overcare' by domination or by choice, capitulating to demands on their time.

The level of emotional connection between wardens and their tenants has been expressed in a number of ways. Wardens struggled to leave their tenants in the hands of temporary staff and reported a considerable emotional strain in feeling that they were permanently 'on call' which was not alleviated when they are officially 'off duty' (Boldy, 1976). This emotional connection between warden and resident has been identified to work both ways. Nocon and Pleace (Nocon and Pleace, 1999) examined the level of satisfaction that older people experienced in living in sheltered accommodation and found that the availability and the quality of the warden service was a key aspect in raising the tenants' satisfaction.

The discussion above provides a useful context of the personal interaction between the older person and those who provide formal care. The research undertaken above shows a merging of formal/informal care, with some wardens becoming members of the older person's social network, a more mutual reciprocal relationship found by Field, Walker and Orrell (2002). Here they may be attempting to balance the conflicting expectations of those who determine their role i.e. those who own and manage the accommodation and meeting the needs of those they care for and care about. These tensions between professional bias and personal perceptions linked to the warden role will be discussed further in section 5.5.1.

2.4.2 The informal ‘caring’ social network of the older population

In light of the increased provision of formal personal care in the community, there has been a trend for older people to stay in their own homes, with those aged over 65 living with an activity-limiting long-term health problem or disability and residing in non-communal accommodation increasing from 50% of the older population to 52% between the 2001 and 2011 censuses (Office for National Statistics, 2013a). The social network is the main source of informal care for older people, as carers themselves and for whom they care (Hirsch, 1979; Hirsch, 1980). As seen in Table 1, a large proportion of older people care for others (14%) and some (5.6%) expend a considerable amount of time caring for others. It has been estimated that the financial contribution that informal care makes to social care services is £87 billion (Buckner and Yeandle, 2007).

The social network as originally defined by Barnes (Barnes, 1954) Bott (Bott, 1957) and Mitchell (Mitchell, 1969) is one within which an (older) person is situated and describes the network or web of people that surrounds an individual and the characteristics of those ties (Mitchell, 1969; Laumann, 1973; Fischer, 1982). Informal care can be provided as a form of ‘social support’ (emotional, instrumental, appraisal and informational) (Weiss, 1974; House, 1981) from within the social network of the older person. The older person receiving care is not only being cared for, but is more likely to be ‘cared about’ (Parker, 1981) due to the strength and bonds of that relationship.

The impact of the size and the quality of social networks on health have been well documented since Durkheim’s work in 1933 (Durkheim, 1933). More recently a four domain model by Schröder-Butterfill and Morianti (2006) has presented social care from the network as a critical ‘coping capacity’ for many older people; protecting against a range of threats and vulnerabilities to ‘bad outcomes’. Indeed, causal relationships have been postulated between the care social support networks provide and the functioning of physiological pathways

(Cassel, 1976; Cobb, 1976; Seeman, 1996; Hawkley and Cacioppo, 2007), and psychological mechanisms (Berkman *et al.*, 2000) such as depression (Lin and Dean, 1986; Matt and Dean, 1993; Holahan *et al.*, 1995) especially in later life (Murphy, 1982; Shankar *et al.*, 2011). It is no wonder therefore that social engagement and participation have been linked to longevity (Blazer, 1982; Broadhead *et al.*, 1983; House, Landis and Umberson, 1988; Seeman *et al.*, 1993) and identified as one of the key elements for 'successful ageing' (Arber and Ginn, 1991; Bowling, 1991; Rowe and Kahn, 1997). Other have recorded how the quality of social contacts and the trust that people place in them helps people adjust to negatively stressful life events. Wethington and Kessler (Wethington and Kessler, 1986) found that perceived support (as hypothetical resource availability) rather than actual received support is key to buffering against stressful events. Recent research has suggested that good social networks are as important for health as not smoking, taking regular exercise and a moderate alcohol intake (Holt-Lunstad, Smith and Layton, 2010) and poor social networks have been linked to higher mortality (Cohen, 1988; House, Landis and Umberson, 1988; Berkman, 1995).

There is a considerable difference between the characteristics of the social network between men and women. Phillipson *et al.* (Phillipson *et al.*, 2001) report that women, on average, have larger and more diverse social networks than men (10.12 vs 8.18 people). Women also have more people they are closer to in terms of family and friends (Ross and Mirowsky, 1989; Antonucci, Akiyama and Lansford, 1998). Conversely men's networks are more related to work contacts (Stephens *et al.*, 1979; McFarlane *et al.*, 1981).

Being married is an important advantage for health and well-being for men (Pizzetti, Manfredini and Lucchetti, 2005) and related to a better social network (Grundy, 2006). There is evidence to suggest that the benefits of this caring relationship are mutual, with recent information from the English Longitudinal Study of Ageing (ELSA) (Wave 6) and reported in Beach and Bamford (Beach and Bamford, 2014) indicating that men aged over 85 years

are more likely to provide informal care for their spouses than vice-versa (14.8% vs 5.3%). This may be due to the fact that more women are likely to be living with a long-term condition than men over the age of 65, pre-decease their spouses and live alone (Health and Social Care Information Centre, 2014).

Differences in the social networks of men and women may have considerable consequences in later life when there may be a loss of accumulated network members, including spouses. The health benefit of being married for men is lost following bereavement with 30% more men likely to die in the five years following bereavement (compared to the normal risk of mortality) than women who show no change (Espinosa and Evans, 2008). This is compounded by the fact that the size of a man's network generally decreases with age, particularly after paid employment has ended and following bereavement (Bock and Webber, 1972) as wives have previously been responsible for maintaining social contact in their 'kin-keeping role' (Ajrouch, Blandon and Antonucci, 2005, p. S312). The decline in the size of the social network for women over 55 years of age is more steady as friends are lost, particularly in middle life when women may hold multiple care roles (children and older relatives) (Ajrouch, Blandon and Antonucci, 2005). Women also retain higher contact with their children than men (Greenwell and Bengtson, 1997) which may have implications for the degree of social support received by the sexes in later life.

Results from the last census (Office for National Statistics, 2013a) report that 29% of those aged over 65 (2.7 million people) are widowed, and 8.7% were divorced or in a dissolved civil partnership. The loss of marital relations through divorce or bereavement may render men with fewer social bonds to call upon in later life, with the majority of help being then received from children (Field, Walker and Orrell, 2002). However, an estimated 6% of older people have no children or siblings (Victor *et al.*, 2005b), and from the 2011 census 5.5% have never married or had a civil partner (Office for National Statistics, 2013a). It is also

likely that the effects of divorce on inter-generational relationships will influence the availability of the network, particularly between divorced fathers and their children (Tomassini *et al.*, 2004).

Phillipson *et al.* (2001) identified the composition of social networks and estimated that immediate family and other kin made up 76% of the social network, indicating the predominant network model has family at its core. The contribution of family to the care of older people has been recognised since Sheldon's work in 1948 (Sheldon, 1948). More recently, their positioning has been contextualised according to the 'convoy model' (Antonucci and Akiyama, 1994) which suggests that although the individual develops in time and holds specific roles, the people around them also experience the same influential life events and help the individual make sense of them. Family members are considered to be key members of that convoy and at the heart of the social network throughout the life course (Townsend, 1964; Brody, Poulshock and Masciocchi, 1978; Brock and O'Sullivan, 1985). Time spent with the family who hold a similar life-world experience, can allow for the development of intimacy and attachment (Berkman *et al.*, 2000) which can buffer against stressful life events. However, family relationships are dynamic, uniquely complex and the closeness of family bonds are determined by the past according to the social trajectory of the individual at the centre of the network. Consequently, the presence of family does not necessarily equate to comprehensive care of the older person (Thane, 2000).

There are thought to be complex principles that guide family relationships, surrounding concepts of independence, reciprocity and obligation (Nolan, Grant and Keady, 1996). Theories also suggest that past help given or received by family is reciprocal, whereby help could be 'banked' for future use. Therefore, if help has not been received from a parent, they are less likely to receive it back (Antonucci, 1985). In addition, request for help may be weighed-up against whether the help required is judged as 'deserving' and/or will be too

great a commitment (Finch, Finch and Mason, 1992). Consequently social support received from the network cannot be guaranteed as it is dependent on the strength and nature of existing ties and previous help given and received. In light of this uncertain support from family, friends are highly important in the social network, particularly for women, and can be viewed as the ‘families of choice’ for many (Pahl, 2000; Pahl and Spencer, 2004), providing companionship and emotional support (Kaye and Monk, 1992) whereas neighbours are best-placed to respond quickly in an emergency (Field, Walker and Orrell, 2002).

Contact with family and friends may not be at the level that had existed previously (Victor *et al.*, 2005b) or reflects ‘a deficit gap between the actual and described quality and quantity of social engagement’ (p. 358), which is categorised as subjective loneliness. This is related, but distinct from simply ‘being alone’. Data from the ELSA study (Wave 5 2009-10) report that 66% of those aged 52 and over stated that they felt never/hardly ever lonely and only 9% said that they felt lonely often (Office for National Statistics, 2013c). However, loneliness does seem to increase with age, with 46% of those aged over 80 (compared with 34% aged 52-80 years) reporting that they felt lonely often or some of the time. Predisposing risk factors for the objective measure of social isolation and loneliness have been identified (living alone, being female, health status, major life events such as bereavement and material circumstances (Victor *et al.*, 2000; Victor *et al.*, 2005b), which correlates with the recent ELSA study results (Office for National Statistics, 2013c).

Loneliness has been viewed as both a consequence *and* a cause of poor quality of life and physical health (Luanaigh and Lawlor, 2008), possibly due to an individual having reduced access to a social network, or little social support from that network. The efficiency of a network to provide support is related to the quality of the network, and if peers in a network are of equally low health, wealth and of the same age, then they too are likely to experience the same constraints (Schröder-Butterfill and Marianti, 2006). This may result in an increase

in loneliness across a network group, not just in one individual. As a result, reducing social isolation and loneliness in the older population is currently at the forefront of government policy (HM Government, 2012).

Informal care is dependent on the strength of bonds between those who provide and receive care with the ideal caring network providing all forms of social support to be available to the (older) person to promote health and well-being. In contrast, it could be viewed that formal care provision is based on the medical model in that it is directed towards those with the greatest physical need. The support for 'self-governance' (Newman, Glendinning and Hughes, 2008, p. 548) required for this current model of social care is argued to be currently lacking which is exacerbated by insufficient government funding and irregular eligibility criteria to secure care. This seems at odds with the transition to the preventative agenda and focus of early interventions advocated by the National Service Framework for Older People (Department of Health, 2001) and the 2005 Paper 'Independence, Well-being and Choice' (Department of Health, 2005) which sets out a vision for adult social care 'we provide services with an emphasis on preventing problems and ensure that social care and the NHS work on a shared agenda to help maintain the independence of individuals' (p. 9). Health promotion has the potential to maintain the health of older people and how this could be harnessed to reduce the incidents of foodborne illness will be the focus of the next section.

2.5 Designing health promotion for older people

2.5.1 Perceptions of health and well-being

Older people are less likely to describe their health using the traditional biomedical model. What appears to be more important to older people is the importance of ‘resilience’ and ‘coping’ functionally with daily activities, rather than the absence of acute or chronic disease (Secker *et al.*, 2003). The explanations for this framing of functional health over general physical or mental health may be due to a variety of subjective factors. The fear of ageism, or ageing, may cause some older people to stress their capabilities in maintaining independence rather than having people perceive them as a ‘burden’ to society, and so is a reflection of changing societal attitudes and subjective individual identity. Indeed, comparisons between an individual and their peers may also result in some older people making ‘upward’ or ‘downward’ comparisons between themselves and other people who are perceived to be physically in better or worse health. Downward comparisons to those in poorer health may lead to a ‘positive’ assessment in personal health, possibly linked to a historical lower expectation of health in later life (Victor, 2005a) and is an important predictor of quality of life (Bowling *et al.*, 2002) and possibly a protective factor against loneliness (Victor *et al.*, 2004). However, this level of subjectivity can make the study of older age difficult as it fails to capture the adjustments to self-perceptions made by older people to feel independent, aware that ‘perfect-health’ may not be a realistic standard in older age (Secker *et al.*, 2003). Furthermore healthiness does not necessarily equate to wellness (Buchanan and Seedhouse, 1996) and it has been argued that health is not the opposite of illness (Morris, 1998), as ‘health happens not so much in the absence of disease as in its presence’ (p. 241). It could be argued therefore that the holistic view of health is of even more relevance to older people than the traditional biomedical model, however an understanding of the framing of these

perceptions of the older person needs to be understood before health can be promoted to the older person.

2.5.2 The value of health promotion for older people

Ill-health has repercussions beyond physical symptoms; it can lessen the quality of life, well-being and mental health of people trying to cope with everyday life. Health promotion strategies can help with these issues by slowing the onset of disability, lessen the symptoms of diseases of old age and improve not just the quality, but also increase the number of healthy years lived e.g. Health Active Life expectancy (HALE) (Bone, 1992; Grimley Evans, 1998) or as Brenner and Shelley coin the adage in the title of their 1998 report ‘adding years to life and life to years’ (Brenner and Shelley, 1998).

The National Service Framework for Older People (Department of Health, 2001) advocates that health promotion should be targeted to the diseases of older age that show the greatest improvements in response to health promotion strategies namely: mental illness, heart disease, breast cancer screening, hypertension management and smoking cessation. In addition to these conditions, health promotion interventions can tackle healthy eating (Kelley and Abraham, 2004), increase strength and mobility (Kolt *et al.*, 2007; Rasinaho *et al.*, 2011), and reduce rates of falling (Kempton *et al.*, 2000; Yardley and Nyman, 2007) as well as providing a social outlet to reduce isolation (Cattan *et al.*, 2005). Health promotion is therefore an important adjunct to the traditional biomedical model of healthcare. As a result, Bernard (2000) suggests that a fourth pillar, ‘health preservation’, could be added to the health promotion tripartite arsenal of health education, health protection and disease prevention (Tannahill, 1985) which may have more applicability to the older person.

Health promotion as an ideology has aspirations beyond mere behaviour change. The aim is to have socially healthy individuals, who can act with independence and autonomy within

‘cohesive’ healthy societies (Forrest and Kearns, 2001), with all health choices available to them. Promoting health to the older person, like anyone else, is therefore an acknowledgement of their values and beliefs in order for them to increase their knowledge, skill and self-efficacy and becoming empowered to make their own decisions. It is the presence and utilisation of these health-promoting choices which are of paramount importance to those who could be classed as ‘vulnerable’ such as some older people, who may, by definition, have fewer choices available to them. These idealised wider values of health empowerment may, however, be at odds with the aims and objectives of those who construct and deliver health promotion initiatives, where there is a focus on disease prevention via behaviour change on a population or sub-population scale, and a resultant financial savings to health services (Laverack and Labonte, 2000).

Health promotion can therefore either be seen as an unending process, enabling an individual to strive to become ‘all that they can be’, reaching full spiritual, emotional and physical health and self-actualisation (Maslow, 1954) or the purposive targeting of one behaviour or set of behaviours to improve one or multiple aspects of physical or mental health. Independent of either goal is that health promotion can be viewed as a single or series of communication events between a health promoter and recipient either on an individual, population or intermediate scale (Koelen and van den Ban, 2004). At the heart of health promotion in its many guises and successes in realising its goals is therefore communication between people.

2.5.2.1 Health promotion as communication

Theories developed in the field of communication can help conceptualise and inform the content of the health promotion message. Berlo’s ‘Source, Message, Channel, Receiver Effect-Model’ (Berlo, 1960) postulates that an individual acting as the message source cannot help but be influenced by their own frame of reference, which may differ from the frame of

reference of the individual receiving the message. This in turn will influence whether the message is 'heard' and acted upon. Social Judgement Theory (Sherif, Sherif and Nebergall, 1965; Sherif, 1980) and work by Sears and Freedman (Sears and Freedman, 1971) suggest that an individual will only 'listen' to messages that are slightly different to their current beliefs and values which can be conceptualised to exist on a scale. If the message differs from that held by the receiver it will cause the uncomfortable position of 'social dissonance'. If the message is considered the same as the position they already hold it will become ambivalently dismissed as irrelevant, or rejected if vastly opposing. At this conceptual level, communication becomes interactional and meaning is created rather than simply transferred. The position advocated in the health promotion message therefore needs to be clear and targeted to an individual's or group of individuals' *range* of accepted beliefs and values. The likely beliefs and attitudes of the target population therefore need to be understood so that the health promotion message created can be similar, but not identical, to those of the receiver. Understanding the beliefs and values of those receiving the message is therefore critical to the success of a health promotion message, and is recognised by the WHO in their 'Outbreak Communication Guidelines' (World Health Organization, 2005):

'It is nearly impossible to design successful messages that bridge the gap between the expert and the public without knowing what the public thinks' (p. 6).

The intended audience for a health promotion message can however be one person, or the whole population thus requiring different types of communication.

2.5.2.2 Types of health promotion

Different types of health promotion campaigns can be placed within the conceptual categories presented in Beattie's typology matrix of health promotion (Beattie, 1991) presented in Figure 7. Beattie's typology is a two dimensional cross structure within which four broad

typologies of health promotion strategies can be placed. The mode of intervention forms a vertical scale that ranges from an authoritarian ‘top-down’ approach led by health professionals to the opposite end of the scale - a negotiated ‘bottom-up’ approach designed and implemented by lay community members. The horizontal dimension forms a scale on the focus of intervention, whether individuals are targeted or groups targeted collectively within the whole population or sub-population. Each of these will now be discussed in more detail.

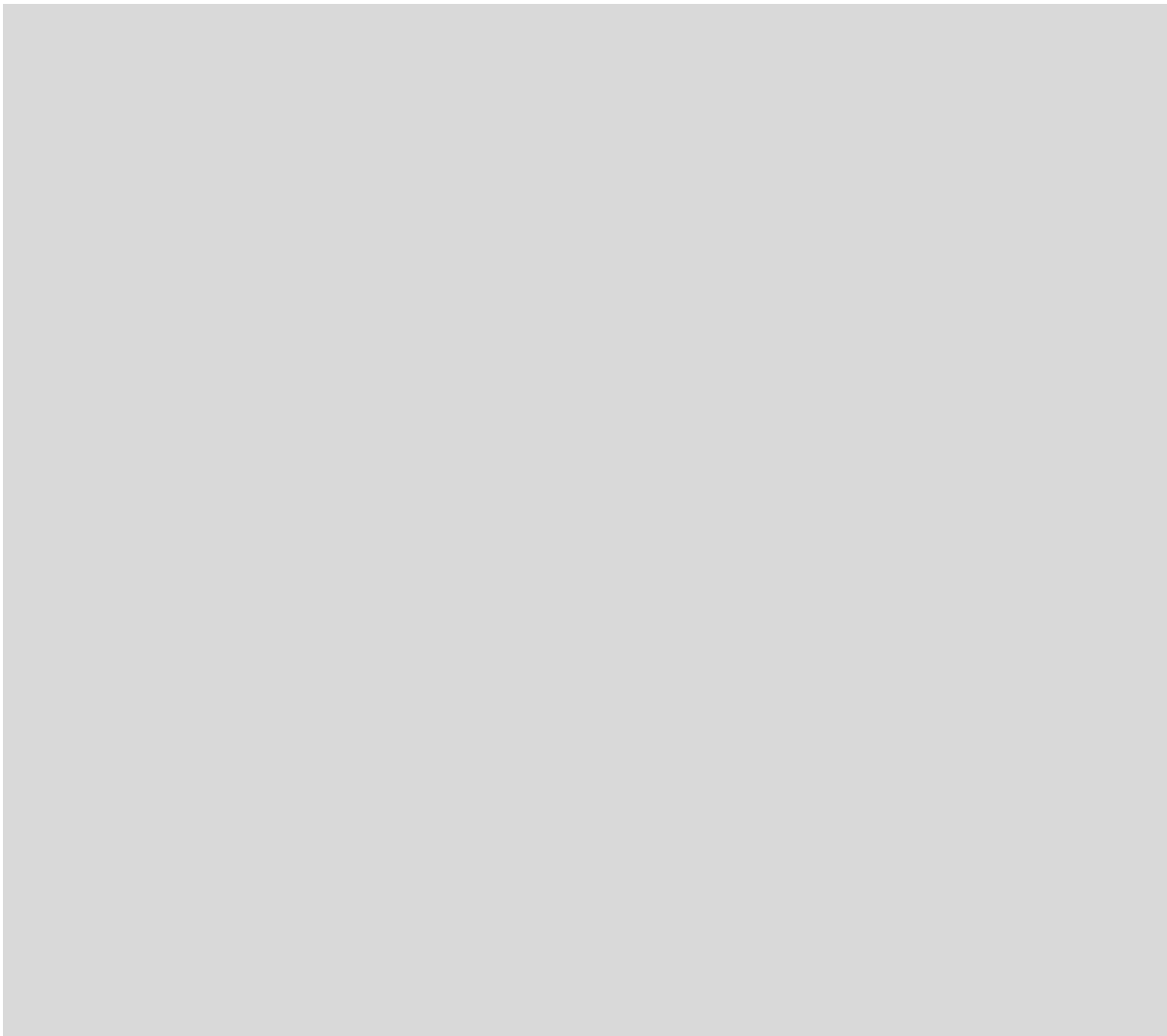


Figure 7: Model of health promotion typology (Beattie, 1991, p. 167).

2.5.2.3 'Authoritative' health promotion

Authoritative 'top-down' approaches are funded and developed by those in power, follow a predetermined cycle, have the capacity to reach a large number of people and therefore have the potential to be highly effective. The objective of the evaluation of an intervention is to obtain hard measures and objective variables (Raeburn and Rootman, 1988) to determine the impact and success of any health promotion initiative.

The health information provided can be in an attractive visual format, such as television advertisements, be delivered directly to the audience in their own homes, which may be of benefit for older people who have limited mobility and social sphere (Grajczyk and Zollner, 1998; Gabriel and Bowling, 2004). It may take the form of *educational* or *persuasive* communication where information is being imparted or individuals are being persuaded to adopt more healthy 'disease-reducing' behaviour (Tones, 1986). For example, interventions aimed at altering national public health policy at the legislative level would be situated within the 'authoritative' mode of intervention and within the 'collective' focus of intervention such as the smoke-free within buildings legislation implemented in England in 2007 following the 2006 Health Act (HM Government, 2006). Another recent example on the authoritative scale would be the national 'Act Fast' campaign from Public Health England (2009) estimated to have saved four thousand people from long-term disabilities following a stroke (British Broadcasting Corporation, 2015). However, as the message is impersonal and may not fit with the individual's frame of reference or social judgement scale, it may fail to influence the receiver and prove to be inefficient. Large-scale health promotion campaigns can be counter-productive, as there is a perceived constant stream of messages in modern society to which some people 'switch off'. There is a danger that the messages are just 'preaching to the converted' or will be viewed as paternalistic 'nagging' which some consider social regulation and control (Bunton, 1992). This is acknowledged by Jacob, Mathiesen and Powell (Jacob,

Mathiasen and Powell, 2010) in relation to food safety, ‘efforts to communicate are wasted if people already know the information or if the information is deemed irrelevant’ (p. 2).

2.5.2.4 ‘Negotiated’ health promotion

Diagrammatically and ontological opposing to the authoritative approach, the ‘bottom-up’ mode of health promotion aims to level power imbalances and increase advocacy to improve quality of life which may or may not include behaviour change. It can include personal dialogue in the form of discussion, counselling and one-to-one instruction to allow the tailoring of the message to the receiver’s specific needs; empowering an individual or those in a community who may not experience the same health concerns as those in authority. This is more consistent with the social model of health promotion as advocated in the Ottawa Charter (World Health Organization, 1986), rather than the lifestyle model central to the Lalonde report (Lalonde, 1974) (Raeburn and Rootman, 1988). This approach may therefore be more attuned to the perceptions older people have of health as previously discussed.

One particular form of personal dialogue, the *participation model* is the most congruent with the current ideology of health promotion. In this model both the (older) person and the health professional can work together to develop a personally relevant health promotion strategy tailored to the needs of the individual, goals and objectives agreed upon and trust established. This can also improve communicative/interactive critical health literacy (Nutbeam, 2000) whereby an individuals’ ability to participate in everyday activities is derived from different forms of communication, including socialisation skills (Freebody and Luke, 1990).

Due to the nature of the strategies originating from public groups, much of the work in this area is anecdotal or unpublished (Laverack and Labonte, 2000) and that which is published is likely to have some authoritative stakeholder group involvement. As an example, Middleton, Henderson and Evans (Middleton, Henderson and Evans, 2013) report on their experiences in

implementing a community-based obesity prevention programme in the North East of England involving health professionals and those from local authorities working alongside some community members. Due to this programme using community leaders, but also having strong stakeholder influence, the authors concluded that ‘some of the programme’s activities had little significance for people in the community due to other socio-economic issues’ (p. 207) which the stakeholders had overlooked.

Personal or community-led health promotion initiatives may be expensive as they can take longer to implement and deliver due to consultations with the community. Stakeholders and funders have obvious concerns with the effectiveness and cost-effectiveness of an intervention, and various levels of monitoring and evaluation are carried out during and after the implementation such as ‘process’ (e.g. intervention activities), ‘impact’ (e.g. intermediate changes in behaviour) and ‘outcome’ (e.g. distal long-term changes to policy and health/well-being status) evaluation (Judd, Frankish and Moulton, 2001). The evaluation methods can be qualitative or quantitative, which then hark back to the underlying philosophical persuasion of those stakeholder and health promoters involved. For example, in the study by Middleton, Henderson and Evans (2013) the differing stakeholder groups had different ideas on what and how outcomes should be measured; health professionals seeking measurable targets and community leaders frustrated that some benefits were unseen or unrecognised.

Thus there is a tension between authoritative and negotiated modes of health promotion (O’Neill, 1989) related to their philosophical positioning; the financial and policy demands of the authoritative and the idealised emancipatory discourse and ideology of the negotiated approach (Laverack and Labonte, 2000). This tension is also a contested topic at the operational levels (Tones, 2000). Epidemiological methods used to direct authoritative health promotion approaches not only differ in scale from the negotiated, but also the underpinning beliefs and attitudes which guide the design, delivery and evaluation of an intervention.

Epidemiological approaches aim to study, measure and characterise large numbers of people from more positivist paradigms using quantitative measures, whereas negotiated health promotion initiatives are more likely to be from a postpositivist interpretative paradigm, placing a higher value on the societal life of an individual and their unique nuanced circumstance of daily life. Some studies (Kelley and Abraham, 2004; Yardley and Nyman, 2007) have used randomised controlled trials (RCT) to assess the effectiveness of their interventions, but some would argue that RCTs are not suited to health promotion as interventions are highly complex, multifactorial and ‘human volition cannot be controlled’ (Tones, 2000, p. 228). Efforts to combine a thorough understanding of the target population with the benefits of the authoritative mode of mass communication have led to the development and use of models of behaviour and behaviour change, as discussed in section 2.3.3.3, and the methods employed in social marketing.

2.5.2.5 Social marketing

Social marketing is an increasingly popular approach in directing health promotion messages to a target sub-population and has resulted in the establishment of the Social Marketing Institute (Green and Tones, 2010). Social marketing was proposed by Kotler and Zaltman in 1971 (Kotler and Zaltman, 1971) from a combination of commercial marketing practices, which has been informed by interdisciplinary bodies of knowledge such as psychology and sociology. It aims to change the behaviour and its antecedents (knowledge, beliefs, ideas and perceptions) of a ‘consumer’ group through audience segmentation based on their ‘lifestyles’ and behaviour rather than demographic variables. This approach is argued to increase the effectiveness and efficacy of health promotion initiatives (Bryant and Salazar, 1998; Forthofer and Bryant, 2000).

Andreassen (Andreassen, 1994) defined social marketing as:

‘...adaptation of commercial marketing technologies to programs designed to influence the voluntary behaviour of target audiences to improve their personal welfare and that of the society of which they are part’ (p. 110).

The underlying elements of social marketing are similar to other marketing techniques and comprise ‘exchange’, ‘value’ and ‘competition’. Exchange refers to the exchange between the consumer and the agent in terms of equitable benefits; that the agent (e.g. the advocator of safe food hygiene practice) has to have something that the consumer wants, and that the benefits in attaining the entity (e.g. ‘safe’ food hygiene practices) are worth the additional expenditure in time and effort in changing their current behaviour, which is the ‘competition’. Social marketing research is also used to identify potential benefits of behaviour change by utilising the ‘Marketing Mix’ of the ‘4Ps’; product, place, promotion, and price (Green and Tones, 2010).

Examples of the use of social marketing in health promotion campaigns are many and various. A systematic review of the use of social marketing across a spectrum of public health concerns such as alcohol, tobacco and drug use and physical activity and concluded that it was a promising approach (Stead *et al.*, 2007). However, the authors acknowledged the methodological limitations of utilising randomised controlled trials as a measure of effectiveness to capture the wider impact on policy or community empowerment which may not have been evident.

There have been calls to use social marketing to make food hygiene health promotion/education messages personally relevant (Redmond and Griffith, 2005; Jacob, Mathiasen and Powell, 2010) by understanding the knowledge, attitudes and perceptions of the individuals within the target health promotion population (Jacob, Mathiasen and Powell, 2010). However, few food hygiene health promotion campaigns using social marketing have been identified. One sought to increase the use of fridge thermometers in the U.S. by

suburban families in the ‘Thermy the Thermometer’ campaign (US Department of Agriculture Food Safety and Inspection Service, 2004). This two week intervention took place in community centres and aimed to increase the use of thermometers when cooking meat for children, with short-term moderate success. Redmond and Griffith (Redmond and Griffith, 2006b) also undertook a pilot study to determine the effectiveness of a ‘consumer orientated, data driven social marketing approach’ (p. 755) via observation on a sample and control group producing the same meal upon three occasions in a laboratory kitchen setting. No details of the intervention were provided by the authors, and the initial improvement in food practice had not been sustained after 4-6 weeks. In light of these results, and the constraints of the methodological approaches involved (see section 2.3.3.6) the long-term success of the intervention is questionable.

The causes of this possible lack of success in using the social marketing approach in the context of food practices could be explained by the work done by Hastings (Hastings, 2007). Hastings developed a cost versus benefit matrix, consistent with the principals with the Health Belief Model (Hochbaum, 1958; Rosenstock, 1966; Rosenstock, 1974), highlighting that a change in behaviour will only occur if the perceived benefits outweigh the associated ‘costs’. Those behaviours that were situated in a quadrant of the matrix associated with high cost/intangible benefit are deemed the most difficult to address (Green and Tones, 2010) and ‘may need to rely on moral persuasion and social influence rather than marketing’ (p. 383) which is likely to be an issue in ‘selling’ a new food practice behaviour. In addition, the ‘place’ referred to in the 4Ps referring to the ‘location of sales and service encounters’ (Grier and Bryant, 2005, p. 323), e.g. where the health promotion intervention takes place could also be problematic in the older age group. The place of health promotion is usually ascertained following the identification of the ‘life points’ of people (Grier and Bryant, 2005) by social marketers; a location that the target audience happens to visit and congregate on a regular

basis as part of their daily lives. Identification of a specific locale where older people gather outside of the home may be a particular challenge, especially if they are frail, infirm or in poor health.

There have been critiques (Rothschild, 1999; Merritt, Christopoulos and Thorpe, 2009; Smith, 2009; Luca and Suggs, 2010) of the role that social marketing plays in the field of health promotion, not due to the practices involved in the design and delivery of the health promotion message but due to the underlying values and ethos that separates the two as per the discussion above. However, some social marketers (Kotler, Roberto and Lee, 2002) 'resent the notion that social marketing has the same motivations and therefore the same processes as those found in organisation for profit' (pp. 21-22) and exert the claim that social marketers 'sell' behaviour change for the welfare of the individual, group or society and not for financial profit.

Social marketing has been accused of being paternalistic, even though it claims to be consumer-led (Grier and Bryant, 2005), as behaviour change is the core aim whereas health promotion seeks to create a supportive environment and to enhance individual capacity by levelling power balances, possibly using behaviour change as an instrument to achieve it (Green and Tones, 2010). Whereas some have viewed the opposing ideologies underpinning the two approaches to health promotion as a fundamental barrier to collaboration, others have attempted to find a common ground on the combined goal of trying to understand the beliefs and values of the target audience (Griffith, Blair-Stevens and Thorpe, 2008).

2.6 Conclusion

The first section of the Literature Review has provided a background to the current demographic profile of the heterogeneous older population and argued that it is as a result of complex historical and current health, social and employment policy and conditions. The older population are considered to be more 'at risk' of foodborne infections, in particular to *Listeria monocytogenes* infections with those aged over 80 years experiencing the highest mortality rate. The structures and provision of both formal and informal care could therefore impact on the ability of the frail older person to manage food provision in their own homes and this was the focus of the third section in this chapter. Issues of care availability, consistency and reliability have been discussed across both formal and informal care structures.

Little is known about the conditions and historical experiences that underpin current food hygiene practices in the home and the resources that older people draw upon to protect themselves against the risk of foodborne infection. There has been a discussion on the range of food safety research conducted to date which has predominately focused on isolating food practices from the socio-economic and health context which surround them. It has been argued that there is a need to understand this context to inform food hygiene health promotion to reduce the numbers of *Listeria monocytogenes* infections. It has been postulated that this contextual understanding would be best applied to negotiated health promotion interventions which may be more suited to the perceptions of health held by older people and may have greater efficacy in reducing foodborne infections. This section also critiqued of the methodological approaches applied to previous food safety research and argued that there is a need to expand the range of methods available to the academic researcher.

The asset model (Morgan and Ziglio, 2007) will provide the theoretical framework through which to explore the resources that older people draw upon to protect themselves from the

risk of foodborne infections in order to develop targeted health promotion interventions. This will also provide the opportunity to explore the use of the model as a new methodological tool and critique the alignment of the model to different ontological approaches to health promotion.

3. Part Two: Chapter Three: The Asset Model

3.1 Introduction

The first chapter in the second part of this dissertation presents the asset model which provides the theoretical framework to the thesis. The chapter will include an overview of the model followed by a discussion of the component sections (A-C), their historical theoretical roots and the relevant previous research pertaining to each. The final section will critique the model as a whole and provide supporting rationale for its selection as the study's theoretical framework and incorporation into the aims and objectives which follow.

3.2 Model overview

The asset model represents a positive approach to view health by mapping (Morgan, Davies and Ziglio, 2010) and ‘synthesising evidence’ (p. 8) of existing ‘assets’ available to support health, well-being and policy decisions for individuals, communities, organisations and institutions. It has been suggested that an asset-based approach is compatible with, and complementary to the more traditional ‘deficit’ biomedical approach of viewing health which, if employed concurrently, could improve health and reduce health inequalities (Morgan and Ziglio, 2007).

Many definitions of what constitutes an ‘asset’ exist, from the more ‘medical’ (Kolm, 2002), to the most broad (e.g. Morgan and Ziglio, 2007, p. 18), but for the purposes of this research the personal perspective of assets will be used (Rotegård *et al.*, 2010):

‘Health assets are the repertoire of potentials - internal and external strength qualities in the individual’s possession, both innate and acquired - that mobilize positive health behaviours and optimal/wellness outcomes’ (p. 514).

Assets are therefore resources for health; they are potentially available to everyone but actually only available to some and some may deploy or mobilise them more readily and skilfully than others.

The emergence of the model in recent years has aimed to improve health by reducing health inequalities through activating capacity and capability-based solutions (Morgan, Davies and Ziglio, 2010) which may already exist within people, communities and organisations. It is anticipated that the public health evidence-base will be strengthened by identifying health preserving factors which could be used as both targets *and* evaluation outcomes in public health interventions. The focus on assets also has the additional perceived economic benefit of mobilising existing resources thereby enabling people to be ‘co-producers of health’ rather

than consuming expensive health care services; an attractive proposition in times of austerity. The developers of the model shown in Figure 8 consequently have broad ambitions:

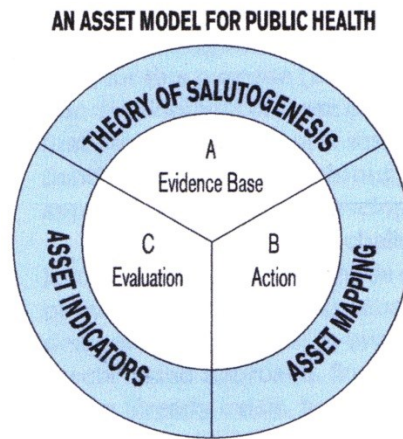


Figure 8: The Asset Model (Morgan and Ziglio, 2007, p. 19) (Reproduced with permission from SAGE Publishing).

The asset model shown in Figure 8 comprises three component sections. Section ‘A’ represents the ‘Evidence-base’ for the model which has been derived from the theory of salutogenesis (Antonovsky, 1979; Antonovsky, 1987), literally meaning ‘that which gives birth to health’ (Judd, Frankish and Moulton, 2001, p. 369). This salutogenic evidence-base will identify health promoting/protective factors and the ‘actions necessary to create the conditions for health’ at the individual or group level (Morgan, Davies and Ziglio, 2010, p. 7). Section B in the model is labelled as ‘Action’ which relates directly to community asset mapping (McKnight and Kretzmann, 1993). This is a proposed tool for ‘measuring and *diagnosing* community capacity’ (Morgan, Davies and Ziglio, 2010, p. 6. Emphasis added). It is hoped that by building an inventory of assets within a community and the interconnections between them, it will be possible to implement actions to foster and/or promote access to the identified assets and thereby improve health. Lastly, section ‘C’ refers to ‘Evaluation’ by way of ‘asset indicators’ which refers to the establishment of measures that can list the range and

worth of assets pre- and post- a public health intervention or action and establish an evaluation framework to assess the efficacy of that intervention or action.

Those who designed the model envisaged that it:

‘outlines a systematic approach to asset based public health which can be used to provide scientific evidence and best practice on how to maximise the stock of key assets necessary for promoting health’ (Morgan, Davies and Ziglio, 2010, p. 13).

For the purposes of this research, the term ‘stock of key assets’ has been interpreted as reference to section C on the model, as a list or inventory of assets (which could be used as ‘indicators’) held by an individual, community, organisation or institution.

Each of the three component sections of the assets model will now be discussed and critiqued arguing that the asset model, rather than the ‘asset-based approach’ (expanding the salutogenic evidence-base, section A) may be public health dressed up in different positivist biomedical clothing, as belied in the quote from Morgan, Davies and Ziglio, 2010 (p. 61). This study will inquire if the asset model as it stands (particularly sections B and C) is applicable to the more holistic and dynamic aspects of health and health promotion theory and practice as represented in Beattie’s health promotion typology (Beattie, 1991) as presented in section 2.5.2.2.

3.3 Section A: Salutogenesis

3.3.1 Historical and theoretical roots of the asset model

Section 'A' of the assets model proposes that the theory of 'salutogenesis' (Antonovsky, 1979; Antonovsky, 1987; Antonovsky, 1996) should be the underpinning theory which drives the establishment of a public health evidence-base. The researcher has interpreted the term 'salutogenic evidence-base' as the accumulated research knowledge resultant from studies in a variety of health, socio-economic, cultural and ethnic contexts of specific population groups to determine which factors or resources (assets) contribute towards the maintenance and promotion of health i.e. 'salutogenesis' (both the process and outcome).

Antonovsky's theory of salutogenesis sought to understand the origins of health and identify how some people were resistant to the stressors experienced throughout life and remain well, where others were not. Referring to the laws of thermodynamics, Antonovsky viewed the complex human system as 'inherently flawed, subject to entropic processes and unavoidable death' (Antonovsky, 1996, p. 13). He sought to find out how some people overcome these odds to stay well and to redress the balance away from pathogenesis (the cause of illness/disease) towards 'salutogenesis' (the maintenance of health). Salutogenesis is therefore a broad, interdisciplinary theory or concept but has more specific and 'measurable' conceptual elements embedded within; an individuals' Sense of Coherence (SOC) and General Resistance Resources (GRRs) (Antonovsky, 1987; Antonovsky, 1996) which work together to maintain health and promote salutogenesis.

Antonovsky's initial work on the survivors of the Holocaust (1979) led to the postulation of the concept of the SOC; a measurable, internal, changeable, personal attribute which is developed through life experience. The SOC is proposed to work in parallel with the availability and under the influence of the GRRs, which allows individuals to identify and mobilise resources to find solutions and ways of coping in order to promote health. It is

postulated that the SOC helps individuals to make sense of life by making it ‘comprehensible¹, manageable² and meaningful³’ (Antonovsky, 1987) in the following linked interaction:

‘The sense of coherence is a global orientation that expresses the extent to which one has a persuasive, enduring though dynamic feeling of confidence that 1) the stimuli deriving from one’s internal and external environments in the course of living are structured, predictable and explicable 2) the resources are available to one to meet the demands posed by these stimuli; and 3) these demands are challenges, worthy of investment and engagement’ (p. 19).

Antonovsky considered ‘meaningfulness’ as central to the SOC as it provides an individual with the motivational force to view challenges and demands as worthy of physical and emotional investment (Antonovsky, 1987).

Antonovsky’s background was in survey research (Antonovsky, 1996) and so it is unsurprising that the concept of SOC has since been developed into a measurable ‘tool’, a SOC ‘scale’ determined by the internationally recognised and validated (in thirty two countries in thirty three languages) ‘Orientation to Life Questionnaire’ (Lindström and Eriksson, 2005; Lindström and Eriksson, 2006). A strong SOC has been found to be associated with perceived good health, especially mental health, mainly through quantitative but very few qualitative studies (Suominen and Lindström, 2008). Criticisms of the SOC surround its lack of distinction to health itself, particularly mental health, and that there is no evidence suggesting how the SOC is developed in early life nor how it endures throughout the life course (Suominen and Lindström, 2008).

The second major element to salutogenesis is the concept of the General Resistance Resources (Lindström and Eriksson, 2010) which have been defined as:

‘biological, material and psychosocial factors that make it easier for people to perceive their lives as consistent, structured and understandable’ (p. 33).

Categories of GRRs include; knowledge, experience, social support, intelligence and money when available in moderate amounts (Suominen and Lindström, 2008). It is the presence and availability of the GRRs which is postulated to shape life experience and mould an individual’s SOC.

The direct link between salutogenesis and assets is unclear (Whiting, Kendall and Wills, 2012), but it has been postulated that GRR relate to external assets that lie outside the individual and SOC to one aspect of internal assets that mobilise self-awareness (Rotegård *et al.*, 2010) to ‘release one’s health assets’ (p. 520). Researchers studying an individual’s SOC or GRRs have considered them to be quantifiable and generalizable to aid comparisons with other people, groups and contexts. The SOC and GRRs are however single elements which are subsumed by the wider-encompassing positive, holistic and interdisciplinary salutogenic perspective (Suominen and Lindström, 2008).

Concurrent with the conceptualisation of salutogenesis was the emergent recognition of the importance of the psychological and spiritual aspects of health (World Health Organization, 1946) as health is ‘...not merely the absence of disease or infirmity’ (p. 2006). This increased prominence in emphasis prompted a rise in academic theorising of holistic health and the impact of social relations on health as exemplified in constructs such as social capital (Bourdieu, 1986; Coleman, 1988; Putnam, 1993) and social support (Weiss, 1974; House, 1981). In addition, the impact of the economic (Black *et al.*, 1980; Acheson, 1998; Marmot *et al.*, 2010) and the natural and built contextual environment on health came to the fore in systems theories such as ‘Ecological Systems Theory’ (Bronfenbrenner, 1977; Bronfenbrenner, 1979; Kickbusch, 1989). The paradigm shift in appreciating the context of health was also reflected in notable international reports such as the Lalonde Report

(Lalonde, 1974) and the subsequent development of the field of health promotion by the publication of the landmark Ottawa Charter (World Health Organization, 1986).

The theory of salutogenesis was proposed by Antonovsky during this era of increasing interest in the context of holistic health; building upon other theoretical frameworks to generate the key themes of SOC and GRRs (Antonovsky, 1979; Lindström and Eriksson, 2006). Antonovsky recognised (Antonovsky, 1987) the similarities between the five most similar constructs ‘Hardiness’ (Kobasa, 1982), ‘Sense of Permanence’ (Boyce, Schaefer and Uitti, 1985), ‘Resilience’ (Werner and Smith, 1982), and to a lesser extent ‘Domains of the Social Climate’ (Moos, 1984) and ‘The Family’s Construction of Reality’ (Reiss, 1981) with the three components of the SOC and went as far as to produce a table (Antonovsky, 1987, p. 48) indicating key words and themes that drew parallels with salutogenesis. These similar models or concepts of health both precede and post-date salutogenesis, but differ in terms of the discipline from which they originate, how they are measured and the factors which prompt their emergence or development i.e. presence of risk or adversity or in times of stress. Salutogenesis is therefore just one theory with a positive approach to health that emerged concurrently with a range of public health theories and concepts that link all forms of health with the environment, economic and material resources and other people.

The authors of the asset model drew on the term ‘health assets’ utilised by the WHO European Office for Investment in Health Development (Harrison *et al.*, 2004) but have not clearly expressed why they have chosen salutogenesis as the underpinning theoretical basis and not one of the above related concepts. Furthermore, some of the outputs originating from these alternative theories have also been classified as an ‘asset’ and used as a variable in asset research (see section 3.3.2.2) suggesting a strong overlap between the similar concepts of both assets and salutogenesis.

3.3.2 The salutogenic evidence-base using the ‘asset-based’ approach

Much of the limited asset research identified by the researcher has drawn on elements of the asset model rather than using it as a whole. For example, much of the asset work has focused on measuring assets (as specific resources) alongside socio-demographic variables and then statistically correlate these with ‘risk’. These studies have been self-classified as taking an ‘asset-based approach’ mainly drawing on section A of the model (see section 3.3, p. 61), seeking to expand the salutogenic evidence-base. They have not necessarily mapped assets at the community level (as per ‘section B’ of the assets model) but have sought to link pre-defined assets and their relationship to health behaviour in certain population groups. They have also fallen short of implementing the identified assets as indicators, or suggesting how they can be utilised (as per section C of the model) for the assessment of public health interventions. The range of studies identified have been categorised to aid discussion.

3.3.2.1 Developmental assets

The majority of research on health assets has been on the identification of childhood and adolescent assets and their statistical correlation with behavioural indices and demographic variables. The origins of this work have been identified (Whiting, Kendall and Wills, 2012) at The Peckham Experiment (Barlow, 1985), instigated by Williamson and Pearse in 1926, in the Pioneer Health Centre in London. The experiment sought to observe how the family, as part of the environment, had a positive impact on the physical and mental health and development of the child.

The expansion of the field of developmental assets for children was then undertaken by the Search Institute (Search Institute, 2006) whereby a list of forty developmental assets constructed from a survey of four million children in the United States were considered critical in the healthy maturation of a child. An example of an asset identified is ‘completion of homework’ which is representative of the development assets initially having a limited

focus on internal qualities (Whiting, Kendall and Wills, 2012). It is, therefore, a prescriptive list of behaviours, skills and experiences (seen as assets) against which a child/adolescent can be categorised as either having or lacking, providing an indication of what should be enhanced or supplemented to optimise social, emotional and educational development. These indicators are equally weighted, non-context specific and considered universal across all children and or adolescents.

The body of literature surrounding childhood developmental assets has expanded to suggest that those children with more resources or assets experience a better start in life (Scales, 1999; Scales, Benson and Mannes, 2006). However, the Search Institute's initial findings have been criticised for not taking an individual inductive approach (Whiting, Kendall and Wills, 2013). Whiting, Kendall and Wills (2013) expanded this work using ethnographic exploration (photo-elicitation) of the internal and external assets children draw upon at the individual level, determined by the child, addressing recent calls to hear the voice of the child participant (Lundy, 2007) through qualitative methods. This is the only piece of research found that has asked the individual to identify and map their own assets using qualitative methods.

3.3.2.2 Public health assets using quantitative data

The vast majority of subsequent research on assets has also been on children and adolescents and common public health themes in this age group, with some of this research drawing on the Search Institute's developmental assets outlined above. In this category of studies, children or adolescents have been assessed to see if they either have or do not have access to a variety of assets derived or 'based on' the Search Institute's developmental assets. These assets are then statistically correlated to a behaviour such as sexual behaviour (Evans *et al.*, 2004) or multiple risky behaviours (Oman *et al.*, 2007; Brooks *et al.*, 2012) alongside demographic variables to try to determine which children may undertake 'healthy' or 'risky'

behaviours. One study identified their own nine developmental assets (Doss *et al.*, 2007), whereas others used questions from a larger school-based survey to assess ‘single item’ assets e.g. ‘grades in school’ to correlate with behaviour questions incorporated into larger questionnaires (Murphey *et al.*, 2004; Fenton *et al.*, 2010) such as the international Health Behaviour in School-Aged Children Survey (Baban and Craciun, 2010; Fenton *et al.*, 2010; Brooks *et al.*, 2012).

The studies outlined above have selected all or some of the Search Institute developmental assets and have taken a deductive approach to link them to risk, or have mixed the developmental assets with other ‘assets’ they have selected from additional academic sources. For example, some have drawn upon alternative existing internal measurable constructs e.g. self-efficacy, self-esteem and SOC (Baban and Craciun, 2010) and social capital (Brooks *et al.*, 2012) and pre-determined them to be an important ‘asset’ directly relevant to that behaviour or attitude. These studies have also involved large numbers of participants¹ and have employed quantitative measures to assess the number, type and importance of the assets that protect against ‘risky’ behaviour or self-perceptions (Fenton *et al.*, 2010) or mental health (Baban and Craciun, 2010) in certain population groups. One study did employ qualitative methods by way of structured interviews but then analysed the data statistically (Doss *et al.*, 2007). By taking a deductive and quantitative approach the researchers of these studies have considered assets to be ‘fixed’ and ‘standardised’ across a large number of people which can then be used for statistical analysis. These studies could, therefore, be categorised as epidemiological and may aid ‘top-down’ ‘authoritative’ and ‘collective’ (Beattie, 1991, see section 2.5.2.2, p. 49) health protection or health promotion interventions under the banner of reducing risk.

¹ 4368 in Evans, Sanderson and Griffin, 2004. 1087 in Brooks *et al.*, 2012. 445 in Doss *et al.*, 2007 and 30,916 in Murphey, Lamonda and Carney *et al.*, 2004

3.3.2.3 Other salutogenic /asset-based studies using qualitative data

A minor proportion of the work using an asset-based approach has focused on understanding the world of certain population groups through the positive ‘salutogenic looking glass’ (Bull, Mittelmark and Kanyeka, 2013), also contributing towards the public health salutogenic ‘evidence-base’ as per section A of the asset model (see section 3.3). This has been achieved through the exploration of qualitative data and analytical themes. For example, Bull, Mittelmark and Kanyeka (2013) explored the assets available and utilised by women in India, Ghana, Haiti, the Philippines and Tanzania who experience severe deprivation in order to develop local initiatives and to explore whether the use of assets (as part of the salutogenic model they constructed) was appropriate within the academic study of deprivation. Qualitative interviews and focus groups were undertaken with the women and key individuals involved in the women’s community. The assets which contributed towards their ability to cope were identified as social and cultural, such as motherhood, good spousal relationships and the motivation provided by religious beliefs. The authors concluded that the salutogenic perspective and assets were critical aspects to be used alongside traditional deficit models to assess deprivation ‘as human, social, cultural and political resources upheld the women through their daily struggles’ (Bull, Mittelmark and Kanyeka, 2013, p. 172). They argued that the importance of these assets would not be evident in deficit-based studies.

One further study has been on negotiating sensory impairment where Rogers, Muir and Evenson (Rogers, Muir and Evenson, 2003) explored the behavioural, interpersonal and environmental assets employed by individual deaf young adults in relating to the hearing world. Theirs was an ‘assets’ approach study (a self-defined term but preceding conceptualisation of the asset model) which was used to identify factors indicating forms of psychological resiliency which had been considered a relevant asset prior to the research being conducted. This study used a case study approach focusing on three high-achieving

college students who had been nominated by their tutors to take part. Key assets identified were ‘authenticity’ (presenting themselves honestly to others) and ‘comfort with solitude.’ In these studies we see an overlap of salutogenic-like terms and concepts, such as ‘resilience’ acting as an asset, both of which contribute towards salutogenesis.

3.4 Section B: Mapping

Section B of the asset model refers to asset mapping, the origins of which are situated in community level assets. McKnight and Kretzmann (1993), sought to regenerate ‘troubled’ communities in the U.S. by identifying and mobilising existing asset-based solutions already present within them. They believed that low-income urban neighbourhoods had become too ‘needs-orientated’ (p. 1) and people had no incentive to become producers of health rather than consumers of health services. They sought to reverse this by becoming ‘capacity-focused’ by mapping the three levels of access to the ‘building blocks’ (p. 3) of assets that can lead to neighbourhood regeneration or a predefined community action. These levels of access are categorised by the location of the asset (inside or outside of the community) and who retained control of them (locally or externally controlled) to determine the ease by which the assets could be accessed. The authors advocate undertaking a ‘capacity inventory’ and mapping where the assets reside and who had control over them through a clear set of processes. Starting at the level of the individual (skills, knowledge, experience), building up to ‘organisational assets’ of local businesses and home-based enterprises, then institutions and organisations (e.g. women’s organisations, athletics clubs or local media or religious organisations) to private and non-profit organisations (e.g. colleges, schools, hospitals) and finally to publicly owned libraries and parks and unused physical resources (empty houses, wasteland). It could then be determined what capacity these asset-based organisations have for taking on additional responsibilities or to form affiliations to aid regeneration or to achieve the ambitions of a programme (McKnight and Kretzmann, 1993). Asset Development Organizations can bring together all the component assets and capacities through participatory community planning and decision-making, with the resulting ambition that ‘clients’ will become ‘citizens’ (Mathie and Cunningham, 2003; McKnight, 2010).

The benefit of Asset Based Community Development (ABCD) aided by asset mapping and mobilisation is therefore twofold, firstly to develop existing assets in order to address a common issue such as regeneration of a struggling neighbourhood, but also indirectly to foster local relationships and networks which enhance human and social capital (Bourdieu, 1986; Coleman, 1988; Putnam, 1993) and citizenship. This approach has been attractive in the UK, particularly in Scotland (Friedli, 2013), and has provided a basis for community level reports such as ‘A glass half-full’ (Foot, 2010) and ‘What makes us healthy?’ (Foot, 2012). It can also be seen to underpin recent government initiatives such as The Big Society (Cabinet Office, 2010) and the National Colloquium (National Colloquium, 2011) aimed at improving community services with an emphasis on volunteering (Friedli, 2013).

Community asset mapping studies are varied but are categorised by different groups of individuals, organisations and institutions working collaboratively to improve health. One study (Hufford *et al.*, 2009) used the ABCD approach as a way in which visiting junior paediatricians could serve as a child advocate in the community. Embedded into the hospital’s residency programme, the medics were expected to map community assets and stimulate local public health actions to improve child health in the community. Using a similar approach in a more targeted health context, Baker *et al.* (Baker *et al.*, 2007) aimed to reduce childhood obesity by reducing the amount of television use by children. They mapped individual and community assets to develop a community partnership to provide alternative activities in the local community in the evenings and weekends. No information was provided on whether there was a decrease in television watching, nor whether it contributed towards a reduction in obesity but it was considered by the authors to be a successful community development project. The one study involving Asset Based Community Development in adults took place in an adult social care setting, where Rütten *et al.* (Rütten *et al.*, 2009) studied the assets that could enhance the use of community sporting facilities in women

experiencing a 'difficult life situation' (p. 1668) through community-based development. These types of actions using the asset model could therefore be situated in the quadrant indicating collective negotiated community action within Beattie's health promotion typology as seen in Figure 7.

Criticisms of asset mapping have been based upon the lack of clear temporal and geographical boundaries of a 'community' and therefore the maps produced, the ranked importance of the assets, and the mechanisms by which this should be determined (Whiting, Kendall and Wills, 2012). In addition, a question remains regarding how to include marginalised groups and how to support those wishing to lead an ABCD project (Mathie and Cunningham, 2003). When all members of the community are involved in the ABCD process it could instead be viewed as a form or method of conducting community development and empowerment. Furthermore, there has been little information on how maps should be generated at the individual level and within a specific health context (Whiting, Kendall and Wills, 2012) to aid health promotion initiatives aimed at the individual or small-group level.

3.5 Section C: Indicators

As discussed in section 2.5.2, the evaluation of health promotion programmes is a value-laden process and influenced by power and politics as a result of the position that programme funders and stakeholders hold. Evaluation strategies that seek to establish degrees of cost-effectiveness are problematic as they are placed largely within the positivist biomedical paradigm and may be at odds with the principle of empowerment central to modern health promotion theory and practice (Green and Tones, 2010). They may also struggle to capture complex systems that have an impact on all aspects of health promotion and background health development against the backdrop of an autopoietic system (Bauer, Davies and Pelikan, 2006).

The asset model advocates the use of public health ‘asset indicators’ that can be used to evaluate the effectiveness of health promotion programmes and initiatives. Such indicators are being developed by Bauer, Davies and Pelikan (2006) in combination with the European Health Promotion Indicator Development (EUHPID) Working Group and Consortium. The EUHPID Working Group proposed a health development model in their 2006 paper which draws upon Lalonde’s ‘Field Concept’ as the setting of the wider determinants of health (Lalonde, 1974) and the Ottawa Charter (World Health Organization, 1986) in which they propose:

‘a planning tool to identify, implement, and assess appropriate launch points for various public health intervention strategies and methods related to both salutogenic and pathogenic approaches’ (Bauer, Davies and Pelikan, 2006, p. 158).

However, no further detail of pathogenic and salutogenic indicators have been published by these authors. However, Davies and Sherriff (Davies and Sherriff, 2011), utilising the 2006 EUHPID health development model mentioned above, found no single suitable evaluation

framework (or set of indicators) which can evaluate policies and interventions aimed at improving child health.

The development of a suitable and sensitive intervention assessment tool is certainly challenging within the multi-dimensional complex systems of health. Other models used for assessing salutogenic health indicators within health promotion interventions have been developed (Becker *et al.*, 2009; Bringsén, Andersson and Ejlertsson, 2009). It may be that evaluations stemming from alternative paradigms such as realism or post-positivism may offer more appropriate sensitive tools for assessing the effectiveness of a health promotion intervention at the summative, formative and process levels.

3.6 Critique of the asset model

Confusion exists between the overlap and similarities between salutogenesis and assets, particularly when SOC (Baban and Cracium, 2010) and other overlapping salutogenic-like constructs such as social capital (Bourdieu, 1986; Coleman, 1988; Putnam, 1993) are measured (Brooks *et al.*, 2012) as quantifiable assets. This leads to the question of what is actually being identified and measured. For example, where internal psycho-social constructs e.g. self-esteem are being categorised as an ‘asset’ prior to the study, is this actually contributing towards the salutogenic evidence-base as proposed in section A of the asset model (see section 3.3) or furthering the evidence-base for that underpinning theory and discipline, or both? Furthermore, are community asset mapping projects positively contributing to group health in a particular context, or are they just boosting bridging social capital between different social groups (Gittell and Vidal, 1998; Narayan, 1999; Putnam, 2000; Ferlander, 2007) and indirectly improving health by way of community development and empowerment? Alternatively, is asset mapping simply a method of implementing and conducting community level health promotion? Consequently the asset model could be considered as an over-simplification of salutogenesis because assets are so diverse and all encompassing. It could also be ‘yet another salutogenic-like theory’ due to the similar constructs embedded in salutogenesis (external assets; GRRs, internal assets; SoC) which have such similarities with other salutogenic-like constructs. It can therefore be asked if the model contributes anything new or better to existing theory.

The range and diversity of previous asset research predominantly contributes towards the salutogenic evidence-base alone, suggesting that sections B and C of the asset model do not ‘fit’ with this ‘salutogenic-like’ evidence-base. Those with an interpretative ontological perspective could also find the quantitative measures used for SOC and asset indicators too strongly positivist since they attempt to reduce an individual’s strengths to a measure or scale

with the risk that they lose the perspective of the individual. This positivist approach may have been taken as an attempt to overcome the issue of complexity (Hills, Carroll and Desjardins, 2010) and ‘diffuseness’ in asset research (p. 81) and because it may make the salutogenic approach more palatable to epidemiologists by facilitating statistical analysis using pre-constructed proxy indicators to inversely determine large-scale public health ‘risk’.

However, epidemiology is not the only public health science and if health promotion as a discipline intends to draw upon the asset model it has to be determined if it can be used for the varying forms of health promotion interventions, particularly at the individual or small group level. This may also help determine if all assets can and should be measured and evaluated in order to ‘synthesise evidence’ for large scale health promotion initiatives. If instead, the alternative ‘bottom-up’ inductive individual approach to health promotion is taken (see Figure 7) and the individual is methodologically placed at the centre of their own asset map (similar to the approach taken by Whiting, Kendall and Wills, 2013) within one health context, the applicability of the model to this form of health promotion can be assessed. Indeed, Antonovsky recognised the importance of taking the individual stance in his 1996 paper where he compared life to a river and to the hazards encountered in a river which could cause bad health. He considered the most important question is at the individual level, ‘how dangerous is *our* river?’ that is, ‘Where are *we on our own* individual health-dis-ease continuum?’ (p. 14) (emphasis added). He also states, ‘the health promoter, irrespective of their personal bent, is pressured to be concerned with the person’ (p. 13). A similar sentiment was also succinctly expressed by Lindström and Eriksson (Lindström and Eriksson, 2006) when considering the historical roots of public health during the 20th Century:

‘Perhaps public health [also had] become a modern grand-scale project. Its main methodology of describing and preventing disease through statistical measures and epidemiological methods could create the distance needed to become blinded – little

moral is required to eliminate 'a number' compared to a living human being' (p. 239).

3.7 Conclusion

The development of public health has in more recent years been in understanding the politico-social and psychological context of health. The research presented in this dissertation seeks to contribute towards this developing evidence-base through the exploration of the asset model. It has been argued that ‘asset list making’ and correlation of pre-determined ‘assets’ with demographic variables ignores the wider social, health and historical context which impact on health behaviour. It has been argued that assets should be mapped at the individual level using quantitative measures whilst seeking to understand how these assets are accumulated and mobilised in times of need. This will ensure that the assets mapped are directly relevant to older people as they conduct food hygiene practices in their daily lives which will help to inform health promotion interventions.

No previous research has been identified which explores the accumulation of health assets throughout the life course, nor the relevant psycho-social constructs that underpin their mobilisation utilizing a true mixed methodological approach. Furthermore, no asset research has been identified in the field of food hygiene health promotion which addresses a recent suggestion that asset mapping should focus on a specific outcome which may lead to a more successful asset-based approach (Baker, 2014). The research presented in this dissertation therefore addresses calls to identify assets at all key life stages such as older age (Brooks and Kendall, 2013).

A thorough critique of the model has led the researcher to question the contribution that the sections of the model make to each other and as a whole and their alignment to all forms of health promotion theory and practice. Consequently, the use of the asset model in an unexplored area of public health will also allow its potential to be assessed for the development of negotiated, small-scale health promotion interventions.

4. Chapter Four: Study Aims and Objectives

4.1 Aims

The aims of the study are:

- To critically evaluate the potential of the asset-based approach to health promotion through the exploration of the range, type and mapping of food hygiene assets used by a sample of older people.
- To relate personal history, health and demographic contexts to the accumulation of food hygiene assets throughout the life course and the predisposing conditions that may impact upon asset mobilisation.
- To contribute towards the salutogenic evidence-base for public health (as per section A of the asset model).

4.2 Objectives

The objectives of the study are:

- Obtain and explore cross-sectional quantitative health, socio-economic and food hygiene asset data by way of a researcher-completed questionnaire from a convenience sample of older people.
- Explore the historical life events and the various life course paths and their influence on food hygiene assets in a purposively selected sample of older people through the analysis of qualitative data derived from semi-structured interviews.
- To categorize and map the identified food hygiene assets at the small group level (as per section B of the asset model) according to their type and situational relationship to the older person.
- To assess how the assets identified could be used to inform future food hygiene health promotion aimed at reducing the incidence of foodborne illness in older people.

- To evaluate the potential use of the mapped assets as salutogenic indicators in measuring the effectiveness of relevant public health interventions (as per section C of the assets model).

5. Chapter Five: Methods

5.1 Introduction

The research methods employed in this research are consistent with the ontological positioning of negotiated health promotion interventions that is, from the post-positivist paradigm. Asset mapping will be at the individual and the small group level, generated from data derived from a sample of older people to ensure the relevance of the food hygiene assets. Quantitative methods will be used to explore the range and categorisation of assets in population subsets and qualitative methods to understand the factors that have influenced asset accumulation through the life course and their mobilisation in current daily life.

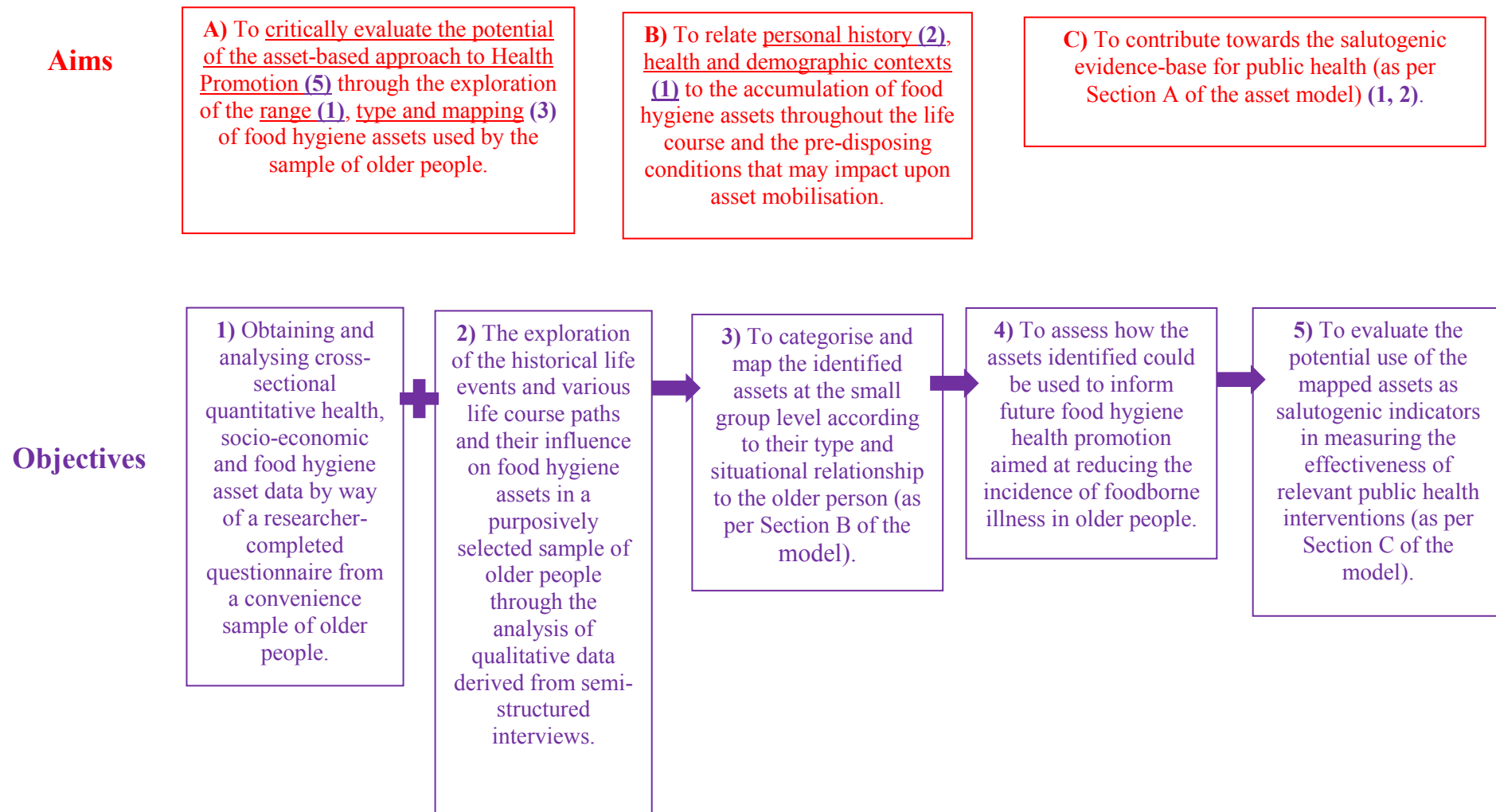
Sections 5.2-5.5 in this chapter will provide supporting rationale for the research design and mixed study methods employed during the three study phases and indicate how each addresses the research aims and objectives. It will also provide the rationale for the methods by discussing the methodology surrounding each, including the use of Grounded Theory as the method of data analysis. Section 5.6 will then discuss the ethical implications, and practical measures taken, to protect the potentially vulnerable older person participating in this study. Section 5.7 will describe the researcher's time in the field and discuss her professional and social positioning amongst the study participants and discuss how her observations may have influenced data analysis. Section 5.8 will provide details of the research sites; those who accessed them and their locale before moving on to section 5.9 which will provide background socio-demographic and health data of the Phase I research population.

5.2 Meeting the study aims and objectives

5.2.1 The association between the aims and objectives

To demonstrate the association between the objectives and the overarching aims, and to aid later discussion, the study's aims and objectives have been re-presented in Figure 9. In this figure, each aim and objective has been allocated a letter or number 'code' to aid cross-referencing. The aims have been presented in red and given a capital letter as a code (A, B and C), whereas the objectives underneath in purple have been allocated a number (1, 2, 3, 4, 5). Where an objective contributes towards addressing an overarching aim, that element of the aim has been underlined and the directly relevant objective pertaining to it specified in brackets afterwards. For example, aim 'C' requires that the study findings contribute towards the salutogenic public health evidence-base which will be addressed by meeting objectives '1' and '2'. Objective '5' requires all the preceding objectives to have been addressed to enable a reflexive discussion on whether the mapped assets could serve as salutogenic indicators and what contribution salutogenic indicators could make towards public health theory and practice.

Figure 9: How the study objectives meet the aims.



5.2.2 Overview of the study phases

Meeting the study aims required the collection of study data in three study phases. During the course of the research the three studies phases ran in chronological sequence with some overlap between them as one phase came to an end and another started. The three phases of the study were:

Phase I: Questionnaire with a sample of older people.

Phase II: Semi-structured interviews with a sample of older people drawn from Phase I.

Phase III: Semi-structured interviews with wardens of sheltered accommodation sites.

Figure 10 shows how the study aims and objectives, as presented in Figure 9, will be addressed by the research methods and three corresponding study phases. Each circle represents a study phase and where they intersect shows where, collectively, the data contributed to addressing either a study aim (capital letters in red), objectives (numbers in purple) or both. For example, meeting the study aims required all study phases and the higher levels of conceptualisation needed for objectives '4' and '5', whereas objective '1' solely relied on data provided by Phase I. The larger pink circle encircling the other three represents the contribution that field notes made in influencing structured data collection and analysis during the three study phases (see section 5.7.2).

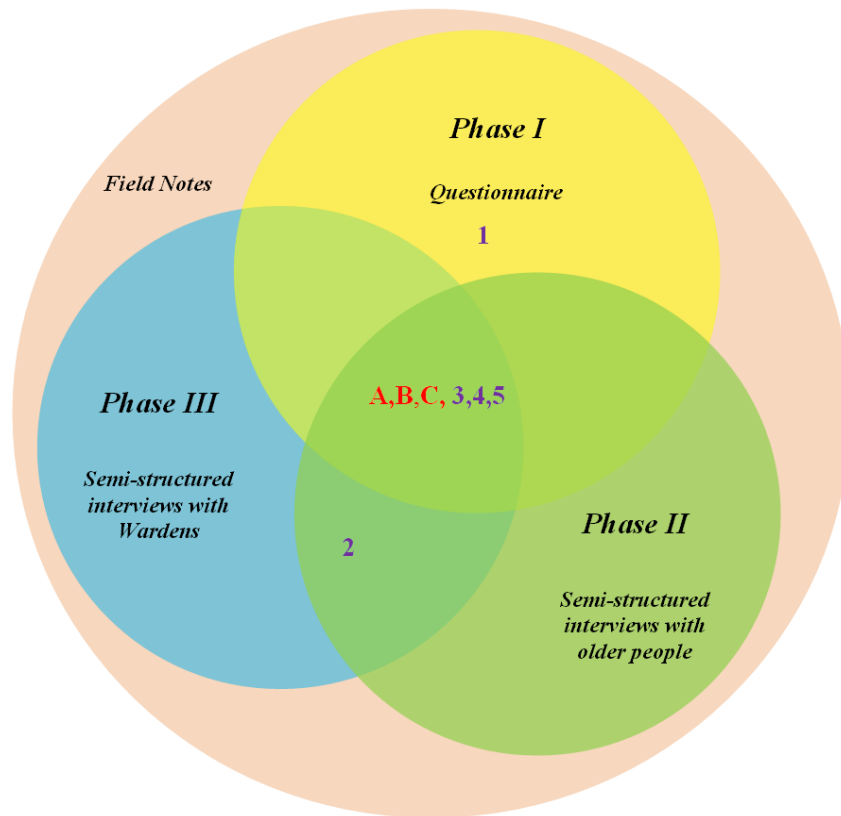


Figure 10: Diagram showing the study phases and their contribution towards addressing the aims and objectives.

5.2.3 The mixed methods approach

Phase I utilised quantitative data collected via a researcher completed questionnaire, whilst Phases II and III involved the generation of qualitative data through semi-structured interviews categorising this research as a mixed method study. The mixed method approach allows for a research question to be assessed from various methodological angles for a comprehensive and rounded viewpoint. This has been referred to as triangulation (Denzin, 1970) whereby connections between concepts and indicators are checked to other indicators (Hammersley and Atkinson, 1983) by those taking the positivist approach (Blaikie, 1991) or

crystallisation (Richardson, 1991) by those aligned to a more relativist/pragmatist paradigm (Barbour, 1998; Popay, Rogers and Williams, 1998). The term crystallisation infers a process by which emergent themes and concepts coalesce and clarify in the researcher's mind during analysis rather than locating a pre-existing absolute 'truth' implied by the geographical term of triangulation (Brewer and Hunter, 1989). The researcher situates her ontological beliefs within the postpositivist/poststructuralist paradigms (Denzin and Lincoln, 1998b) and consequently prefers the concept of 'crystallisation', reflecting the fluid relationship between an individual and societal, cultural and racial influences, believing that no 'truth' is waiting to be 'located'. In addition, as every method has flaws in varying aspects, the idea of using multiple approaches should ensure that the methods compensate for each other's weaknesses to confer quality constructs such as 'trustworthiness' and 'authenticity' rather than 'validity' (Denzin and Lincoln, 1998b, p. 287).

Debate surrounds the differing ontological viewpoint underpinning each methodology, (Baker, Wuest and Stern, 2006; Rolfe, 2006; Teddlie and Yu, 2007) and whether mixed methods can be used in one study as they could be at odds with the underlying beliefs of the researcher if they are polarised at one side or other of the positivist or postpositivist spectrum. Each approach is employed to meet quite different methodological aims and there are limitations with both. For example, quantitative data is curbed by those asking the questions as they are using their pre-determined viewpoint and biases in predicting which answers will be given which may quite different to those held by the respondent, constraining and limiting possible responses. Qualitative data seeks to hear the voice and elicit the perspectives of the individual which may be difficult to extrapolate to the large group or to the population level. This study employed differing research methods from a practical and pragmatist stance aiming to further enhance understanding of the older people's lives.

5.3 Phase I: Questionnaires

5.3.1 Questionnaire purpose

The older person's questionnaire has been included in the Appendix. The purpose of the questionnaire was to obtain background, descriptive socio-demographic and health information from older people taking part in the study which could be analysed alongside the summary food asset data, providing context for the Phase II interviews. These descriptive data provides evidence (as per objective '1' in Figure 9), alongside that provided by the qualitative data (objective '2'), to inform the production of a map, or maps of the food hygiene assets that older people draw upon in order to protect themselves from foodborne illness (objective '3').

Having collected these quantitative descriptive data, inferential statistical tests were used to explore whether any associations could be found between certain group characteristics and food asset data for example, age and the use of food delivery services or sex and who helped with food shopping. These data therefore provided a contextual understanding of the asset maps and provided information on how and when these assets are accessed and utilised by different study population subgroups. The purpose of the statistical data created was not to validate a pre-existing theory, nor develop a reliable 'tool' but to elucidate the conditions preceding food hygiene asset mobilisation in the study population.

5.3.2 Completion of the questionnaire

There were 22 questions in the questionnaire and completion times varied from ten minutes to half an hour. The questionnaires were completed by the researcher who posed the questions to the older person during a face-to-face interaction, usually during a site visit, but occasionally immediately before undertaking an interview as part of Phase II. Only one question required the older person to put pen to paper, which was to indicate their perceived health on that particular day via the 'Visual Analogue Scale' (VAS) tool (see section 5.3.3.3).

Most people managed to perform this task, although six with very poor eyesight or manual dexterity opted to verbally relay a number rather than attempt to draw the line themselves. Those who had sufficient eyesight were then shown the line that had been drawn and were asked if they were happy with where the line had been placed.

The interaction between the researcher and questionnaire respondent not only elicited information required for study objective '1' and the study aims (see Figure 10) but also achieved the following:

- Provided a vehicle through which the researcher could talk to the older person on a one-to-one basis in order to develop trust and rapport (Miller and Tewksbury, 2001).
- Allowed the researcher to familiarise herself personally with the questionnaire cohort so that she could recall and recruit individuals suitable for Phase II.
- Permitted the researcher to answer any queries about the wording of any of the questions and therefore improve completion rates (Robson, 2002).
- Recording the questions answered by the older person circumvented any issues regarding poor eyesight, poor hearing (Wenger, 2002) or manual dexterity (Parker *et al.*, 2006).

This one-to-one interaction also had the capacity to increase completion rates and to broaden the sample by reducing the risk of responder bias in 'hard to reach' (Liamputtong, 2006) population groups. This supported older people to participate in the study regardless of their literacy or other physical issues. The involvement of the lone researcher in asking and completing all the questionnaires also negated the concern of intra-researcher reliability and consistency in question delivery and questionnaire completion (Groves, 2004). The involvement of the researcher in the questionnaire completion process therefore had many benefits (Patton, 2002) but also resulted in the researcher becoming 'part of the instrument' (p. 14) with the questionnaire completion having elements of a short structured interview.

These interactions were recorded in the field notes which are covered more widely in section 5.7.2.

5.3.3 Questionnaire structure and development

The questionnaire comprised sections that collectively contributed towards an understanding of the social and physical context of the respondents' life. Sections included: 1) About your community centre 2) About yourself 3) Your health today 4) Visits to the hospital or GP and 5) Food in your home, which gathered the food asset data.

The older people were provided with a selection of response options to the questions posed that were accurate, exhaustive, mutually exclusive and on a single dimension as recommended by Robson (2002). Efforts were taken to keep the questions short and unambiguous and to phrase questions so that they could be recorded in a 'tick box' style where possible. Avoiding open-ended questions constrained the data provided to be descriptive in nature (Robson, 2002) with the researcher employing a personal, conversational style (Holstein and Gubrium, 2002) in order to put the older person at their ease (Wenger, 2002). The 'Food in your home' section deviated slightly from this closed response style and allowed for more open responses as the researcher was aware that there would be many possible answers and some could not be pre-defined.

Table 14 in Appendix A lists all the questions from the questionnaire used in this study and their origins as discussed below. It indicates how the answers contributed towards the understanding of the background context of the Phase I respondents and their food hygiene asset mobilisation and provides information on where a question seeks information on multiple topics e.g. health *and* food hygiene assets. By cross-referencing responses provided by this questionnaire across a number of indicators (e.g. health assessed by EQ5D, VAS, and NHS usage) the researcher has also increased the internal validity/trustworthiness of the data

provided, allowing for the identification and postulation as to the cause of any discrepancies that arose between subsets of answers.

The purpose of the questionnaire therefore extended beyond the information it generated and although there was no ambition to generate statistically generalizable data in this study, the questionnaire did draw on a series of pre-validated tools and elements of questionnaires previously used in larger studies to increase 'validity'.

5.3.3.1 The 'POPP' study questionnaire

The questionnaire used in this study reproduced elements of a questionnaire used in the National Evaluation of the Partnership from Older People's Projects (POPP) programme (Windle *et al.*, 2009), that was funded by the Department of Health (2006-2009). The POPP programme evaluation consisted of determining any change in and between individuals who participated in community-run projects aimed at improving the health, well-being and independence of older people in the UK. The researcher had been involved in formatting and producing the questionnaire used in the POPP evaluation project within a large national research team as part of her previous employment and was therefore aware of its development, structure and content.

The questionnaire used in the POPP evaluation study gathered demographic, health and QoL information from older people using pre-validated tools (EQ5D and VAS). It was these sections from the POPP evaluation study which were also used in the current study's questionnaire. The POPP evaluation study had benefited from the input of an external steering group of older people who had helped develop the questionnaire. Consequently sections of the questionnaire used in this present study had been used previously in a large national survey of over 200,000 older people that also had received guidance from older

people which further enhanced the validity/trustworthiness of the data gathered in the current study).

5.3.3.2 *The EQ5D*

The researcher had a range of Quality of Life (QoL) assessment tools to choose from in order to obtain a subjective assessment of QoL from the older people participating in the study (Garratt *et al.*, 2002). The EQ5D is a generic non-disease specific multi-item measure of Quality of Life designed by a European multi-disciplinary group of researchers in the 1990s (Brazier, Jones and Kind, 1993). The EQ5D records the perceived level of health based on ability level (no problems/some problems/unable) across five categories of health, which can be also combined with the 10cm Visual Analogue Scale (VAS). The EQ5D has been compared with other disease specific and generic QoL measures such as the various incarnations of the SF-xD tools (Brazier, Jones and Kind, 1993; Petrou and Hockley, 2005), and the AQoL in the elderly (Holland *et al.*, 2004). Critics (Brazier, Jones and Kind, 1993) have suggested that the EQ5D is not sensitive enough to detect small differences in health status due to its simple three level banding of ability across the five assessment areas. However, other researchers (Haywood, Garratt and Fitzpatrick, 2005), tested a range of generic QoL measures used with older people and found that there was good evidence of reliability, validity and responsiveness with a range of tools, including the EQ5D. They concluded that using the EQ5D was an adequate tool when wishing to establish a succinct assessment of health status. Furthermore, when the EQ5D was compared with another QoL tool (AQoL) it was concluded that the EQ5D was easier to administer and had a higher completion rate than the alternative (Holland *et al.*, 2004). The researcher therefore considered the EQ5D to be the simplest and quickest tool to administer in this study, whose shortfalls could be compensated for by the accompanying measures of health collected elsewhere in the questionnaire.

5.3.3.3 *The VAS*

The Visual Analogue Scale has been used for many years in clinical research. Although efforts have been taken to assess its validity and reproducibility (Ohnhaus and Adler, 1975; Dixon and Bird, 1981) amongst the same patients, particularly in relation to pain assessment (Carlsson, 1983; Price *et al.*, 1983), the researcher of this study appreciated the subjectivity of the assessment of one person at a particular time. As such she was not attempting any longitudinal analysis or inter-participant comparisons but was hoping to gather a ‘snap shot’ of perceived subjective health. The VAS measure therefore captured a more fleeting measure of holistic health as it asks about a person’s general health at the time of measure, not the more general and longer-term measure of general mental health and ability to perform health-related activities recorded by the EQ5D.

5.3.3.4 *Deprivation indices*

The researcher planned to gather information on the socio-economic status of the population anticipating that it may have an impact on food asset mobilisation. She was aware that recording educational levels and past employment may not be a suitable measure for the older population, particularly for women and so postulated that postcode data may provide this source of evidence. However, the postcode information from respondents could only serve as a pseudo co-indicator of socio-economic status² using deprivation indices and the short-falls of this approach were compensated by using these data alongside state benefits information.

The researcher arranged to access the August 2011 National Postcode Directory from the Office for National Statistics via EDINA (Office for National Statistics, 2010a), the online dataset support service for higher and further education colleges and their students. The

2

This is only a pseudo-co-indicator because some people may have moved areas for a number of reasons e.g. to be closer to amenities or family members

National Postcode Directory related all postcodes in the UK to Lower Layer Super-Output Areas (LSOA), the 34,378 geographical boundaries in England and Wales. LSOAs represent areas grouped together based on proximity and social homogeneity to create small area statistics using Census data provided by the UK Data Service.

The Social Disadvantage Research Centre at the University of Oxford utilised this 2001 Census data to identify areas of multiple deprivation at the small area level of the LSOA. The deprivation indices were constructed via weighted domains scores, with the domains encompassing topic areas such as health, employment and income. The researcher was then able to relate the postcodes tables to the LSOA code and access the Income Deprivation Affecting Older People Index (Office for National Statistics, 2010b) via the Neighbourhood Statistics section of the Office for National Statistics website. This then provided a link between the postcodes provided by the study participants and a nationally recognised valid assessment of deprivation affecting older people in the research site areas utilising Census data.

In summary, there were a total of three nationally recognised and validated tools used in this study (VAS, EQ5D and National Deprivation Index). Two of these (VAS and EQ5D) were used in the POPP national survey and in multiple other studies, with this study's questionnaire adding a third nationally recognised and validated measure, that of deprivation in older people using Census data. The original source of each question has been specified in Table 14 in Appendix A. The use of these validated and recognised tools have consequently enhanced the validity/trustworthiness of the study's findings.

5.3.4 Phase I: Sampling

The sampling strategy for Phase I was broad and inclusive to maximise recruitment and anyone aged over 60 years could have been consented to the study. Although there are

diverse opinions on when ‘older age’ commences (Thane, 1978; Roebuck, 1979), and who is the ‘oldest old’ (Tomassini, 2005), the researcher decided to keep the lower age consistent with the retirement and pensionable age for women at that time, in line with the WHO definition of older age (World Health Organization, 2013). A low minimum age threshold would allow as broad a sample of older people as possible in the study, increasing the potential range of the type of food hygiene assets that older people use. Furthermore, this low age as an inclusion criteria maximised the number of questionnaires completed by allowing the lone researcher access to a higher number of eligible participants.

There was one inclusion and one exclusion criteria. The first criterion was that the older person had to be English language speaking, which was to circumvent the practical issue of having a translator present at all times. The second criterion was that the older person should not have severe mental incapacity, which would limit their ability to participate in the research and answer the questions (both the questionnaire and interview) posed to them.

As discussed previously, the researcher completed the questionnaire along with the older person to maximise population diversity (Harris and Dyson, 2001) which is particularly effective when combined with venue based sampling at a specific location (Muhib *et al.*, 2001). The study population was achieved through the recruitment of volunteers using convenience sampling at the study sites, which was considered the best approach to gain ‘conceptual power’ (Patton, 2002) in line with the study objectives rather than statistical power provided by probability sampling.

5.3.5 Piloting of the study tools

Both the questionnaire (Phase I) and the interview questions for the older people (Phase II) and sheltered accommodation wardens (Phase III) were piloted before being employed as research tools in the study.

The questionnaire was devised and initially piloted on the researcher's personal contacts such as colleagues, friends and family. Though these individuals were not necessarily within the study population, the purpose of this early piloting was to ascertain if the questions in the questionnaire were comprehensible to others and formed part of the questionnaire development process. Following ethics approval, the questionnaire was then piloted on the first five older people enrolled into the study. As recommended by Peat (Peat, 2002) who expanded on the work of others (van Teijlingen and Hundley, 2001), the purpose of the piloting of questionnaires and surveys is to improve the question wording and ease of comprehension. Although no changes were made to the questionnaire, the researcher became more adept at navigating around the questionnaire to avoid repeat questioning when answers had already been provided unprompted by the older person.

A similar piloting of the interview questions was also undertaken. Again this was to make sure that the wording of the interview questions and their order made sense to others and gave the researcher practice in articulating them eloquently. This approach is advocated (Holloway, 1997) in the case of novice researchers who need to build their confidence with interviewing and to develop their skills. Following ethics approval the interview questions were also piloted on the first three older people interviewed. Although no one suggested specific improvements to the interview schedule this may have been due to the good rapport established and the respondent was reluctant to give their true opinion. This difficulty could have been circumvented if the researcher had had an opportunity to employ an external steering committee of older people who were not participants. However, as the interviews were semi-structured, undertaking a pilot phase allowed the researcher to reflect on and improve on the wording and order of the questions, as well as becoming more adept at pursuing lines of questioning during all of the interviews contributing towards the developing qualitative data collection/synthesis process (Robson, 2002).

5.3.6 Quantitative data analysis

Individual questionnaire respondents were allocated a unique study code which was used as an anonymous identifier for the questionnaire responses that they had provided. An SPSS data file was then designed and constructed to record the permitted responses to the questions. Responses were recorded on the SPSS file as being either on a scale (continuous data), e.g. age, or categorical or ordinal (non-continuous data), e.g. sex. Responses that consisted of a categorical variable, e.g. type of benefits received, were issued a numerical indicator which could then be statistically analysed.

A number of the large scale continuous variables (age, VAS, deprivation indices) were 'cut' by the SPSS software to form data groups to transform it into categorical data. For example, the continuous variable of age could be cut into age groups to allow a greater range of statistical tests to be performed with other variables. The researcher programmed SPSS to cut the data into seven five-year age-bands (≤ 64 , 65-69, 70-74, 75-79, 80-84, 85-89 and 90+) so that any detailed patterns in the data would be evident which supported existing literature and for those wishing to conduct further research. It also allowed for the reader to combine groupings appropriate for comparison purposes with other research, i.e. two five-year age bands combined to form a ten-year age-band. This approach was suitable for the descriptive demographic data but for the food asset and inferential statistics to test associations, two larger age groups were also formed. This would increase the sample size in each group and thereby increase the statistical power of the non-parametric tests used, e.g. Chi-squared test for association, in addition to tests using age as a continuous variable e.g. Mann Whitney U test. It was postulated that differences in the older population may influence the availability and mobilisation of food hygiene assets and this guided the formation of the two larger age groups.

Prior research suggests that oldest old are far more likely to be female, less likely to be married, have greater levels of morbidity and disability and are greater consumers of services and benefits, but also to have higher levels of education (Suzman, Willis and Manton, 1995). There is no general consensus on the definition of 'old' as age is a socially, biologically, psychologically and personally defined concept (Victor, 2005a). Similarly, when assessing age chronologically, there is also no universally agreed definition of the oldest old. Both 80 and 85 years have been used as the threshold to separate the characteristics of the two groups (Suzman, Willis and Manton, 1995; Goldberg, Smith and Economos, 1998; Tomassini, 2005). However, the researcher wished to explore the influence of age as widely as possible for the inferential statistics, exploring it both as a continuous and categorical variable to seek any associations with the other data. Not wishing to exclude any analytical avenues in comparing the 'old' with the 'older old' for the non-parametric tests, it was decided that both groups be formed (under and over 80 *and* under and over 85) and explored for any associations and where found explicitly state where any notable differences lay.

The formation of these categories from continuous variables aided comparisons against categorical variables such as sex or housing. However, one question, that of marital history, was complex as there were many permutations on possible answers, such as those people in second or third marriages and those in long-term relationships which the structure of the questionnaire failed to capture and which had to be annotated by the researcher during the questionnaire completion process. The questions on marital status therefore needed to be broken down into more discreet components retrospectively to be recorded accurately in numerical format.

The data were entered onto an SPSS data file en masse for the first 40 respondents and as recruitment later ran parallel with the interview phase, the data from these later questionnaires were input on an on-going basis. When the file was complete and fully

furnished with Phase I data from the questionnaires, preliminary tests were run to establish the completeness and accuracy of the data. Any 'gaps' or erroneous looking data that was not within the permitted range set within the SPSS parameters could then be checked against the questionnaires but none were found. Tests were also performed to ascertain whether there was a normal distribution of the key continuous variables before any statistical tests were undertaken, as this would determine the type of statistical analysis that could be performed.

Age was the only continuous variable which showed a normal distribution, with a mean of 78.98 and a 5% trimmed mean of 78.91. The relative equal distribution was borne out by the values for skewedness (0.13) and kurtosis (-0.61) and confirmed by the Kolmogorov – Smirnov test for normalcy providing a p value of 0.20 indicating normal distribution (Pallant, 2004). The VAS did not demonstrate a normal distribution. The actual mean was 6.89 and the 5% trimmed mean was 6.93. Skewedness (-0.32) and kurtosis (-0.15) demonstrate a clustering of values to the right and higher end values of the VAS. This was verified by the Kolmogorov – Smirnov test for normalcy with a p value of 0.04, just below the normal threshold of 0.05 (Pallant, 2004). The questionnaire data were therefore either largely categorical or of non-symmetric distribution, constraining the researcher to less powerful non-parametric tests which are more suitable for these data (Clegg, 1990; Pallant, 2004).

Descriptive statistical analyses were then carried out to summarise the total population characteristics and population subgroups, which were then later cross-referenced with each other. For example, tests were run on sex as an independent variable with various health data serving as the dependent variable/s. As expressed in Table 14 in Appendix A, the various indicators of health and socio-economic status and food hygiene assets were explored against other independent variables and against each other for within and between group analysis. Multiple non-parametric tests were then performed on the data to explore associations within the sub/population descriptive data and then between the descriptive and the food assets data.

Where associations were found, appropriate ad hoc tests were performed to establish the direction and strength of any identified relationship.

A document entitled 'notes on the questionnaire analysis process' was created alongside the SPSS data file which served as a diary to record the development of the file, which statistical tests were run and notable results. These details were then cross referenced to where the SPSS outputs were saved on the computer, and where any corresponding SPSS commands or syntaxes were stored. This careful recording of the tests run, results obtained and the test commands allowed for the researcher to quickly access tabulated and written results and to re-run the tests should any additional data be added to the SPSS data file.

5.4 Phase II: Older person interviews

5.4.1 Interview purpose and rationale

The historical and current accounts of food acquisition, storage and cooking were sought from older people in Phase II through semi-structured, face-to-face interviews with a sample of the older people recruited from Phase I. The older person's interview schedule can be found in Appendix D. The qualitative data that were synthesised as a result of these interviews elicited information on how currently utilised food hygiene assets are placed into the social, physiological, cultural and cognitive contextual frame of the past and the present, addressing objective '2'. The older person interviews and the resulting qualitative data provided evidence for food hygiene asset mapping, alongside the quantitative data, addressing study objective '3'. These data also contributed towards the wider contextualisation of food asset use which aided the analysis of the theoretical contribution that the assets theory could make to future health promotion campaigns (study objective '4') and the implications of this application of asset theory on the asset model itself (study objective '5').

The researcher was seeking evidence on how food acquisition, storage, preparation and cooking practices are set within the complexity of the individual's history and current unique circumstance. Consequently a qualitative methodological approach was viewed as the most appropriate method through which to gather data on these individual and structural social conditions (Glaser and Strauss, 1967) that can influence group and individual behaviour 'choice'. By utilising qualitative data the researcher aimed to identify the range of past and present predisposing factors and conditions that influence individuals to mobilise various food hygiene assets.

Rather than seeking the true internal voice of the subject (Atkinson and Silverman, 1997) the researcher was seeking an understanding of the subjective view of the individual (Foucault,

1973; Foucault, 1975), and not mechanically extracting information that lay waiting within the interviewee. In this way, the researcher concurred with Holstein and Gubrium (2002), that the interview respondents and interviewer are co-constructing a version of reality during the interview process which is situated within the temporal, cultural and material world (Silverman, 1997).

Some have questioned the ability of older people to recall childhood events ‘accurately’ (Kirkevold and Bergland, 2007) as an estimated 20% of those aged over 80 years have some degree of cognitive impairment (Melzer, Ely and Brayne, 1997). However, recalled events, whether factually accurate or not, *was believed to be true* and therefore had sufficient salience to the individual to influence asset mobilisation. Any issues regarding memory impairment were ameliorated by two factors. The first relates to the fact that much of the interview subject matter was situated in the past and as long-term memory is more resilient than short-term memory in common dementias such as Alzheimer’s Disease (Miller, 1973; Hulme, Lee and Brown, 1993), no interviewee had major problems in recalling general lifetime events. Secondly, the researcher did not interview anyone with severe cognitive impairment as they would be more likely to be cared for in a care or nursing home, and less likely to be responsible for their own food management. As such, concerns over memory during the interview were minimised.

5.4.2 Interview structure

The interviews conducted with the older people were semi-structured as the research area was novel and the researcher did not wish to constrain the interview to pre-conceived ideas surrounding possible responses (Denzin and Lincoln, 1998a). It also allowed for the interview schedule to be flexible so that the researcher could ‘mine’ for clarification on interesting points raised or move to a topic which naturally arose out of scheduled sequence (Arksey and Knight, 1999). Attention was also given to the wording of the interview questions so that they

would not be viewed as too academic or judgemental, particularly in relation to practices that could be viewed as ‘good’ or ‘bad’ as recommended by Arksey and Knight (1999), which could unduly influence the range of answers given due to social desirability bias. Semi-structured interviews have also been used extensively in research conducted with older people on diverse health topics such as chronic disease management (Stamm *et al.*, 2008), Gerodontology (Millwood and Heath, 2000) and Geriatric Psychiatry (Mosimann *et al.*, 2008). Semi-structured interviews were therefore considered to be the best method from which to synthesise qualitative data with older people.

The interview commenced with an introduction where the interviewee was reminded about the topic of the interview, reassured that there were no right or wrong answers, that any information provided would be anonymous and that the interview could be stopped at any point. All interviews were digitally recorded. The broad interview ‘schedule’ divided the interview questions into logical sections taking the topic of the interview through a chronological course from the distant past of the childhood home, up to present day food hygiene practices. Consequently the perspectives of the individuals could vary according to changing life roles and were historically grounded in that one interviewee. As such, this research contained aspects of the biographical retelling of stories as oral histories across changing eras, roles and settings, making it anthropological and ethnographic in style (Robson, 2002).

5.4.3 Phase II: Sampling

The non-probability sampling strategy employed during Phase II was both purposive (Lincoln and Guba, 1985; Becker, 1993) and theoretical (Glaser and Strauss, 1967) to aid the understanding of the utilisation of food hygiene assets. The purpose of this approach was to gather as many different perspectives of food hygiene assets as possible (Lincoln and Guba, 1985; Hutchinson, 1993) and what prompted the assets to be used. Using the grounded theory

approach, individuals were sought for interview on an on-going basis which was concurrent with data analysis. These were individuals who could assist the researcher in answering theoretical and conceptual questions that emerged during the course of data analysis. As recruitment and qualitative data analysis commenced, it became clear that individuals with variances in health, sex, age and marital status/history as underlying factors would help provide data on a diverse range of assets. Health was important in terms of current assets which sought to bring food into the home; whereas age, sex and marital status/history was found to be important when considering past roles and experiences that were influential in driving past and current food hygiene learning, and predisposing factors (e.g. values and attitudes) that impact on current practices.

To aid this purposive sampling and to gain an understanding on how the Phase II participants may differ from those in Phase I, a second SPSS file was generated which contained the data from the interview cohort only. The identical descriptive statistics previously conducted in the whole study population were repeated to ascertain whether the interview cohort could be viewed as statistically similar to or distinct from the larger study population from which they were drawn. Further information on the Phase II interview population can be found in the introduction to chapter seven.

5.5 Phase III: Warden interviews

5.5.1 Warden interview purpose and rationale

The warden interview schedule can be seen in Appendix D. The decision to undertake interviews with wardens of the sheltered accommodation sites was in response to the preliminary analysis of the Phase II interviews. This analysis suggested an attitude amongst some older people that they did not want to express the need for help; that there was a strong sense of pride in wanting to appear as if they were coping with every aspect of their lives including food and food hygiene. It was postulated that gaining insights from a stakeholder group may provide additional data that would elucidate this emerging conceptualised attitude. The purpose of the interviews with the wardens of the sheltered accommodation sites was therefore to gain the thoughts and opinions of those who have worked with, and helped care for, older people over a number of years. This experience would furnish them with a perspective that could provide an overview of the interaction of older people with their network of families, friends and healthcare/food services.

As discussed in section 2.4.1.1, due to the political and professional positioning of wardens they may have a set of personal biases which frame their thoughts and opinions of events they have witnessed and experienced during their career. It is highly likely that some of the wardens interviewed for this study were better at balancing care whilst maintaining the independence of people they care for (Heumann, 1980) than others. These varying levels of involvement in their residents' lives may lead them to under or over-estimate the contribution made by other members of the social network in caring for the same older people. This may lead the wardens interviewed to have certain professional and personal biases towards the residents and others who contribute towards their care. However, by acknowledging these biases, these data were considered valuable in overcoming the analytical 'impasse' mentioned when analysed alongside the qualitative data from the older person's interviews. As discussed

previously in section 5.5.4, semi-structured interviews were considered to be an appropriate method through which these qualitative data surrounding the warden's experiences, opinions and beliefs could be co-synthesised by the researcher and warden.

5.5.2 Warden interview structure

The researcher commenced the interview by reading an introductory section to the wardens to remind them of the topic. The researcher first asked about the roles and responsibilities of the warden in sheltered accommodation sites, to ascertain the level of involvement that the warden had with the older people they helped care for. Questions followed surrounding how decisions were made about how and when people moved into sheltered accommodation and the general characteristics of the tenants. The researcher also wanted to find out about the kitchen facilities in the accommodation; who was responsible for deciding whether they were suitable for the needs of the older person and who maintained them in adequate and safe working order. The questions then moved on to the thoughts and opinions of the wardens on the role of family and friends in the provision of food for older people and their opinion on the relative importance of these and other assets.

The interview questions for the wardens were not piloted as there were fewer questions and fewer participants than in the older person interviews (Phase II). These interviews with the wardens were far less structured than they were with the older people as the researcher had gained confidence in developing a line of questioning in response to the developing discussion.

5.5.3 Phase III: Sampling

Permission to approach the wardens of the sheltered accommodation sites for interview was sought and granted from their managers at Milton Keynes Council. The researcher approached the first warden whom she had met by chance during site visits in Phases I and II.

This warden suggested others in the local area who may be amenable to being interviewed for the study, whom the researcher then contacted. Consequently, a 'snowball sampling' strategy (Arksey and Knight, 1999) was utilised to access wardens for the interviews in Phase III. It is possible taking this snowball sampling strategy through personal recommendation by the wardens could have led to those being interviewed to have similar values and attitudes towards their work. This may have resulted in a limited range of data available to the researcher.

5.5.4 Qualitative data analysis

The qualitative data from Phases II and III were analysed using the Grounded Theory approach which was developed by Glaser and Strauss in 1967 from ontological roots in symbolic interactionism (Blumer, 1969) and pragmatism (Mead, 1917; Dewey, 1922; Dewey, 1937). Grounded Theory has been adapted by many (Bryant, 2002; Clarke, 2003; Clarke, 2005; Charmaz, 2006) not least by the principle authors themselves (Strauss, 1987; Strauss and Corbin, 1990) but still forms a principal method for theory generation, and is particularly accessible to the novice researcher. Grounded Theory can be viewed as either a particular ontological stance (Glaser and Strauss, 1967) or specific method (Strauss and Corbin, 1990) of dealing with data to generate theory or increase sociological understanding. This understanding or theory generation is built up throughout the process of data analysis, and as such, Grounded Theory has been referred to as ‘theory as a process’ (Glaser and Strauss, 1967, p. 9).

The data analysis process commenced with the simultaneous reading of the interview transcripts and listening to the interview recordings. After each transcript had been verified as being ‘accurate’ *verbatim* and the researcher had re-familiarised herself with the data, it was uploaded into NVivo data analysis software. Debate surrounds whether qualitative data transcripts should be ‘checked’ by the interviewees for accuracy (Guba and Lincoln, 1989; Barbour, 2001) or whether, as the data are co-constructed during the interview process, it cannot be ‘verified’ (Sandelowski, 1993; Meyrick, 2006). The transcripts were transcribed by a third party, and were checked against the interview recordings by the researcher, and so she was confident that they were an accurate transcription of what was digitally recorded. However, the researcher decided not to request that the interviewees review the transcripts for the ontological reason expressed above, that the interview was a snapshot of opinions held by an individual at that interview time and place and returning to it at another point would be an

anti-axiom. The researcher also felt that it would have been impossible or very difficult for many of the older people to read the transcripts, due to limited eyesight or energy, and would have been an insensitive imposition to ask. As a result, the researcher felt that adequate checks were put in place in order to maintain the ‘accuracy’ of the transcript, but did not wish nor seek ‘verification’ of its contents with the interviewee.

The subsequent data analysis process consisted of the following steps:

Step one: Open inductive coding of the interview transcripts by breaking the data into sections and allocating it to a descriptor ‘code’ (August 2012), letting the data determine the coding structure with little interpretation or higher conceptualisation. During this early stage of analysis four memo types were maintained. During coding of the data an extensive ongoing analytical memo was written; a more spontaneous ‘Glaserian’ approach (Heath and Cowley, 2004) to Grounded Theory analysis, capturing chronological thoughts and asking questions of the data. These notes also raised thoughts of possible comparison and connections during the exploration of the data. This formed the primary research memo from where all later analyses originated. A code development memo was also kept, where it was documented how and why codes developed, became amalgamated, separated and/or renamed. There was ready ‘cross fertilisation’ of thoughts between these two memos; when code development prompted a theoretical thought, and vice versa, text excerpts were cut and pasted between the two memos. Thirdly a memo was maintained on the overall ‘tasks undertaken’ on any particular day for quick reference on what had done and when. A fourth reflexive memo/field note diary also recorded thoughts and experiences from the field which were in both verbally taped and typed formats (see section 5.7.2). As a result research quality was maintained through reflexivity (Mays and Pope, 1995; Meyrick, 2006; Rolfe, 2006) and through the establishment of documents that recorded transparent research processes

(Sandelowski, 1986; Sandelowski, 1993) whilst acknowledging the biases these recorded experiences would cause when analysing data (see section 5.7.2).

Step two: Upon further and repeated review of the data similar incidents of data were grouped together and the code structure refined on an ongoing basis whilst maintaining the analytical and code development memos. As Glaser and Strauss stress in their initial work (1967), this is the crux of the constant comparison method which predates Grounded Theory (Heath and Cowley, 2004).

Step three: Data collection eventually reached a point where the researcher achieved ‘theoretical saturation’ (Glaser and Strauss, 1967). This was the point in the analysis when the researcher no longer found data that added to the properties of a category. By March 2013 a total of 203 codes had been synthesised through the Grounded Theory analysis process. These codes can be found in Appendix F.

Step four: At this point of the analysis, in late March 2013, the analytical memo was reviewed and sections extracted into nine separate ‘themed’ memos according to initial thoughts around similarity, thereby starting to make associations and developing theoretical insights cutting across the data. This task of dismantling memos is recommended (Glaser and Strauss (1967) so that the researcher effectively ‘fractures’ them for ‘breaking down and out of the story is necessary for clear integration of the theory’ (p. 108). Sections of text that were copied for extraction were highlighted in grey and a note was made in the analytical memo which of the nine themed memos the excerpt had been copied to so that the complete memo could be referred back to if necessary. The extracted excerpts were a very large proportion of the analytical memo. Of the 18,605 words in the analytical memo 13,202 words were extracted into the separate nine themed memos. The emergent themed memos then were derived directly from the study data and had a robust rationale for further conceptual development. The process of collating these ‘thoughts’, with the quotes which prompted

them, alongside relevant field notes excerpts ‘gave life’ to the data and also aided the identification, properties and helped to establish the dimensions of the developing themes. However, there was some overlap between the themed memos with some elements being taken up and expanded upon in other memos which became incorporated into the final analytical themes, resulting in some codes being shared across the themes. Other themed memos, or elements of memos, were of limited ‘depth’ and were not developed and may or may not have been presented in the results section (Chapter 7). The emergent themed memos therefore demonstrate rudimentary theoretical explanations of the data and their formed part of the analysis process (Strauss and Corbin, 1990; Charmaz, 2006).

Step five: Quotes referred to in the themed memos were located the NVivo software and embedded into the themed memos as footnotes for easy reference.

Step six: Further review of all of the study codes and quotes and relevant data were inserted into the memos to support and to validate conceptualisation of the emergent themes.

Figure 11 below summarises the interaction of all the data sources.

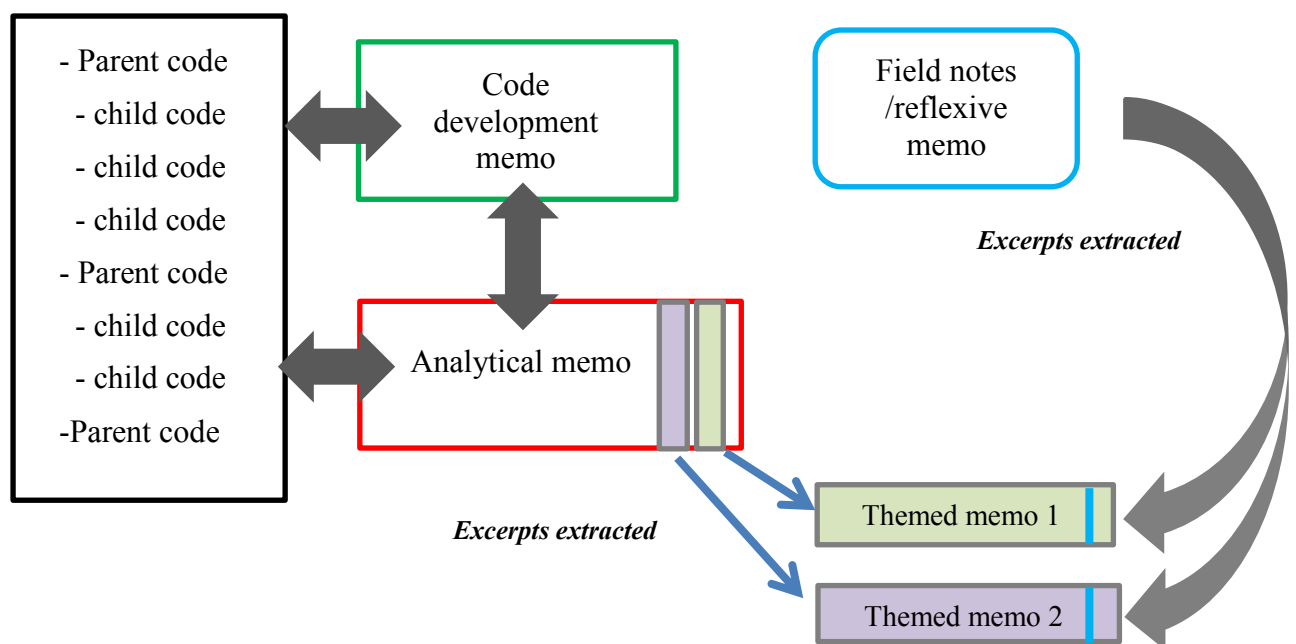


Figure 11: Integration of the data sources into the themed memos.

These nine themed memos were:

- Food hygiene didn't exist in the past
- Women as food hygiene gatekeepers
- Inconsistent care from carers
- Intergenerational food hygiene learning
- Overstoring food
- Food hygiene is linked to cooking de-skilling
- Medicine, health and food
- No one should be without food
- Food reflects relationships and wellbeing

To evidence the integration of all of the data sources, a summary of one of the nine themed memos 'Food hygiene didn't exist in the past' has been presented in Tables 2 and 3 below. Table 2 shows the sub-themes within this memo and the codes associated with each, which can be cross-referenced with the full code list in Appendix F. The number of data sources (interviewees) and quotes within each code has been provided in brackets. Table 3 shows a sample of the various data sources within one of the sub-themes 'Meal planning and storage' as the full themed memo and all of the quotes would be too lengthy to present. This memo has been selected as an example as it forms the basis of others i.e. if food hygiene wasn't perceived to exist in the past, then how was, and is, food hygiene knowledge learnt and shared? The thoughts in this memo were then developed in the 'Women as food hygiene gatekeepers' and 'Intergenerational food hygiene learning' and 'Food hygiene is linked to cooking de-skilling' themed memos. As with the other themed memos, the source of each excerpt has been stated with the date that the entry was made. Where a piece of coding has prompted a thought in the analysis memo, the quote referring to that thought has been placed in a footnote at the bottom of the page and additional codes and quotes that support the sub-theme have been included. Please note that the memo excerpts have received limited editing to retain the feeling of fluidity and 'immediacy of thought' and as a result the sentences may lack grammatically 'accurate' structure.

Table 2: Sub-themes and codes related to the example themed memo ‘Food hygiene didn’t exist in the past.’

Sub-theme 1: Food hygiene is hidden within cooking and parental practices

Past food hygiene: NV*: 'food hygiene didn't exist in those days' (total of 12 sources, 25 references)

Past food hygiene: kitchen cleaning as a necessary but no special thing (total of 11 sources, 15 references)

Past food hygiene: learning about 'FH**' from school, work or Mum (total of 4 sources, 10 references)

Past food hygiene: the perceived importance of handwashing (total of 6 sources, 8 references)

Past food hygiene: treating meat and milk (total of 2 sources, 3 references)

Current food hygiene: food hygiene practices as habit (total of 2 sources, 4 references)

Sub-theme 2: Meal planning and storage

Past food purchasing: NV: 'food was hard to get' (total of 12 sources, 29 references)

Past food storage: NV: 'anything that we could keep as long as we could would be kept' (total of 13 sources, 22 references)

Past food storage: no leftovers left (total of 10 sources and 15 references)

Past food hygiene: learning about 'FH' from school, work or Mum (total of 4 sources, 10 references)

Changed cooking and shopping habits: supermarkets (total of 8 sources and 11 references)

Sub-theme 3: Not knowing the age of food

Warden codes: role of carers in food: carers leaving food out (total of 1 source, 3 references)

Warden codes: older people eating more in social situations: not bothering to eat on their own loneliness and effort: no effort food to encourage eating (total of 2 sources, 3 references)

Current meal planning: easily done foods (total of 5 sources, 11 references)

Sub-theme 4: The impact of supermarkets

Past food purchasing: NV: 'food was hard to get' (total of 12 sources, 29 references)

Current meal planning: economy driving choice of foods (total of 6 sources, 10 references)

Technological advances (parent code) (total of 10 sources, 24 references)

Changed cooking and shopping habits: supermarkets (total of 8 sources and 11 references)

Current meal planning: convenience and ease of freezer use (total of 9 sources, 10 references)

Current meal planning: leftovers and clever storage and covering (total of 9 sources and 20 references)

Sub-theme 5: Looking clean is being clean

Current cleaning: importance of being able to clean (total of 7 sources, 9 references)

Current cleaning: routine (total of 9 sources, 15 references)

Current cleaning: looking clean is being clean (total of 4 sources, 7 references)

Future food provision: standards of future food provision (10 sources, 15 references)

Sub-theme 6: Kitchens as dangerous places

Parental cooking: kitchens were dangerous places (1 sources, 1 reference)

*'NV' relates to a code derived directly from the data i.e. 'in vivo' ** FH refers to food hygiene

Table 3: Example of the integration of data from sub-theme 2: ‘Meal planning and storage’ from the themed memo ‘Food hygiene didn’t exist in the past.’

Recorded field notes/reflexive memo

‘Notes. Hello this is Tuesday the 15 March [2011], just some observations, um, people just talking off-the-cuff to me before they have consented. Um, that storage was on a concrete block in the larder that there was no fridge, this was before central heating bear that in mind, central heating, larders also had cool blocks people stored things in the cellar with open vents to keep things cool, storage of lard in flour bags, and the belief that things now aren’t fresh, that vegetables aren’t fresh if they don’t have earth on them then they can’t be stored, they won’t keep fresh without earth on them. They used to store things under their stairs throughout the winter because they had soil on them.’

19.9.12 - from analytical memo

I’ve highlighted line 172³, Int. 9 because he mentions that food was put in the larder before it was cooked, not afterwards (it was eaten) so **pre-cooked meat may not have existed? Was there pre-cooked anything that wasn’t in tins? Ham? (is this why many of the older people I’ve spoken to use tins?)**

I’ve highlighted line 190⁴ (Int. 9), because it made me think just how scarce food was, not only that it wasn’t in the shops, but you maybe you couldn’t afford it if it was - doubly unavailable. You couldn’t just pop to the shops, you HAD to make do. Also buying just a piece of meat, probably a large piece, gave you so much flexibility on what to cook. You could make a number of different meals from it, but you needed to have the skill to prepare it.

Int. 9 Line 299⁵, I’m thinking the vicious cycle of people first using supermarkets (because they had cars? and then corner shops closing and then what did that mean?):

- People shopped less often
- Mass produced food
- Longer shelf-life
- Convenience food replaced cooking skills
- Harder for those with limited mobility to get to and move around

It’s OK for people who were brought up with it, but how did those who never used to buy pre-cooked or convenience food manage with learning new FH skills?

16.2.13 - from code development memo

Clever ‘storage’ code I’ve changed to NV code ‘anything that we could keep as long as we could would be kept’.

Int. 8.
This is interesting actually, this still applies today with food in the fridges/freezers, same mentality.

Codes and additional representative example quotes

Past food purchasing: NV: ‘food was hard to get’ (total of 12 sources, 29 references)

R: ‘...well in the local shops you used to have to line up for them like the used to say they got bananas in or something like that and we used to go ‘oh’ we would all go to the shop and line up and they would say ‘oh the sausages have come in’ you know the word went round, you know the neighbours they would say ‘Mrs, sausages are in, the eggs’, ‘right’ she used to say ‘you go first and then when you come back I’ll go and get us a bit extra food’ you know that’s how you went on’(Int. 5).

R: ‘...we did, hand to mouth, I mean, my father didn’t get that much, not as farm foreman’ (Int. 6).

³ **Code:** Past food storage: NV: ‘anything that we could keep as long as we could would be kept’ R: ‘A larder with like a shelf, like a cold shelf, like to put the meat on.’ I: ‘Ok so meat was sometimes put in there before you ate it maybe or after?’ R: ‘No, when it was bought.’

⁴ **Code:** Past food purchasing: NV ‘food was hard to get’ R: ‘Dad used to have a nice big garden and he used to grow a lot of vegetables and we had a couple of fruit trees and mum used to bake pies with you know it’s all sort of make do, it wasn’t sort of you run out of this you go to the shops I mean you just made do.’

⁵ **Code:** Changed cooking and shopping habits: supermarkets. I: ‘So what happened when supermarkets started to come in did that change the way that you shopped?’ R: ‘Oh yeah, oh yeah we used to go to the supermarket because practically all those corner shops closed because they were out of business weren’t they, when the supermarkets all came.’

Past food storage: NV: 'anything that we could keep as long as we could would be kept' (total of 13 sources, 22 references)

R: '...you'd buy the brawn we would always buy that on the day we were eating it so that would be bought on the Saturday you know those things your meat and that because we didn't have any fridge or anything so all our meat, fresh produce was always bought day to day' (Int. 1).

R: 'We had like a little box fridge you know, it had wire all round and sometimes if it was too hot we used to put it out in the garden, like cover it over of a night with a cloth, and leave it in the garden that was the only place like we could get it a bit cooler, yeah' (Int. 5).

Past food storage: no leftovers left (total of 10 sources and 15 references)

R: '...No there really wasn't any leftovers, only if you were going to make a steak and kidney pudding there were five in our family so that would one bowl you know a decent size basin a pound and a half of steak and kidney and your veggies and that would be eaten that day, the day it was cooked, there was very rarely any leftovers' (Int. 1).

R: 'No we didn't have things to waste no, no I would say that everything was used up, yeah' (Int. 10).

Changed cooking and shopping habits: supermarkets (total of 8 sources and 11 references)

R: 'Oh gosh, I can't remember to tell you, the truth well I suppose I used to shop at the weekend you know when I wasn't at work and then store it as I say of course in those... I had a fridge, whereas my mum had this larder as we called it' (Int. 3).

R: 'Well that come about with the organisations creating all the food and grabbing all the market like your Tesco's and that kind of thing when I was a kid, it was more local' (Int. 10).

Past food hygiene: learning about 'FH' from school, work or Mum (total of 4 sources, 10 references)

I: 'Ok, do you remember your mum showing you about how to do things properly with hygiene?'

R: 'Oh yes, yes she was very good at that and she made sure I did' (Int. 3).

R: 'Oh yeah, yeah we had to put the chopping board that was... she had some sort of liquid which she used to make up and we didn't have sprays or anything like that in those days so you would dip a cloth in it or pour it on the cloth and give the old wooden board a good old clean down it was a form of washing up liquid water was very, very hot in the house you know' (Int. 11).

7.3.13 – themed memo SUMMARY

Food hygiene was *not perceived* to exist in the past (current FH = dates, storage, hand washing, knowing the age of food, preparation, cooking, cleaning etc). Instead it was limited to hand washing occasionally and kitchen cleaning, looking clean = being clean, visible actions. No one can recall professional FH teaching except some at school, embedded in cooking practices and tacit but occasionally viewed by children and impacted on values?

Development of the asset maps (see chapter eight) required an overview of these developing themes by relating them specifically to food hygiene 'assets' by asking the following questions of the data in sequence:

- Can I identify a factor that has the properties of a food hygiene asset (according the definition of a health asset as per section 3.2)?

- Does this asset lie internally or externally to a person (as per previous asset categorisation Baban and Craciun, 2010; Rotegård *et al.*, 2010; Brooks *et al.*, 2012; Whiting, Kendall and Wills, 2013)?
- What other evidence do I have to suggest that this factor is a food hygiene asset (referring to other sources of data and to the literature) and is it therefore reasonable to categorise this as an asset?
- What other assets are there that have similar characteristics and can they be grouped together?

The developing thoughts were then reworked into two pen and paper sketches of how the internal and external asset maps could be constructed. These diagrams has been scanned and inserted in Appendix F (dated 3rd April 2013). These two diagrams show the emergent relationships between concepts and the final integration and essence of thought which surrounded the analysis up to that point. Initial ideas on expressing the asset maps according to the life course or health ‘need’ were later discarded as they were too complex a layer to express in the maps. The third and last level of conceptualisation was derived from the thoughts and codes expressed across a number of the themed memos to develop the ‘story line’ theoretical theme expressed in Figure 21. This process will be explained fully in chapter eight.

The processes followed in the data analysis can be seen as a combination of a mainly ‘Glaserian’ approach (spontaneous coding and memo writing whilst asking no pre-defined questions of the data) and ‘Straussian’ (having undertaken a previous literature review) approaches. This meant that the researcher could not ignore previously acquired knowledge, but attempted to retain an ‘open mind’ on the data she encountered. Although warnings are made about mixing the two techniques due to the differences in the underlying epistemological standpoints, ‘the researcher’ has been urged to just ‘get on with doing it’

(Heath and Cowley, 2004, p. 149) according to their individual cognitive style in order to develop 'a' theory, not 'the' theory, that aids understanding of the area under investigation. It is for the researcher to adopt and adapt the processes according to the diverse range of studies (Charmaz, 2006) and to their individual way of analysing data.

5.6 Researching older people

This section will outline the formal ethics regulations required by the University and wider research governance before moving on to the additional ethical measures that were taken which were pertinent to this research and its participants.

5.6.1 University research governance and ethics

University Regulations regarding research ethics approval (University of the West of England, 2010a) national guidance (Department of Health, 2005) and local standards of governance (Code of Good Conduct for Research) (University of the West of England, 2010b), were adhered to during the course of this research. The following sections provide some key information on the various components of the research process that sought to maintain the dignity, rights and equity of the older person, whilst also protecting the researcher from harm.

5.6.2 Ethics approvals and amendments

For the purposes of the questionnaire, information sheet and consent form, the study was renamed the 'Wise Eating in Later Life' (W.E.L.L.) for simplification and given an attractive logo to provide an easily recognisable 'brand' to the study. These documents can be seen in Appendices B and C.

The purpose of the ethics review was to ensure that the research question could only be addressed by the involvement of a vulnerable group (Moore and Miller, 1999) and that the welfare and rights of study participants would be upheld through the research process through an assessment of the risk to benefits ratio of participation (Sieber, 1992), supported by the evidence of no criminal convictions through the attainment of a clear advanced Criminal Records Bureau (CRB) certificate.

There were three applications to the University of the West of England's Faculty Research Ethics Committee; an initial application (granted December 2010) and then a further two substantial amendments (granted April and November 2012).

The first substantial amendment was in response to recommendations that arose during the progression examination. It also requested permission for the use of an oral descriptor of the research project to be read to those with poor eyesight (this can be viewed in Appendix C), and for the recording of digital consent if required. Approval was also sought and granted for the researcher to interview older people in their homes where they were too frail or reluctant to travel to the community centre or sheltered accommodation sites. The second substantial amendment requested the inclusion of Phase III into the study (the warden interviews).

5.6.3 Health and safety risk assessment

The Faculty processes for a thorough Health and Safety Risk Assessment were undertaken and permission to proceed with the research was granted in November 2010. This was updated in response to the first substantial amendment to the ethics committee and included the potential additional hazards faced when entering into a research participant's home. This second assessment was reviewed and granted in March 2012.

5.6.4 Confidentiality and data storage

The study participants' personal information was stored securely and anonymously on a password protected computer in a secure and safe environment, in line with the Data Protection Act (HM Government, 1998) and local (University's Data Protection Guidelines) (University of the West of England, 2010c) regulations. Documents that linked anonymous study codes to participant's real identities were password protected, and no names were disclosed during dissemination or publication of study results to maintain confidentiality. All electronic data in relation to the study were backed up in a format presumed to be accessible

for a number of years. All study materials, records and data will be stored for a minimum of five years for reference following the study and in the event of any queries arising from publication.

5.6.5 Research involving a ‘vulnerable’ group

Older people are often considered to be a ‘vulnerable’ group, and although this broad-aged population is far from homogenous, there are specific characteristics held by some which warrant particular care and attention during the research process. This section will explore the term ‘vulnerable’ and its relevance to this research population and then proceed to describe the various processes that were employed in response to protect the research participants.

Definitions of vulnerability are based on a range of factors such as integration into the community, social status and power to self-determine. Silva (Silva, 1995) states that vulnerable persons are those who experience ‘diminished autonomy due to physiological/psychological factors or status inequalities’ (p. 15), expanded by Schröder-Butterfill and Morianti (2006) to include those who are disempowered and have less access to social protection. Moore and Miller (1999) later extrapolate these characteristics to those who lack the ability to make personal life choices and to maintain independence; making them more likely to experience real or potential harm during the research process.

Older people are more likely to experience social isolation and have less social connectedness (Flaskerud and Winslow, 1998). They may have reduced power and human capital (Aday, 1994; Evans, Barer and Marmor, 1994) as a result of their reduced ability to contribute economically to society due to retirement from the paid workforce or with their skills or time (Fried *et al.*, 1997). Some older people can be considered doubly vulnerable (Copp, 1986; Moore and Miller, 1999), as they may experience more than one factor that could diminish their autonomy. For example, advanced age and marginalisation from society due to the physical inability to integrate due to lack of mobility or the necessity to live in assisted living accommodation that separates some from the larger community, would fit the criteria of being doubly vulnerable. Indeed it can be viewed that those who have the greatest impairment also have the least autonomy (Stalker, 1998), as many aspects of their lives are

seemingly controlled by others, hence, sensory impairment or physical ill health may also increase the vulnerability status of the target population of this research according to the definitions of vulnerability stated above. Older people can also be viewed as politically marginalised, and suffer discrimination and stigma. The reduced prevalence of older people involved in clinical research (Bayer and Tadd, 2000) and their under-representation in academic literature (Gurwtiz, Col and Avorn, 1992; Larson, 1994), has been argued by some (Bowling, 1999) to reflect societal attitudes to older people, or reflect a fear of multiple confounding biases and perceived reduced cognitive ability limiting their ability to contribute to research (Bayer and Tadd, 2000). However, excluding older people from research which could improve the health, care and well-being of this population could be seen to diminish their autonomy further and so involving older people directly in research is a way of hearing their voice; of generating new research evidence to lessen inequalities by empowering them and those who care for them.

Further critics have argued that the dynamics of power in the ‘researcher’ and ‘researched’ relationship are heavily imbalanced when involving the ‘vulnerable’ such as older people in the research process. If, as in this research, older people themselves have been recognised as being the ‘best authority on their own lives, experiences, feelings and views’ (Stalker, 1998, p. 5) as expert witnesses (Birren and Deutchman, 1991) it does raise questions of how best to conduct research with older people in order to preserve their equitable status in the process. The researcher concurred with Raudonis’s (Raudonis, 1992) view that the preservation of the power balance between the researcher and the researched should not extend to being over-protective of potentially vulnerable patients, and researchers should avoid making ‘paternalistic decision-making supposedly made in the (person’s) best interests’ (p. 242) which could be seen as reducing their autonomy further. In fact, historical research has long considered the therapeutic benefits of telling one’s story and of being listened to (Rogers,

1952; Egan, 1975; Peplau, 1988; Thompson, 1988), such as in autobiographical interviews. This form of interviewing therefore has the benefit of readdressing the power balance (Atkinson, 2004) where the older person can ‘develop greater understanding and self-worth, through enabling them to get a perspective on their life’ (p. 698). Consequently, giving older people the opportunity to be heard in the setting of an ethical research study could reduce both health and social inequalities and concerns regarding the didactic power imbalance in the researcher/researched relationship.

In response to concurrently acknowledging potential vulnerability and respecting the autonomy of the older people involved in this research, the researcher followed the ‘ethics as a process’ approach (Ramcharan and Cutcliffe, 2001). This approach recommends specific techniques that can be used to address ethical concerns in qualitative research (Cutcliffe and Ramcharan, 2002). This model advocates the monitoring of the risk-to-benefits ratio of participation as an on-going process, setting it apart from *a priori* consent given during quantitative research. Using this approach throughout the research process, particularly during the relationships formed before and during dyadic qualitative interviewing, ‘new potential ethical concerns are balanced against emerging benefits’ (Cutcliffe and Ramcharan, 2002, p. 1002). This is in recognition that not all risks are evident at the time of the submission to the ethics committee. The sections that follow detail the approaches that were taken to protect the potential ‘vulnerable’ status of all participants and the on-going one-to-one ‘research as a process’ flexible approach when encountering vulnerable individuals during the research.

5.6.5.1 Gaining access

Very often the term ‘vulnerable’ is used interchangeably with ‘hard to reach’ (Liamputtong, 2006) and although many older people will not be socially hidden from those wishing to conduct research, those with limited mobility or in poor health may be. Seeking permission

from 'gatekeepers' of vulnerable groups is a way for researchers to not only gain access, but also validate their research and role in the eyes of the participants (Liamputtong, 2006). Two different approaches were taken when seeking access due to the different gatekeeper roles the researcher encountered.

It was clear that the manager of the community centre at site E was heavily involved with the community as a whole, as evidenced by her late working age (70 years) and prestigious recognition in that role (CBE). This manager could be viewed as a 'status peer' (Tewksbury and Gagné, 2001), as someone with authority who can act to introduce researchers to the group and who can 'help secure the trust of community members' (Tewksbury and Gagné, 2001, p. 78). For the AgeUK sites, the gatekeepers were in a formalised position within a local hub of a large charity, acting as a 'gatekeeping agency' (Liamputtong, 2006). The researcher met with the lunch club manager in Hitchin and the regional AgeUK lunch club manager prior to visiting the sites. Both managers were provided with the study information sheet and evidence of CRB clearance. The researcher volunteered to meet with the AgeUK site staff during their bi-monthly meeting to inform them about the study and make them aware of what was required from them, which did not extend beyond welcoming the researcher to the site and generally being enthusiastic about the research to the site visitors. This is an approach advocated by Stalker (1998), who recognised that '..staff on the ground wield considerable power in terms of facilitating or impeding access..' (p. 8). Both the gatekeepers/site managers were provided with a timetable of visits by the researcher so that the staff and visitors would know when to expect her visits. In this way all the staff involved in the 'gatekeeper agency' (Liamputtong, 2006) would understand the demands of the study on the agency (Teplitz, 1993; Moore and Miller, 1999). The researcher therefore considered that she had approached the appropriate gatekeepers to authorise and confer credibility to her

study and her presence on site in the eyes of the lunch club visitors whilst also protecting their potentially vulnerable status.

5.6.5.2 The consent process

A copy of the study information sheet, consent form and oral descriptor can be found in Appendix C. The process of informed consent is characterised as being at the heart of ethical research in the Research Governance Framework for Health and Social Care (Department of Health, 2005) and as such every effort was taken during this research so that the older person could access the study information presented. The information sheet and consent form were in large type font to maximise legibility whilst attempting to keep the overall length to a minimum so that the study information could be clearly articulated, an approach taken by Moore and Miller (1999). The information sheet also contained information on support agencies such as Cruise bereavement counselling that could be contacted should the research cause distress or any unwelcome feelings when talking about deceased friends, family and spouses.

Potential participants were given the information sheet or read the descriptor by the researcher during her lunch club meetings and had as long as they wished to consider taking part. Those who gave written or oral consent to take part in the study completed the questionnaire directly afterwards. The researcher had therefore taken steps to inform potential and recruited participants of the study as much as was reasonably possible and given them as long as they wished to decide whether to take part.

5.6.5.3 Interview flexibility

Those who were invited to take part in Phase II of the study were given the option to decide where and when the interview should take place. The researcher did not want to insensitively interfere with 'routines, lifestyles or treatments' (Moore and Miller, 1999, p. 1039) and

wished to maximise the cognitive and physical abilities of the older person, and to eliminate concerns around transportation as recommended by Moore and Miller (1999).

All interviewees were sent a letter providing details of the agreed date and time of the interview. The letter also reminded the older person of the interview topic and re-iterated their right to cancel or change the interview time and location. This letter was in legible large font so that they could have a written reference to the arrangements. Interviewees were then telephoned the day before, as specified in the letter, to confirm the details of the interview. As a result, participants had numerous points to express their wish to withdraw from both the questionnaire (using the contact details on the information sheet) and the interview stage, following the 'ethics as a process' approach. Two people took this opportunity to decline undertaking an interview, and none wished to withdraw from the questionnaire phase.

Following the second substantial amendment to the ethics approval (April 2012), the researcher gained permission to conduct interviews within participants' homes, an important component of putting the interviewee at ease (Moore, 2002; Herzog, 2005), particularly if they have poor eyesight (Moore, 2002). The researcher also allowed the interviewee to decide which room and in which chair they would like to sit for the interview so that they would be most comfortable and could see the researcher most clearly. According to Moore (2002), this allows for those with poor eyesight to position themselves and the researcher in a particular light or at a particular angle to maximise their comfort and vision.

The researcher stressed to all interviewees that they could have a member of their family or friend present during the interview. One person had several family members present at the start of the interview, acting as 'family gatekeepers' (Moore and Miller, 1999) but they left shortly afterwards reassured of their relative's welfare.

There was no financial payment for the interviewees to thank them for their participation but they were presented with a packet of biscuits at the interview, the 'small gift' as recommended (Atkinson, 1988; Stalker, 1998) and sent a 'thank you' card shortly after. Additional 'payment' was also offered to some in terms of help with routine tasks that were requested of the researcher at the time of the interview (e.g. storing contact numbers in a participant's mobile telephone or walking with them to the shop to buy an ice-cream). In this way the researcher had attempted to remain flexible during the research process to accommodate the needs and wishes of those who had participated whilst also protecting their potentially vulnerable status, expressing multiple small tokens of appreciation to the participants without feeling that she had reduced the equitable power balance of the relationship by giving gift vouchers or a more expensive gift.

5.7 Time in the Field

5.7.1 Establishing trust and rapport

Mass recruitment via mailshots or via the internet solely were unlikely to reach or interest this particular population group, and expected recruitment with this approach would have been low (Moore and Miller, 1999). Face-to-face interaction with older people was considered the best approach, where taking time to get to know them as people was required to establish the trust and rapport required for qualitative research enquiry (Fontana and Frey, 2005):

‘it is paramount to establish rapport with respondents; that is, the researcher must be able to take the role of the respondents and attempt to see the situation from their viewpoint rather than superimpose his or her world of academia and preconceptions on them’ (p. 708).

The researcher embarked on visiting the sites on a rotating basis for a period of six months, a similar strategy employed by Ingram (Ingram, 2011), and others (Flynn, 1986; Atkinson, 1988; Simons, Booth and Booth, 1989) where the potential research participants became accustomed to her presence and they started to get to know each other. During the visits to the research sites, the researcher sat and talked with the lunch club visitors, drank tea and shared the community lunch club meals with them. These were friendly interactions, Wenger (2002) advocates that when conducting research with older people it is important to put the participants at ease by being friendly and showing interest in them as people and reassuring them that their contributions would be valued without using coercion. The topic of the research came up naturally in most situations during the first or second visit to the clubs. Some older people were keen to take part in Phase I of the study during the first few visits when the research was mentioned, whereas others only volunteered to take part after some months. Considerable efforts were taken not to talk about the research on every visit and only

when the topic was raised by one of the older people. Site visits continued as participants in Phase I were approached to ask if they would still be willing to take part in Phase II, as they had previously expressed on the consent form. In this way there was some overlap between the Phase I and II study phases and contact with the study sites was maintained throughout data collection and analysis.

5.7.2 Field notes and the reflexive memo

The researcher wrote and verbally recorded field notes during and following her visits to the field sites and interview locations as part of the research process. An excerpt of the field notes/reflexive memo has been included in Appendix A. These field notes captured unstructured observations (Pretzlik, 1994) the researcher made during her extensive time in the field which had an indirect influence on qualitative data analysis. The contribution that the field notes made to the study's insights are discussed in section 5.2. These field notes were written along with reflexive writing within the same document as a fluid integration of the two types of writing; some paragraphs and sentences were descriptive of observations she had made and some were reflexive upon the researcher thoughts, feelings and emergent concepts linked to the research analysis.

The types of informal observation made in the field notes were related to the role taken by the researcher on site in the presence of the lunch club staff and visitors. The researcher held the role of a 'participant observer' (Gold, 1958), taking part in the activities at the lunch club sites (such as eating with the visitors, clearing the plates following the meal and participating in games) informally. The visitors were aware of her purpose in visiting and she openly discussed the study with those she encountered on site. The field notes summarised these conversations and other informal observations, experiences and thoughts the researcher encountered during the site and interview visits. The researcher believes that this observation and fieldnote writing provided supporting evidence for 'process' in the social world and

concur with Mulhall (Mulhall, 2003); 'Interviews with individuals provide the pieces of the jigsaw and these pieces are then fitted into the 'picture on the box' which is gained through observation' (p. 308). This then was a Grounded Theory study which used field notes to provide an ethnographic perspective which was used to further inform and ultimately influence the research analysis.

Field notes were either recorded verbally, in private and unwitnessed on site, on the Dictaphone used to record verbal consent, or typed up soon after the researcher returned from a site visit in chronological order. The differing formats of the field notes tended to cover slightly different aspects of personal experience. The verbally recorded field notes generally described snippets of dialogue that she had heard or conversations that she had taken part in while on site, regarding tangible food hygiene assets, such as aids, adaptations and food shopping services that people stated that they used or historical reflections. These summaries of conversations were with people who knew the study topic but were either unwilling to 'officially' take part in the study (but had given verbal, but unrecorded, permission for the researcher to use the information they had provided during these conversations) or those who had just consented to take part and who wanted to talk about it there and then.

When the field notes were typed up after returning from the site visit they were incorporated into the reflexive memo which recorded all her thoughts, feelings and experiences from the site visit. The notes made in this large Word document were unstructured, written in the first person and covered subjects such as the physical environment, events, encounters and conversations with people at the research site or thoughts that occurred to the researcher following an interview relating not just to the interview itself, but the interviewee's home, demeanour and appearance. This field note/reflexive memo was therefore a mix of 'impersonal' (layout of home, weather, presence of displayed family photographs) and

personal observations (recording thoughts and opinions of the study participants and the study topic following a site visit/interview).

Consequently the field notes in either final format (verbal recording or written memo) were a representation of experience and observations reconstructed by the researcher (Tjora, 2006), which although they were not analysed as research data themselves, would have directly influenced the analysis of the qualitative data (Coffey, 1996) as they are 'encoded within the author's conscience, understandings and interpretations' (p. 66). The construction of field notes from site observations also raised ethical considerations regarding her relationships with those she encountered on site visits. Both of these elements will now be discussed.

Both forms of field notes were subject to biases related to 'salience hierarchy' (Wolfinger, 2002). Only recording what appeared to be salient to the researcher was highly subjective, context specific and according to her preconceived beliefs of tacit, taken-for-granted knowledge (Wolfinger, 2002). Observations which 'stood out' to the researcher were recorded either because she perceived them as deviant to her existing knowledge/ideas/beliefs or because they confirmed a line of thought that she was pursuing in data analysis at that time. The researcher is the primary stakeholder in the research process; her knowledge, experience and skills as a researcher, set against a backdrop of personal life experience coupled with time and role pressures could all influence her perception of what constitutes day-to-day inductive thoughts, blinding her from other lines of thought and enquiry. This field note/reflexive memo therefore formed a contextual 'bridging' 'diary' between existential experience and her primary research text; an extensive analytical memo where she inquired, probed and developed the codes and themes originating from the interview data. The field notes therefore influenced the interpretations and potential explanations postulated in the analytical memo, both aiding the understanding of cultural behaviour but also constrained by a unique set of biases.

This unavoidable bias in the qualitative data analysis process is an inescapable problem encountered by every researcher which leads to questions of data validity and trustworthiness. Recommended steps to reduce researcher bias, for example a second observer for inter-researcher comparisons and observations made at different times and locations (Bowling, 2002), were not available to the lone PhD student accessing these research sites, and large probability based sampling was inappropriate for the aims and objectives of the research. However, the knowledge and experience expressed by the field notes was another form of 'data' to be used alongside the research data themselves; the questionnaire, older person interview data and the observations made by the wardens. As such, they were used to enhance rigor/authenticity and validity/trustworthiness to the best of the researcher's ability. Further acknowledgement of the biases stated in this section and the influences they had on data analysis and theory conceptualisation also confers validity/trustworthiness to the data by enhancing the transparency of the research process (Meyrick, 2006).

Observations recorded from the field also raise ethical issues. Consent was obtained from those who wished to take part in the study, and verbal consent from those topic-specific conversations were held with, but it was not sought by everyone who entered the field setting who may have been mentioned in the field notes. The researcher made every effort to let everyone know the purpose of her visits, but attempting to speak to everyone about the study in the researcher's sight would strain developing rapport with others and leave no time for recruitment to the study itself. The researcher used her discretion to deal with these issues in advance and when they were encountered in the field; permission to gain access to the research sites was sought and provided by those in a gatekeeper role, and regular visitors to the lunch clubs were informed of her purpose for visiting. Full informed consent was obtained from everyone who undertook a questionnaire or an interview. As a result a

common sense approach in dealing with the ethical problems that arose regarding observations at the sites and any resulting field notes which influenced data analysis and the study results.

Sections of the same document served as the reflexive memo which was an outlet for self-appraisal (Mays and Pope, 1995; Meyrick, 2006; Rolfe, 2006) and to express the 'distance' (Mays and Pope, 2000, p. 51) between the researcher and the data during the research. The on-going reflexive memos/field notes served as an outlet for any negative thoughts or feelings that the researcher felt during the data collection process, so that they did not unduly influence her personal attitude towards individual interviewees. Likewise the researcher was able to express and acknowledge her positive feelings towards certain people she encountered and was becoming friendly with, aware that she may spend too much time with them and not others. In this way the researcher could voice her opinions and express her emotions, which served as a form of personal self-protection therapy. This increased her resilience to any emotional difficulties encountered during the research process also applying the 'ethics as a process' approach to the researcher's own welfare.

5.7.3 Exiting the field

The researcher did not want to create a relationship vacuum (Bayley, 1997) in exiting the field and suddenly ceasing contact with the older people at the sites. Neither did she wish the interview to be viewed as a single 'hit-and-run' data collection event (Cutcliffe and Ramcharan, 2002, p. 1006) by 'parachuting in and out' (Stalker, 1998, p. 17) and so contact continued in line with the 'ethics as a process' model. Therefore, as data collection continued, visits to the lunch clubs became more infrequent and eventually tapered off. The researcher arranged for the purchasing and distribution of a small communal gift to the lunch groups by way of large type playing cards which would be suitable for most to use and enjoy. Eventually the researcher wanted to exit her time in the field conclusively, to manage the

expectations of continued contact as advocated by Stalker (1998) and to express her appreciation for the visitors' involvement in the research. In this way the researcher was able to thank all the visitors at the site for welcoming her on site not just those who were recruited into the study.

5.8 The Research Sites

There were six research sites accessed by the researcher during the course of this research. One site was a community centre in the historic market town of Hitchin, Hertfordshire, and four sites were council-run sheltered accommodation homes in the purposely built ‘new’ town of Milton Keynes, Buckinghamshire. The sixth site was a ‘virtual’ internet website hosted by the ‘University of the 3rd Age’ (U3A), an older person’s interest group, in the Milton Keynes area.

Purposive selection of the research sites permitted the researcher to access the range of study participants required to fulfil the Phase I sampling strategy (see section 5.3.4). Site recruitment was therefore on-going during the data analysis process, so that potential sites were assessed as a source to recruit any foreseeable ‘gaps’ in the required study population. The research site information will first be provided by way of the district data of Milton Keynes and Hitchin, then move to the study sites locations, and then finally some characteristics of population groups who visit them.

5.8.1 The towns of Hitchin and Milton Keynes

Table 4 shows some key population data from the districts of Milton Keynes and Stevenage, the latter of which encompasses Hitchin. All data comes from the 2011 Census via the ‘Nomis’ website, Official Labour Market Statistics (Office for National Statistics, 2012b). The data supplied by the website were by area only, and so the market town of Hitchin has had its data subsumed in that for the Stevenage area, a ‘new’ 1960s town nearby.

Table 4: Population characteristics of the Milton Keynes and Stevenage/Hitchin Districts.

	Milton Keynes district	Hitchin (Stevenage district)
District Population Variable		
Total Population	248,821	83,957
Sex ratio (M:F %)	49.5:50.5	49.4:50.6
Area (hectares)	30,862	2,596
Density (people per hectare)	8.1	32.3
<u>Total Pop: % Ethnic mix</u>		
Total White	80	87.7
Mixed	3.3	2.7
Total Asian	9.2	5.8
Total Black	6.9	3.4
Total 'other'	0.6	0.5
<u>% Total Pop: General Health</u>		
Very good/good	85	79
Fair	10.8	15
Poor/very poor	4.2	6
<u>% Total Pop: Approx. Social Grade</u>		
AB	25.4	19.7
C1	32.1	32.3
C2	18.3	23
DE	24.2	25.1
% Total Pop: Single by being Widowed	4.7	6
<u>Older Population</u>		
% of Pop over 60 years	16	19
% of 65 years Ethnic Mix: White	94	96
% General Health in over 65s		
(V good/good : fair : poor/v poor)		
65-74 years	61:28:11	60:30:10
75-84 years	41:41:18	43:41:16
85 and over	30:48:22	29:48:23

Milton Keynes has a much larger population (428,841) than the district of Stevenage/Hitchin (83,957), has over 10 times the area but at a much lower population density per hectare (8.1 vs 32.3). The district of Stevenage/Hitchin has a higher proportion of older people (over 65 years) living within it than Milton Keynes; 14% rather 11%. This is also borne out by the higher rate of single widowers; 6% compared with 4.7% in Milton Keynes. The over 65s are also proportionally more from a white ethnic background, (96% in Stevenage/Hitchin and 94% in Milton Keynes) compared with the overall population in these towns of 87.7% and 80% respectively, showing that there is a higher proportion of people from a white ethnicity in both the total and the older population in the Stevenage/Hitchin district than in Milton Keynes, which increases in older age (data not shown).

People in the Stevenage/Hitchin area also seem to be in slightly poorer health, having a higher proportion of people classing their health as 'fair' or 'poor/very poor'. The reporting of poorer health in the total population of Stevenage/Hitchin is also reflected in the general health of the over 65s, excluding those in the 75-84 year old age bracket reporting greater 'very good/good health'.

Social Class grading is by the National Readership Survey (National Readership Survey, 2012), a non-profit making commercial company who supply information to the newspaper industry whose services have been in use since the 1950s. The social grade AB refers to upper middle class/middle class, C1 being lower middle class, C2 being skilled working class and D being working class. The Stevenage/Hitchin area has a slightly higher proportion of those in the lower social class grades, and a smaller proportion in the upper grades.

5.8.2 Site lunch clubs

The researcher selected sites that ran weekly lunch club groups where older people gathered to share a meal cooked by the site staff and to socialise. The reasons for this were manifold.

Older people who visit lunch clubs held in community centres or in sheltered accommodation have already self-selected themselves as having a social or health need for food provision, and have already utilised this service as an asset. Immobile visitors to the community centres are also assisted to travel to the lunch clubs by the use of community transport such as minibuses, again indicating need, but also allowing for targeted recruitment *en masse* of ‘hard to reach’ (Liamputtong, 2006) groups. Community centres also often have the facilities and space to conduct interviews if necessary. Lastly, the lines of managerial ‘gate-keepers’ through which older people can be approached are clear (see section 5.6.5.1), and permission was obtained through signed ‘letters of access’ by the researcher.

5.8.3 Site characteristics

The three types of site (community centre, sheltered accommodation, and internet website) had distinct characteristics due to their location, overall purpose for their users and therefore the people that visited them. Table 5 shows the characteristics of the various research sites.

Table 5: Characteristics of the research sites.

Research Site	Group use	Site type	Area	Location	Site Governing Authority	Access rank
A	AgeUK Lunch club	SA	Mixed residential	MK	MKC	3
B	AgeUK Lunch club	SA	Mixed residential	MK	MKC	3
C	AgeUK Lunch club	SA	Mixed residential	MK	MKC	4
D	AgeUK Lunch club	SA	Mixed residential	MK	MKC	4
E1	Lunch club	CC	Social-Housing	H	NHDC	1
E2	Phys. activity group	CC	Social-Housing	H	NHDC	2
E3	Shopping excursion group	CC	Social-Housing	H	NHDC	2
F	Website	General Information	-	MK	U3A	5

SA=Sheltered Accommodation, CC= Community Centre, MK= Milton Keynes, H= Hitchin, MKC = Milton Keynes Council, NHDC = North Hertfordshire District Council, U3A = University of the 3rd Age.

As Table 5 indicates, site E in Hitchin had a number of groups that used the community centre other than the lunch club group. The researcher also visited these other groups to get to know the visitors and to start data collection, having first visited the lunch club at the community centre. The researcher then approached the AgeUK organisers of the lunch clubs in the Milton Keynes sheltered accommodation sites for access; firstly sites A and B, and then added in sites C and D. Site F, the U3A website, was the last site to be accessed. Pictures of three types of sites can be seen below:



Figure 12: Photograph of one of the sheltered accommodation sites in Milton Keynes.



Figure 13: Photograph of the community centre in Hitchin (Site E).



Figure 14: Screenshot of computer showing the U3A website page (Site F) (Reproduced with permission from U3AMK).

5.8.4 AgeUK site population characteristics

Table 6 shows some of the population characteristics of the visitors at the AgeUK sites where the data were collected on a regular basis. The data shown are from May/June 2013 via personal communication with the lunch club manager.

Table 6: AgeUK Site Population Characteristics.

Research Site	Number in Group	% M:F	Average Age	% those who get AgeUK transport to club	% paying higher amount for lunch	% paying lower amount for lunch
A	17	29:71	91	41	41	59
B	19	16:84	85	42	42	58
C	23	21:79	89	87	87	13
D	28	21:79	86	54	54	46

Payment for lunch is means-tested by AgeUK and is an indicator of wealth. Site A has the population of lunch club visitors with the oldest average age (91), the smallest number of weekly visitors (17), and also the highest proportion of people who pay for lunch at the lowest banded price (59%). Conversely, site C has the highest proportion of those who pay the higher rate for lunch (87%), and the highest number of those in receipt of AgeUK transport to get to the lunch club site (87%) indicating greater prosperity and possibly overall immobility. The possible biases resultant from the recruitment of the study sample from these sites using convenience sampling will be discussed in the Conclusion.

5.9 The Phase I Study Population

5.9.1 Demographic information

Table 7 shows the personal characteristics of the questionnaire respondents presented by research site for Phase I. These data come from questions 5-20 in the questionnaire (see Appendix B). 40% of those who participated in Phase I were men and 60% women. 98% of those who completed a questionnaire were of White British ethnicity, higher than the populations in both towns where the sites were situated (96% Hitchin/Stevenage, 94% Milton Keynes). The corresponding data for the Phase II participants can be found in Table 15 in Appendix A.

Table 7: Sex, mean age and ethnicity of the Phase I participants presented by research site.

Site	Sex		Mean Age	Ethnicity
	M	F		
A	2	5	81.86 (SD10.66)	7 WB
B	5	4	82.78 (SD 7.69)	9 WB
C	2	3	86.40 (SD 6.10)	5 WB
D	3	3	80.00 (SD 5.33)	6 WB
E1	3	8	72.91 (SD 5.50)	10 WB, 1AC
E2	1	4	74.20 (SD 6.05)	5 WB
E3	2	2	87.25 (SD 4.78)	4 WB
F	2	1	66.00 (SD 3.60)	3 WB
TOTAL	20	30	78.98 (SD 8.82)	49 WB 1 AC

WB = White British, AC = Afro-Caribbean. A-E = AgeUK lunch clubs, Sites E1-E3 Hitchin community centre and site F = U3A

5.9.1.1 Age

The standard deviation (SD) for age was 8.82 years for the Phase I participants reflecting the broad range of the ages of people who took part, which varied between 62 and 99 years. The mean age of the male participants was 78.95 and 79 years for the female participants. Age

demonstrated a normal distribution when tested as a continuous variable and as demonstrated in Figure 15 when shown in the five year age groups (≤ 64 , 65-69, 70-74, 75-79, 80-84, 85-89 and 90+). One man from the Phase I population could not remember his age but has been included as he contributed other data. The corresponding graph for the Phase II participants can be seen in Figure 23 in Appendix A.

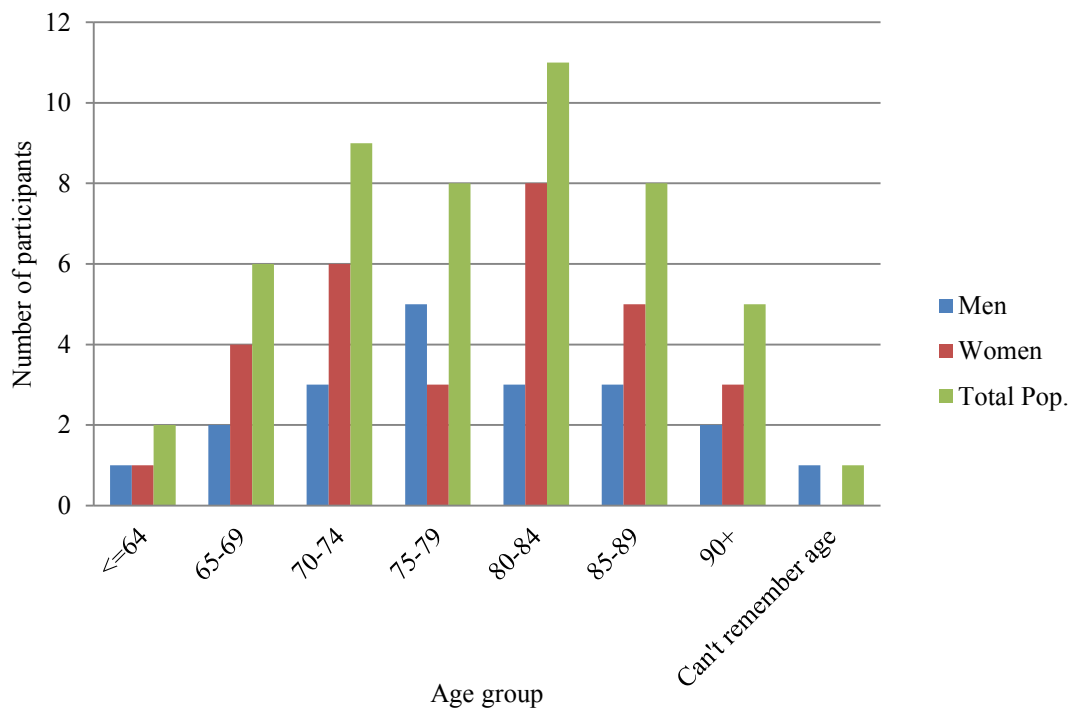


Figure 15: Number of Phase I participants in each age group by sex.

5.9.2 Living arrangements

5.9.2.1 Living companions

Table 16 in Appendix A shows the living companions of the older people taking part in study Phases I and II presented by sex and age-group. 80% (N=40) of the participants from Phase I lived alone, with both 80% of men and women living alone, and every participant aged over 80 years lived alone. Two people lived with their family; one man within the 75-79 age group and one woman within the 70-74 age group, with the remainder, eight (16%, five women and three men) living with spouses or partners.

5.9.2.2 Type of housing

Sixteen people (32%) of the Phase I population lived in sheltered accommodation, seven men (14% of total population, 35% of male population) and nine women (18% of total population, 30% of female population) with the remainder of the population living independently in their own or rented home. No-one lived in sheltered accommodation under the age of 74 years. Table 17 in Appendix A shows all the housing data by sex and age range for both Phase I and II participants.

5.9.3 Socio-economic status

5.9.3.1 State benefits

The state benefit data for Phase I and II participants is shown in Table 18 in Appendix A. There was no clear trend between age and receipt of benefits although women were higher receivers of multiple state benefits than men (17% of male population vs 50% of female population).

5.9.3.2 Deprivation scores

The deprivation data for Phase I and II can be found in Table 19 in Appendix A. This was calculated according to the participant's postcode as detailed in section 5.3.3.4. 32% of the Phase I respondents shared the same postcode because they lived in the same sheltered housing location and many of the remaining responders came from the immediate area surrounding the research sites. This resulted in little intra-site variability in deprivation scores.

5.9.4 Marital status and history

Table 8 shows the summary marital status data for Phase I participants according to sex and as a percentage of the total population. This table has been reproduced and combined with the data for Phase II participants in Table 20 in Appendix A.

Table 8: Summary of marriage data for Phase I participants.

Question	Phase I (M:F)	% of Phase I
Currently single	42 (17:25)	84
Currently married or have LTP	8 (3:5)	16
No. who were married in the past (incl. first marriages)	41 (16:25)	82
Mean duration of previous marriage	31.25 (SD 19.12)	-
No. always single	8 (2:6)	16

LTP=Long Term Partner

One man from each of the three lower age groups (≤ 64 , 65-69, 70-74) was married or in a long-term partnership, whereas two women were married or had a long term partnership in both the 65-69 and the 70-74 year old age groups, and one in the 75-79 age group. No one was married over the age of 80 years. The one male and the one female who were unmarried but who stated that they were in a long term relationship provided no information on the duration of that relationship.

Of the 42 people who reported that they were single, 38 responded to the question asking for how long they had been single. The greatest number of people had been single for over five years (N=29, 76% of the responding population), with 10 men reporting that they had been single for over five years (50% of male population) and 19 women (63% of female population).

5.9.5 Health

5.9.5.1 EQ5D

Tables 21 and 22 in Appendix A presents all of the EQ5D data from Phases I and II respectively. The data from the EQ5D is a self-reported measure of Quality of Life according to a three-tier scale of difficulty experienced when performing activities within five activity categories (problems with walking, problems with self-care, problems conducting usual activities, problems with pain and discomfort and problems with anxiety and depression) (see section 5.3.3.2). These EQ5D results are presented according to age and sex, along with the proportions (shown as a percentage) of those answers within the subgroup of sex. Forty-nine people answered this section of the EQ5D.

Table 21 from Appendix A is summarised in Table 9 which shows the data in terms of the reported overall proportions (as a percentage) of men and women within the five health activity categories. A corresponding summary for Phase II participants can be found in Table 23, Appendix A.

Table 9: The relative reporting of health within the five categories of the EQ5D between men and women in Phase I.

Health Category	No problems %M:%F	Some problems %M:%F	Unable/Severe %M:%F
Problems with walking	M>F (58:30)	M<F (31:60)	M<F (11:10)
Problems with self-care	M>F (79:73)	M<F (16:24)	M>F (5:3)
Problems conducting usual activities	M>F (47:40)	M=F (37:37)	M<F (16:23)
Problems with pain and discomfort	M>F (63:23)	M<F (21:57)	M<F (16:20)
Problems with anxiety or depression	M<F (53:67)	M<F (42:30)	M>F (5:3)

5.9.5.2 Change in health over the last year

Figure 16 shows an overview of the reported change in health proportionally (expressed as a percentage of the total population) in the past year for both men and women in Phase I. Forty-nine people answered this question, 19 men and 30 women. The summary corresponding data for the Phase II participants can be found in Table 25 (key summary differences between Phase I and II participants) in Appendix A.

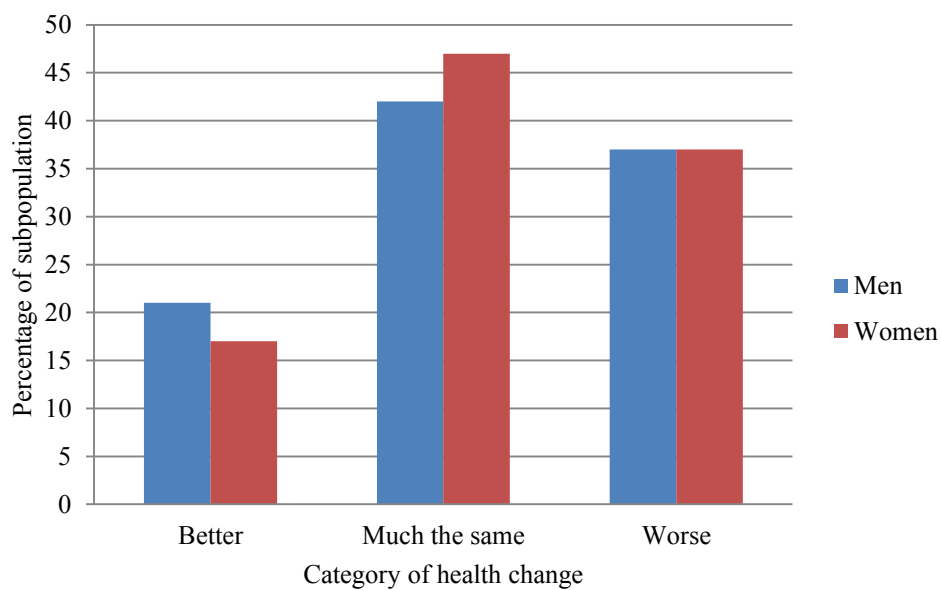


Figure 16: Graph showing a year's change in health between men and women in Phase I.

5.9.5.3 Visual Analogue Scale (VAS)

The VAS is a naught to ten cm horizontal marked linear scale where people can indicate their overall subjective health by intersecting the line where zero equals the worst health, and ten, best health experienced. Forty-eight people responded to the VAS question, 18 men and 30 women. As mentioned previously in the Methods chapter, the VAS scores did not show normal distribution and were positively skewed to the right and higher scores and was explored as a continuous variable for the inferential statistics. The mean VAS for the whole population in Phase I was 6.89cm (SD 1.83). For men in Phase I the mean VAS was 6.96cm (SD 1.84) and women the mean was 6.85cm (SD 1.85). Table 10 shows that the highest mean VAS scores were in the lowest and highest age groups but with a lower SD in the highest age group. This could suggest that some of the older participants perceived themselves to be in good health and some possibly making comparative adjustments to their subjective view of health as discussed in section 2.5.2. The VAS scores for the Phase II participants can be found in Table 25 (key summary differences between Phase I and II participants) in Appendix A.

Table 10: Summary VAS scores across the age ranges for Phase I participants.

Phase I - Questionnaires				
Age Range	No. of responders	Range (cm)	Mean (cm)	SD
≤ 64	2	6.5-10	8.3	2.5
65-69	6	5.5-8.5	7.3	1.0
70-74	9	4-10	6.5	2
75-79	8	4.9-8	7.1	0.99
80-84	11	2-8.5	6.3	1.93
85-89	8	3.4-10	6.5	2.2
90+	4	5-10	8.3	2.2
Can't remember age	0	-	-	-

5.9.5.4 NHS service use

Table 11: NHS service use in men and women for the preceding three months for Phases I participants.

NHS service	Phase I - Questionnaires			
	Positive responses: N=M:F	As % of all M:F responders	Mean age of positive responders: Men (SD)	Mean age of positive responders: Women (SD)
Had visited an OT or physio	2:1	11:3	75 (6)	80 (0)
Had visited A&E	2:2	11:7	68 (4)	68.5 (8)
Had stayed in hospital overnight	1:0	5:0	71 (0)	-
Had a clinic or outpatient appointment	8:14	42:47	76 (6)	79 (7)
Had visited doctor or nurse at GP surgery	11:18	57:60	77 (7)	77 (7)
Had a doctor or nurse visit at home	4:5	21:17	82.5 (12)	83 (5)

Men had a total of 11 hospital clinic visits and women had a total of 32 hospital clinic visits. The 75-79 age group had the most clinic visits for men (N=6 visits) and the 80-84 age group for women (N=13 visits). Two women had many visits, with one woman in the 70-74 age group having eight clinic visits, and one woman in the 80-84 age group having 10. The NHS service use data for Phase II participants can be seen in Table 24, Appendix A.

Table 12 shows the statistically significant associations between descriptive demographic variables. As previously discussed, age was explored as both a continuous and categorical variable with the latter involving the formation of aggregated groups (under and over 80 years and under and over 85 years) for the purpose of these tests.

5.9.6 Statically significant associations between descriptive variables of the Phase I participants

Table 12: Statistically significant associations within the descriptive characteristic variables of Phase I participants.

Variable 1	Variable 2	Test Applied	Finding 1	Post Hoc Test	Finding 2	Conclusion
Sex	Degree of pain and discom (EQ5D)	Chi Sq*	Pearson Chi-Sq 9.22 p= 0.010	Cramer's V	Value 0.249 p= 0.010	Women suffer from greater levels of pain and discomf. than men (medium-large effect).
Deprivation score	Research Site	Kruskal Wallis	Chi-sq 15.03 p= 0.010	Mann-Whitney U with Bonferroni adj.	Z score of -2.48 p=0.010	Site D has significantly higher levels of deprivation than all other sites.
Duration married in past	Research Site	Kruskal Wallis	Chi-Sq 13.01 p= 0.023	Mann-Whitney U with Boniferroni adj.	>= Z score of -2.47 p= 0.013	Site F respondents report significantly lower no. of years of being married in the past to all other sites.

* 80% of cells contain 5 or more counts

Variable 1	Variable 2	Test Applied	Finding 1	Post Hoc Test	Finding 2	Conclusion
Mobility (EQ5D): 'some problems'/'no problems'/'unable'	VAS	ANOVA	F=7.31 p=0.002	Eta squared	0.245	There is a significant difference (large effect– Cohen’s classification) in VAS score within 2 groups; a) those reporting: no problems and unable in the mobility section of the EQ5D b) those reporting some problems and unable in the mobility section of the EQ5D
Self care (EQ5D): 'some problems'/'no problems'/'unable'	VAS	ANOVA	F=3.39 p=0.043	Eta squared	0.131	There is a significant difference (medium effect– Cohen’s classification) in VAS score within 2 groups a) those reporting: no problems and unable in the self-care section of the EQ5D b) those reporting some problems and unable in the self-care section of the EQ5D
Pain and Discomfort (EQ5D): 'some problems'/'no problems'/'unable'	VAS	ANOVA	F=3.55 p=0.037	Eta squared	0.136	There is a significant difference (medium effect– Cohen’s classification) in VAS score within 2 groups: a) those reporting no problems and unable in the pain and discomfort section of the EQ5D b) those reporting some problems and unable in the pain and discomfort section of the EQ5D.

Variable 1	Variable 2	Test Applied	Finding 1	Post Hoc Test	Finding 2	Conclusion
Have you seen your GP or nurse at the doctor's surgery in the last 3 months?	≤ 84 and 85+ years	Chi Sq**	Pearson Chi-Sq 5.9 p= 0.02	Cramer's V	Value 0.347 p= 0.02	More people aged 84 and under reported visiting their GP or nurse at the surgery than those aged 85 and over (small-medium effect).

****0% of cells contained less than 5 counts. Minimum expected count 5.31.**

Analyses showed that age was not associated with the VAS scores (Spearman's rho - 0.033, $p = 0.86$). This could not be confirmed by self-reporting of health on the EQ5D, due to insufficient cell counts in the Chi-Square test when applied to the aggregated age groups.

More people aged under 84 reported that they had visited the GP or nurse at the surgery in the previous three months than those aged 85 years and over (86% of those aged 84 and under had visited their G.P or nurse at the surgery versus 14% of those aged 85 and over). This is contrary to the literature where the 'older' old are greater users of health care services (Suzman, Willis and Manton, 1995). Possible explanations to this discrepancy may be that those aged over 85 are receiving health care elsewhere such as the at the hospital clinic or at home, although this was not a statistically significant association due to low cell count in the Chi-Square test. It could be, however, that the aged over 85 were higher receivers of care in the home, negating the need and possibly lacking the ability to visit the GP. It was not possible to determine if there was a difference between the sexes due to a small cell count in the Chi-Square test. Likewise it was not possible to determine if there was a difference between the *number* of visits between those aged below and above 85 years due to low cell count.

There were few strong non-statistical associations between age and socio-demographic indicators, such as the deprivation score and receipt of multiple state benefits. There were links between age and single living and sheltered accommodation use with 80% of men and women living alone and everyone aged over 80 living alone and no one living in sheltered accommodation under the age of 74 years.

There was a greater association between health and sex rather than age. Although there was no significant difference between VAS scores between men and women ($Z = -0.064$, $p = 0.949$), women reported worse health than men according to the EQ5D (with one category being statistically significant), less improvement in health over the last year, and higher access to chronic care NHS services by way of visits to hospital clinics and GP appointments than men.

The results of the statistical tests in Table 12 show common characteristics of the older population i.e. that women suffer higher levels of pain and disability than men as recorded elsewhere (Health and Social Care Information Centre, 2014). The evidence also indicates that VAS is associated with lower levels of ability on the EQ5D which would be as expected. In addition the research site with the lowest mean age of participants (site F at 66 years) also had the lowest length of years married. These data not only suggest that the study population may be representative of the wider population but also that the statistical tests applied are appropriate and sensitive to detect these commonalities.

5.10 Conclusion

The first section of the Methods chapter has justified taking the mixed method approach in addressing the study's aims and objectives consistent with the ontological perspectives of the researcher and that of negotiated health promotion interventions. The data collection methods have been explored and justified drawing on methodological literature.

When applying these methods during the research process the researcher considered the potentially 'vulnerable' older person both prior to conducting the research (e.g. large type information sheets and on-going consent) and during its course. Any ethical 'risks' encountered during the research process were addressed as recommended in the 'ethics as a process' model, either by a substantial amendment to the ethics approval (e.g. addition of the oral descriptor and permission to interview the older person in their home) or by ad hoc arrangements made by the researcher that were tailored to an individual's specific needs (e.g. interview flexibility). As a result, the research process had to be guided to some extent by the needs of both the study population and individuals within it, vulnerable or not, taking a flexible approach to modify the research methods in response to any ethical issues that arose. The 'time in the field' section provided information on how the researcher interacted with the visitors to the research sites and acknowledged her role and resulting situational bias within the research setting.

Section 5.8 provided details on the study sites and the districts where the research sites were situated. The geographical areas of the sites had populations with similar background profiles, whereas the research sites themselves did have some differences with regards to their overall purpose for the users and the people who accessed them. These differences were more pronounced between the different types

of site (community centre or sheltered accommodation site vs the internet website) than between the four sheltered accommodation sites.

The last section of the chapter has described the health and socio-demographic characteristics of the Phase I population from which the Phase II population was drawn. The researcher has discussed and justified the research methods undertaken and the statistical tests used to describe the characteristics of the Phase I study population. The Results chapters will now follow presenting the food hygiene asset data relating to the quantitative data from Phase I and statistical measures of association between population subgroups and asset mobilisation. Chapter seven will then move on to present the qualitative data from the semi-structured interviews with the older people and sheltered accommodation site wardens from Phases II and III.

6. Chapter Six: Results: Phase I

6.1 Introduction

This Results chapter presents the quantitative data resulting from the questionnaire detailing the Phase I population and their food asset mobilisation according to socio-demographic variables such as age and sex.

The use of community centre lunch clubs will be discussed as an asset presenting the numbers and categories of those who attend. Overall food preparation responsibility will then be presented, which will show if the older person perceived themselves to have overall responsibility or whether this was shared with others. The next section will then present the food hygiene assets according to whether they are from services or individuals. The final section will present the results of the exploration of the demographic and food hygiene asset data using inferential statistical methods.

6.1.1 Use of community centre lunch clubs

Tables 26 and 27, in Appendix E, present an overview of all the community centre and lunch club data from the participants from Phases I and II. These data derive from questions 1-4 from the questionnaire (see Appendix B). The data are multi-factorial and so have been presented in terms of ranking the responses from the most to the least frequently reported.

The most commonly reported responses to the community centre questions from the Phase I participants were as follows; that participants had been visiting the centre for over five years (29% of people), that they visit weekly (58% of people), by community minibus (32% of people). Most people have a meal at the community centre where they were recruited (52% of people) on a weekly basis (43% of people).

In terms of the age groups formed (≤ 64 , 65-69, 70-74, 75-79, 80-84, 85-89 and 90+), the most (mode) male receivers of lunch club meals were in the 75-79 age group (N=5, 26% of male responders), whereas women were in the 80-84 year old age group (N=8, 27% of female responders). No statistical associations were found between age and degree of lunch club use in either aggregated age group. Proportionately, there were slightly more men (N=6, 31% of male responders) than women (N=8, 27% of women) that visited the lunch club more frequently than once a week. Proportionately there were also slightly more women than men that visited the lunch club less than once a month; two women (6.7%) compared to no men who visited the lunch clubs less than once a month.

6.1.2 Food preparation responsibility

Forty nine people answered the question on who held responsibility for food preparation in their home (question 21 in the questionnaire), 19 men and 30 women. Forty people (82%) reported that they held sole responsibility for their own food preparation; 16 men (84% of all male responders) and 24 women (80% of women). Seven shared jointly responsibility (10.5% of male responders (N=2) and 17% of female responders (N=5)). The remaining woman reported that her spouse/partner held responsibility and the remaining man, another family member or friend.

There was no clear trend in terms of age and responsibility for food preparation. All of the men in four out of the seven age groups held sole responsibility for food preparation (excluding the 65-69 and 85-89 who shared responsibility). In comparison, all the women in only two of the seven age bands (≤ 64 and 75-79 year old age groups) stated that they held sole responsibility for their own food preparation. No significant difference was found between the aggregated age groups. The complete data for responsibility for food preparation can be seen in Figure 24 in Appendix E.

6.1.3 Food hygiene assets: service and personal help

The data presented in this section comes from the answers provided to question 22 of the questionnaire, which asks ‘does anyone help out with food in the home?’ A number of possible ways in which people or services could assist with food in the home were then presented which were divided between ‘service’ food assets (sub-questions 1-3) and ‘personal’ food assets (sub-questions 4-9). The service asset questions sought information on how frequently that asset is used, whereas the personal asset questions ask who provides that type of help (uncooked food being bought into the home, cooked food being bought into the home, being cooked for in the home, help with shopping and help with washing and drying the dishes), before then asking how frequently they receive this help.

Table 28 in Appendix E presents all the food hygiene assets data that the older people in this study report receiving in terms of services and personal help. The data are presented in this chapter are by food hygiene asset type and frequency of use in men and women and across the age groups, section 6.1.3.8 examines which individuals provided the help. There were 19 male responders to these questions and 30 female.

6.1.3.1 Service assets: Commercial companies providing hot meals

The option for a professional catering service was included as an option to allow for a full range of possibilities to be captured on the questionnaire but no one used this service. In addition, no one reported using the available meals-on-wheels service ‘Apetito’; the commercial company who provides the previously community-based ‘meals on wheels’ service in the districts of the research sites. The possible reasons for no one using the Apetito service will be discussed in section 9.3.

6.1.3.2 Service assets: Commercial food companies delivering frozen meals

Four men and two women used a commercial food company to deliver frozen meals to their home, some 12% of the total population of Phase I. A greater proportion of men used these services (21% (N=4) of the 19 responding male population) than women (7% (N=2) of the 30 responding female population). Amongst those using the service, it was used frequently, with four out of six people using these meals more than four days a week. Although there was no clear age-related trend regarding use of this asset, 50% of those using a commercial food company were in the 85-89 year old age group (2 men and 1 woman). Overall, 8.3% of those aged 84 and under used a commercial food company whereas 23% of those aged 85 and over did use a commercial food company to deliver frozen meals. These differences in age groups were not significant in either aggregated group due to the low cell count in the Chi-Square test for independence.

6.1.3.3 Personal assets: Uncooked food provision

Three men (16% of responding male population) and two women (7% of responding female population) some 10% of the total population, report having uncooked food bought to their home, principally from friends and family (reported by four out of the five people). This is an infrequently used asset for all, with no one receiving uncooked food more frequently than once a week, although one woman could not recall how frequently people helped out in this way. No one under the age of 70 or over the age of 90 years received this help. There was no significant difference when comparing either aggregated age group.

6.1.3.4 Personal assets: Cooked food provision

Four men (21% of responding male population) and nine women (30% of responding female population), some 26% of the total population, had cooked food

bought into the home, with the majority being from friends and family (nine out of the 13 people). Nine out of thirteen people received this help once or less than once a week indicating that it was an infrequently used asset. Two men had both cooked and uncooked food delivered, both in the 75-79 age group. No one under the age of 75 had cooked food bought into the home. Increased age was associated with receipt of cooked food in the home when using the Mann-Whitney U test (see Table 13). 22% of those aged 84 and under had cooked food bought into the home and 38% of those aged 85 and over, however this was not statistically significant at the 85 years threshold nor when explored at 80 years when using Chi-Squared test of independence.

6.1.3.5 Personal assets: Being cooked for in the home

Three men (16% of responding male population) and five women (17% of responding female population), some 16% of the total population, had someone come into their home to cook. Six out of eight of the people who had people cook for them in their home (two men and four women) had this help from 'others', who primarily were carers not classified as family or friends. Five out of eight people had 'others' cook for them once or twice a day. There was no clear trend regarding the age of these asset users between the five year age groups nor between either aggregated age group.

6.1.3.6 Personal assets: Help with food shopping

Nine men (47% of responding male population) and 21 women (70% of responding female), 60% of the total population, had help with food shopping, making this the most commonly reported food asset. 50% of those receiving this help did so from friends (one woman) and family (four men and 10 women), 30% from 'other' (three men and six women) and 16% from spouses (one man and four women). The

remaining man had supermarket deliveries. Thirteen out of the thirty people who report having help with food shopping received this help seven days a week (men, N=2 vs women, N=11).

Significant associations were found between age and food shopping and those reporting severe problems on the EQ5D (problems conducting usual activities and problems with pain and discomfort) and food shopping (see Table 13). The associations between age and the likelihood of receiving help with food shopping were explored using age as a grouped variable and it was found that those aged over 80 were more likely to have help with food shopping. This suggests that those aged over 80 years were more likely to have help with food shopping regardless of their VAS and EQ5D scores which were not found to be age-related.

6.1.3.7 Personal assets: Help with washing and drying the dishes

Four men (21% of responding male population) and 11 women (37% of responding female population), 30% of the total population, had help with washing and drying the dishes, primarily from 'others' (carers) (8/15) and spouses (5/15). Five people had this help at least once a day (men, N=1 vs women, N=4) with one woman receiving this help twice a day. There was no clear trend regarding the age of these asset users, however 28% of those aged 84 and under received help washing and drying the dishes and 38% of those 85 and over which was not statistically significant. However, there were significant associations found between those reporting severe problems on the EQ5D (conducting usual activities and pain and discomfort) and the likelihood of receiving help with washing and drying the dishes.

6.1.3.8 People as food hygiene assets

Figure 17 summaries the responses from all the personal asset questions (question 22, sub-questions 4-9) which asks ‘who helped’ with various types of food provision, shopping or with washing and drying up dishes after a meal according to sex.

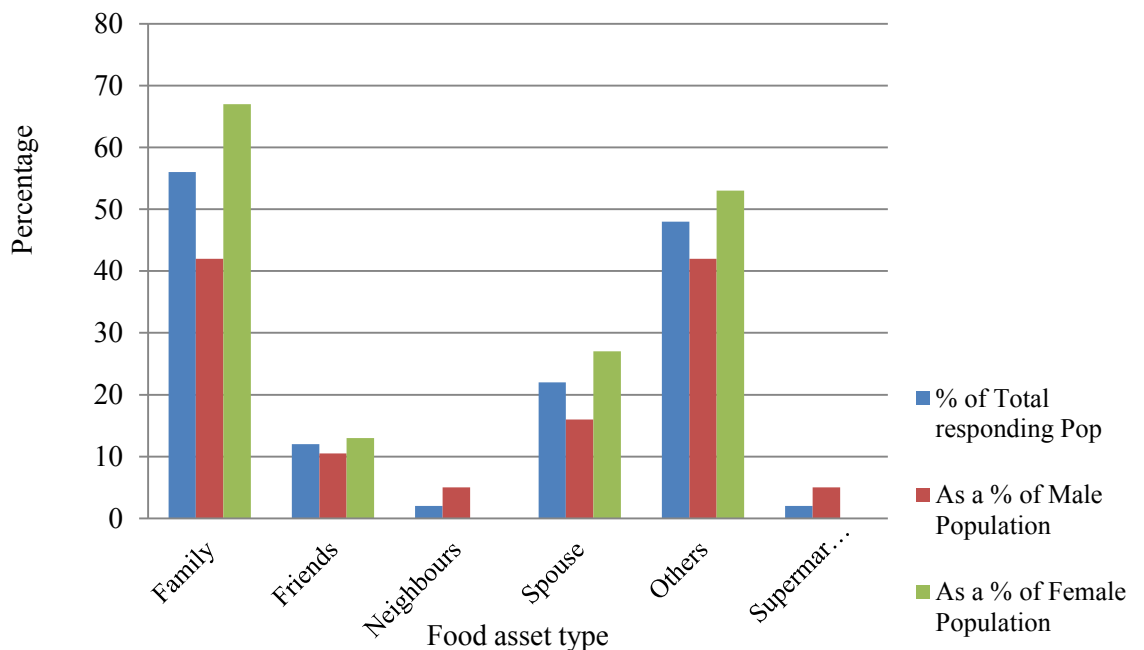


Figure 17: Graph showing the proportion of food assets utilised presented by the total population and within the subgroup of sex in Phase I participants.

No statistically significant associations could be made between either aggregated age group (≤ 79 and $80+$ and ≤ 84 and $85+$) and the personal food hygiene assets when using Chi-Square test due to low cell counts. One statistically relevant finding was that those of younger age were more likely to receive spousal help with food shopping (see Table 13). No statistical associations were made between the frequency of help received and age as a grouped or continuous variable.

There is however evidence that the help that people received from these sources changed across the age groups as shown in Figure 18. As there were multiple reports of different assets utilised per individual expressing this as a percentage of the sub-population would be erroneous. Instead this is presented as the proportion of help reported by that asset type across all age ranges e.g. five people in the 76-80 age group report spousal help out of the total number of those reporting spousal help across all age ranges which is 12.

Although this is a cross-sectional rather than longitudinal study and there are small numbers in each age group, Figure 18 does give an indication of how the range and the number of assets that are employed may change across the different age groups. Figure 18 suggests that 75-79 years is a transitional age characterised by the use of multiple assets, marking a change from supermarket and spousal help at an earlier age, and the increased use of family and others at a later age.

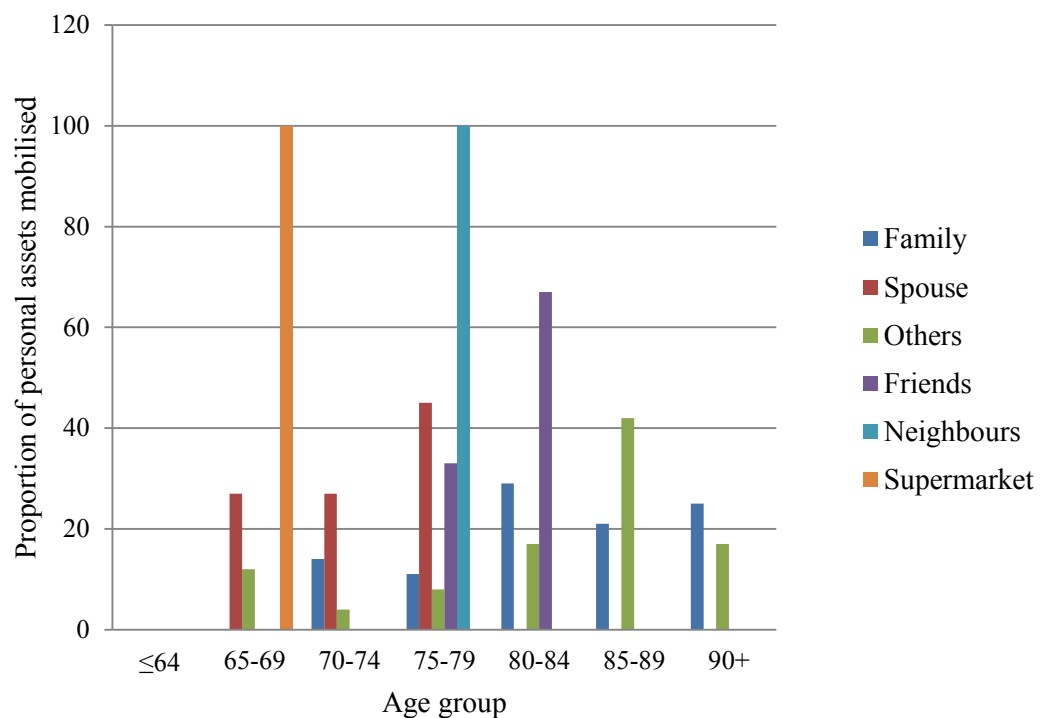


Figure 18: Graph showing the range and type of assets employed between age groups in the Phase I participants.

6.1.4 Statistically significant associations between demographic variables and food asset data

Table 13 presents the details of the statistically significant food hygiene asset associations between the range of assets mobilised and certain demographic variables e.g. age and sex.

Table 13: Statistically significant associations between food assets and demographic data.

Variable 1	Variable 2	Test Applied	Finding 1	Post Hoc Test	Finding 2	Conclusion
Severe problems with conducting usual activities (EQ5D)	Help with food shopping	Chi-squared*	Pearson Chi-Sq 11.37 p=0.003	Cramer's V	0.477 p=0.003	Respondents were more likely to receive help with food shopping if they had severe problems with conducting their usual activities (large effect)
Severe problems with conducting usual activities (EQ5D)	Help with washing and drying dishes	Chi-squared*	Pearson Chi-Sq. 7.19 p=0.28	Cramer's V	0.379 p=0.028	Respondents were more likely to receive help with washing and drying the dishes if they had severe problems with conducting their usual activities (medium effect)
Severe problems with pain and discomfort (EQ5D)	Help with washing and drying dishes	Chi-squared*	Pearson-Chi-Sq 10.40 p=0.006	Cramer's V	0.456 p=0.006	Respondents were more likely to receive help with washing and drying the dishes if they had severe problems with pain and discomfort (large effect)
Age	Help with cooked food into the home	Mann-Whitney U	Z=-2.551 p=0.011	r value	0.36	Respondents were more likely to receive help with people bringing cooked food into the home if they are of greater age (Medium effect-Cohen's classification)
Age	Help with food shopping**	Mann-Whitney U	Z=-3.57	r value	0.51	Respondents were more likely to receive help with food shopping if they are of greater age (Large effect-Cohen's classification)
Age	Who helps with food shopping?	Kruskal Wallis	Chi-Sq 10.942 p=0.027	Mann-Whitney-U with boniferroni adj.	r=0.22	Respondents were more likely to receive help with food shopping from spouses if they are of younger age or family if they are older (Medium effect-Cohen's classification)

* 80% of cells contain 5 or more counts.

Variable 1	Variable 2	Test Applied	Finding 1	Post Hoc Test	Finding 2	Conclusion
**Explored to find cut-off of age						
Under and over 85 years	Help with food shopping	Chi-Squared*	Pearson Chi-Sq (Continuity correction) 9.1 p=0.03	phi coefficient (for 2x2 table)	0.478 p=0.001	Respondents were more likely to receive help with food shopping if they are over 85 years old (Large effect-Cohen's classification)
Under and over 80 years	Help with food shopping	Chi-Squared*	Pearson Chi-Sq (Continuity correction) 15.5 p=0.00	phi coefficient (for 2x2 table)	0.61 p=0.000	Respondents were more likely to receive help with food shopping if they are over 80 years old (Large effect-Cohen's classification)

* 100% of cells contain 5 or more counts.

6.2 Conclusion

Table 13 shows the statistically significant associations between demographic data and food hygiene assets using a variety of primary and post hoc tests to determine strength of association. These results are now presented in relation to the non-statistically significant findings detailed above.

Men relied on commercial food delivery services and the delivery of uncooked food from friends, family and neighbours more than women. These assets can be characterised by a fleeting superficial ‘service’. The mobilisation of the frozen meal delivery service and uncooked food allows for the maintenance of autonomy and independence with little social engagement unless organised by others, such as the lunch clubs, for food provision.

Women were in receipt of more cooked food being brought into the home, food being cooked for them in the home, help with washing and drying the dishes and help with shopping. This is borne out by those who reportedly delivered these types of assets, women were much more likely to receive help from family than men (67% vs 42%), but also from friends, spouses and ‘others’.

Table 13 highlights the health characteristics of respondents and any associations with food asset mobilisation. Those who reported severe problems with conducting usual activities were more likely to have help with shopping and to a slightly lesser degree, with washing and drying the dishes. As presented in section 6.1.4, slightly more men than women reported having no problems with conducting usual activities (47% men vs 40% women) and a greater proportion of women reported severe problems with conducting usual activities than men (23% of women and 16% of

men). Table 13 also refers to a strong association found between those with severe levels of pain and discomfort receiving help with washing and drying the dishes. Not only were women less likely to report 'no problems' with pain and discomfort than men (23% of men vs 63% of women) and more likely to report 'severe problems' in the same category of the EQ5D (20% vs 16%), Table 13 in section 5.9.6 (summary of statistically relevant descriptive data) presents a strong statistical association between women experiencing greater levels of pain and discomfort than men. The greater mobilisation of these personal asset forms for women may therefore be due to increased physical need for additional 'hands-on' help due to the difficulties with conducting their usual activities and with pain and discomfort, or may be that they are mobilising the assets available in their existing social network in times of greater need.

Although age was not related to health via self-reporting on the VAS scale in this study, those of greater age were more likely to have help with food shopping according to both the Mann Whitney U and Chi-Squared tests with a strong association. There was a slightly less strong association found between older age and help with cooked food being bought into the home which could not be attributed to an aggregated older age group. The data presented in Figure 18 does however indicate that the range and type of personal asset being mobilised changes in older age when viewed in five-year age groups. Those in the older age groups being in receipt of more help from family and 'others', with no help being received from spouses, friends or neighbours.

7. Chapter Seven: Results: Phases II and III

7.1 Introduction

This Results chapter presents the qualitative data generated from the semi-structured interviews with the older people (Phase II) and with the wardens of the sheltered accommodation sites (Phase III). The interview schedules can be seen in Appendix D. The data has been presented according to coding themes that originated from qualitative data analysis using the Grounded Theory approach as discussed in the Methods chapter, the process of which will be elucidated in chapter eight. These categories of data are 1) Values relating to food and food hygiene, 2) Attitudes to food hygiene, 3) Beliefs surrounding food hygiene, 4) Acquisition and maintenance of food hygiene skills and 5) Reduced agency in performing food hygiene practices.

An overview of the demographic, health and socio-demographic differences between the Phase I and Phase II population groups are presented in the Table 25 in Appendix A. In summary, Phase I and II participants were of similar age, although the women were slightly younger. There was a higher ethnic 'mix' in Phase II due to the inclusion of the one Afro-Caribbean man from Phase I. Fewer people in Phase II lived alone and in sheltered accommodation than in Phase I and fewer were in receipt of multiple benefits, although the deprivation scores were comparable. Fewer Phase II participants were single, and more were married or had never been married.

The reported health change over the previous year showed the same trend as Phase I with men reporting substantially higher health improvement and women higher levels of worsening health. Other health data differed more substantially; the overall mean VAS score was lower in Phase II primarily due to the slightly lower male

VAS. The EQ5D and NHS use data indicated a slight shift in the patterns between Phase I and II data. In the EQ5D, although all the activities of daily living were better for men and women, the levels for men were better compared to both Phase I men and women. NHS service use in Phase II participants had reversed the trend shown in Phase I, where more men reported having clinic and G.P. visits than women and more than the men from Phase I.

The qualitative data co-synthesised with the Phase II and III interviewees will now be presented. This chapter has structured in terms of internal constructs found to be relevant to the acquisition, storage, preparation and cooking of food in the home and disposal of 'unsafe' food; values, attitudes, beliefs, skills and knowledge and agency.

7.1.1 Values related to food and food hygiene

By understanding the values placed on food; resultant attitudes, beliefs and skills surrounding food hygiene practices can be put into wider context. The following data provides evidence for the value of food and has been separated into two component value systems; 1) the inherent intrinsic fiscal value of food and 2) the extrinsic value of food and its emotional representation of care and relationships. In the following extracts of qualitative data, ‘R’ refers to ‘respondent’, ‘I’ to ‘interviewer’ and ‘W’ after a quote is attributed to a warden.

7.1.1.1 The intrinsic value of food

Many of the older people who took part in this study placed an intrinsic value on food that was directly linked to their experiences surrounding both the availability and affordability of food during an earlier period of their lives. Those who placed a greater intrinsic value on food were generally older than the rest of the population. The two quotes below are from the oldest interviewed, both being in their 90s, who could remember life before and during the Second World War, a period of both financial depression and food rationing.

The first quote uses quite vivid language to describe a past experience of the lack of food, ‘starve’, not just hungry. He stresses the point twice, that there was ‘no money.’ He also makes the direct comparison between seeing starvation, experiencing it himself, and his current aversion to throwing food away, seen as ‘waste’:

R: ‘I don't believe in wasting food. Years ago we were starving people, had no money, you couldn't afford to buy the food because we had no

money, and I've seen people starve and I know what it's like, so I don't waste food.' (Henry, 90 years, int. 2, line 229).

The quote below from Mary gives an indication of the level of scarcity of food and availability of leftovers:

R: 'Yes, that's what I said we didn't have no leftovers, no. Just had enough to feed us, if you know what I mean, because you couldn't get hold of the food because of the war being on' (Mary, 93 years, int. 5, line 198).

The quote below, by Mary again, does indicate that the mothers of the interviewees spent a large part of their day trying to secure enough food for their family to eat during the years of rationing. It became the main focus of the mother's day, she 'potted about,' suggesting that she tried numerous retailers to get the ingredients for what she wanted to prepare. The fact that the family had to 'put up with' what she could get does indicate that what she successfully attained wasn't always welcomed, but the difficulty of the task was appreciated on some level by the family:

R: 'Well the food was hard to get, so we had to like put up with what Mum could get hold of you know? She used to like potter about to different places to see if she could get the food what she wants' (Mary, 93 years, int. 5, line 152).

Interestingly, both Mary and Henry were both bought up in London and had moved to the Milton Keynes area in later life. There did seem to be quite a difference between the scarcity of food in London and that experienced by those in more rural locations. The countryside provided additional sources of food in the form of wildlife, from fish, from rabbits, and from also being able to grow your own vegetables '*..we dug every bit of ground we could..*' (Arthur, aged 85, int. 6, line

125), and used fruit from fruit trees to supplement rations. There was also evidence of ‘deals’ or barter being done for food, especially with those parents who had jobs that made networking within the community easy, such as farmers who swapped equipment for food, or those in a powerful position, such as policemen and bailiffs.

The quote below is from a slightly younger woman, in her early 80s, who had never been married and who was a vegetarian. Again, the mother would ‘manage’ to create meals from indiscernible cuts of meat and we can also see evidence of the skill involved in creating a meal that it was appreciated by the family:

I: ‘So the whole of the rest of the week was based round...’

R: ‘Based on joints, what joint sometimes. If it didn’t go too far Mum would manage to do scragg end and make a nice stew which we loved and dumplings and things’ (Ruth, 83 years, int. 12, line 140).

The presumed age of the meat purchased is alluded to by the quote below; the mother bought meat because it was cheap and it had to be used quickly, she also had to make the meat last for a number of days. The use of the word ‘probably’ does indicate that she isn’t exactly sure of what she is recalling compared to the older interviewees, Henry and Mary, quoted above, but it seemed to be representative of common practice.

R: ‘...she used to go to the shops then to get stuff that was cheap you know, stuff that might go off at the weekend closing and she would get a joint for about sixpence and she would probably make three meals out of it’ (Rosie, 80 years, int. 9, line 107).

Food was therefore scarce, particularly in cities, due to the rationing experienced by all and financial hardship experienced by some. Nearly all of the interviewees stated

the belief that there were no leftovers that were kept for more than a day to supplement another meal; the exception being that one interviewee stated that any leftovers went to feed the chickens and another who deduced that there must have been some because they owned a dog. In addition, there was also evidence that there were no leftovers because there was nowhere to store them, indicating a direct link between the duration of food storage and the availability of the technology to do so:

I: 'So was there anything left over for the next day usually or the next few days?'

R: 'Well, not really, because there was nowhere to store them' (Arthur, 85 years, int. 6, line 208).

The purchasing of food therefore was very close to the time of consumption as evidenced below. Although the second half of George's quote below is quite complex, it does indicate that food storage would be extended to the maximum:

R: '...it was just literally, we bought the stuff, we had it, and anything that we could keep as long as we could, would be kept' (George, 79 years, int. 8, line 256).

There were also many ways to preserve suitable foodstuffs to extend their availability to the household such as; pickling, scalding the milk by bringing it to just under the boil, 'laying down' the eggs in waterglass paste and extending the freshness of meat by washing it under the cold tap with vinegar.

Evidence for the intrinsic value placed on food therefore comes from the extensive use of complex preservation techniques in the past to maximise the length of time that food can be stored. The importance of extending the longevity of food had direct parallels to modern day by the frequent use of freezers. There was particularly high

use of freezers among those who were single, that either chose to buy food in larger quantities because it was cheaper or because that was the only portion size available to them from the retailers. In this study, larger food quantities were frequently divided up into individual portions and frozen so that they could be bought out and defrosted when required. This saved throwing away food because it may not have been used in the near future but also involved removing the food labels:

R: 'I always buy fresh fish but, I mean, sometimes I buy it from the fishmonger on the market because we have got quite a good fishmonger and then I'll buy some and I might freeze that as well or buy more than I want and like salmon fillets, especially which I really love, and then I will buy maybe three or four of those individually wrap them and freeze them so they are there to have when I want them' (Beth, 64 years, int.1, line 313).

Arthur, who provided the quote below, used the freezer to great efficiency. Everything was portioned, from butter to milk, to bread. All his vegetables were frozen and the meat that his daughter roasted for him on a Sunday was carved into individual portions and frozen, this meant that his meals only contained fresh potatoes. He uses the words 'but they are there' indicating the sense of satisfaction or security in knowing that they are available to him from the freezer when needed. This technique of portioning and freezing food does however rely on memory and on thinking ahead, which if not achieved, required rapid defrosting of the foodstuff in the microwave:

I: 'So you use the freezer a lot?'

R: 'Yes, because I also keep at least one and a half loaves of bread in there, cut them up in half, put them in there and then I forget to take it

out in time, so I have to put them in the microwave to defrost them but they are there, and butter obviously, that goes in there (Arthur, 85 years, int. 6, line 373).

Below we can see that the use of freezers is confined to products that are suitable for freezing, constraining the consumer to certain products that can be stored this way. Similarly, the recent rise of the 'Buy One Get One Free' (BOGOF) 'offers' from supermarkets were highly valued by those who live alone, but only if the products are suitable for freezing:

I: 'I can imagine it [freezers] did change people's shopping habits quite a lot that they could keep things a bit longer?'

R: 'That's right yes, mmm and of course it did make, therefore I mean, not that it was so much a case in the initial stages but you know these sort of offers today, where you buy one get one free. I mean it's no good if it's something you can't freeze really, not if you live on your own because you just don't use it' (Carol, 74 years, int. 14, line 414).

The interviewee quoted below is a married woman with a history of farming. This quote does seem to indicate that buying these 'Buy One Get One Free' 'offers' does give her immense satisfaction and some sense of marvel. She seems to enjoy the intellectual challenge of finding these 'bargains'. She also makes the direct link between her behaviour and remembering the limitations that her mother was under, suggesting that she has to do it now because it is possible. The final part of the quote indicates that she does not necessarily need this food, but rather that it might be useful in the future particularly now that she has a second freezer and the technology to store the food:

I: 'Ok, so next I want to talk about how the way that you shop, prepare and cooked may have changed during your adult life. Are there any changes in your life such as getting married or having children or anything like that that has changed the way that you shopped for food?'

R: 'Yes, because I think there is a little bit more money around today and I find if I am shopping and I see things on special offer I buy them, which my mum would never have had that choice. So therefore, I can have a for instance, I can go down to ASDA now and get two tins of rice for a pound or I can get two tins of soup for a pound now as far as I know that's the only place in Hitchin you can do that now. To me I can't make a tin of rice for 50p, I give more than that for the milk, so I will buy anything that's a bargain and keep it. It's the same with frozen foods, I have got a freezer out there and I have got one in the garage and I buy special offers and I use them as and when I need them.'

I: 'So would you say you like to use frozen food and tinned food because it's...'

R: 'No, I buy them because I might need them and they do come in handy...' (Eileen, 74 years, int. 13, line 372).

So we can see that some of the older people in this study have numerous reasons for placing a greater value on food based on past formative experiences of thrift and economy, and also because it forms an intellectual challenge because it is now possible to do so with modern technology. However, there was also evidence that these value driven practices are not necessarily linked to current financial circumstance and could result in retaining food in bulk to provide a sense of 'food security' (Maxwell, 1996). The quote from a warden below indicates that the woman she is talking about had a strong drive to keep the food, which seemed to be almost as important as eating it and that most of it was not safe to consume. When she did

consume some she was frequently ill, indicating the risk of this practice. The desire or drive to own food extended to her taking food from the communal areas of the sheltered accommodation. This highlights how strong this need to own food can be, indicating that food may have directly represented money, security and keeping hold of food was synonymous with keeping her wealth:

R: ‘... another lady where she would have, goodness me, she would have stuff in her cupboard for years and saying ‘oh yeah, I have loads of stuff, loads of food’ not that she eats any of it it’s just all out of date stuff but when she’d say ‘I buy fresh meat and have vegetables’ she probably does but then she would leave it there for two weeks. But she was ill on and off and I had spoken with the family about this and it was unfortunate because this particular lady was probably, she doesn’t live here anymore bless her, but she was probably one of the richest people here but the thing was, she just didn’t want to spend money and that’s again that’s just... I don’t know, she would take food from the communal kitchen even though she had food down in her flat and she didn’t have dementia or anything, I just think she was very, very thrifty’ (W2, line 504).

However, dementia or reduced cognition does occasionally lead to a skewed perception of food ownership; that people would forget what food they have, think they had plenty when they had none or think that they didn’t have enough when they were well stocked, as described by the quote from a warden below:

R: ‘...I would say ‘have you got x, y and z in’ and ‘why don’t you use up?’ because sometimes people will forget that there is food also in their freezer or in their cupboard out of sight, out of mind, could have a fridge full but think they have to go mad and others will tell you they have everything and there is nothing in there...’ (W2, line 231).

The strength of values placed on food is therefore demonstrated by the feelings of ownership, security and the desire to maximise the duration of storage for as long as possible which had direct parallels to memories of the past for some. These strong drives to retain food, which were appropriate protective drives to reduce hunger in the past in times of food scarcity, could now act as a barrier against older people throwing away food when it is no longer safe to keep it.

7.1.1.2 *The extrinsic value of food*

The older people who took part in this research did indirectly refer to the extrinsic value of food and its emotional representation. Food provision can be seen as an expression of love and care, primarily by wives and mothers of this generation.

In more recent and later life, the loss of these relationships by those being cared for by women i.e. children and men, were felt acutely and the provision of food and meals seems to be a reminder of the loss of the representation of that care and love. There was some evidence that some men did carry ‘*..a little bit of resentment that their wife or partner has died..*’ (W1, line 389). One man who had been widowed for a number of years talked about the ‘deal’ that him and his wife came to, that he would die at 70 and she in her 80s, which turned out to be the reverse ‘*..what did she do? Did she dirty on me and died at 70*’ (Arthur, 85 years, int. 6, line 645). Although largely humorous in nature, the expression ‘did the dirty’ does seem to express some sense of anger, that she had broken the deal and deliberately left him. Another man, much older, admitted to crying at his wife’s funeral, as if it came as some surprise to him and he then bravely admitted to wanting to commit suicide at that time. It was the reminder of the dependence of their young teenage daughter that made him continue living, so he taught the daughter how to cook, indicating the strength of delineated gendered roles surrounding cooking.

The quote from Arthur below indicates the enduring influence of a lost wife as he still maintains her practices and standards:

R: ‘I have tried to carry on everything that she did when she was alive and I do everything, I lay the tablecloth even for tea you know, and breakfast. I do everything that she would have done because it’s routine

and it's you know and it seems the right thing to do and I certainly don't leave anything to be washed, I will wash everything up after each meal' (Arthur, 85 years, int. 6, line 271).

George who provided the quote below was bereaved within the two years prior to the interview, and his remembering/imagining his wife coming to the door with a cup of tea is quite vivid. To have a cup of tea now, he has to stop what he is doing, make it and come out again. Although he undoubtedly misses his wife as represented in this context by the obvious lack of a tea-maker, he also seems to resent on some level the time he has to take to make his own tea and the loneliness of that practice:

R: 'A chap [unclear] across the road came over first time I seen him probably this month and asked how things were going and I had just [unclear 00:41:55] in general I said 'the worse thing about this' I said 'is I am here now talking to you' I said 'there is nobody in that building there or wife that is going to come to the door and say 'right, cup of tea on the side love, come and have a drink' that's not going to happen. If I want a cup of tea I have got to go in there and make it and then come out again. So those are the things that you miss' (George, 79 years, int. 8, line 677).

Similarly, being bereaved of parents was symbolised by some by having to take on the role of cooking themselves which only served to heighten that bereavement:

R: '...it took me about a year to get used to having... get my own food really which I hated doing' (Ruth, 83 years, int. 12, line 408).

Similarly the loss can be of a marital relationships through acrimonious divorce: *'..my wife abandoned us..' (Frank, aged 74, int. 7, line 303)* whereby new responsibilities for household tasks were acquired, which served to both remind him and be a distraction from the causes of his new single life:

R: ‘...as time went on I did all of the washing, cleaning, the shopping, the cooking, all of those things just to fill my time, just to occupy myself’
(Frank, 74 years, int. 7, line 309).

The longer average lifespan of women can often mean that they can lose their husbands and lose the role of caring for their family when their children leave home and have families of their own. This can result in the loss of a key role, loss of their social status and sense of purpose if not replaced with alternatives. This could result in feelings that looking after themselves is of low priority:

R: ‘... because they have brought their family up and they have flown the nest and husbands have passed away, ‘oh what’s the point of cooking’ you know it’s easier to have a bit of bread and cheese because it’s less effort and I think they must lose the impetus. I know when I am on my own I think ‘oh I can’t be bothered to cook a meal’ you know a jacket potato...’ (W1, line 681).

This lack of ‘impetus’ when combined with physical deterioration can result in a combination of a loss of drive and ability to prepare food, the effort may become too much and ‘..they are only eating to survive..’(W1, line 635). However, some older people still enjoy their food, especially in social situations organised by the sheltered accommodation sites and by the AgeUK lunch clubs. In these situations the wardens and the AgeUK staff stated that they thought that the older people ate more than they would alone.

In the cases where the health of an older person deteriorates and more care is required, the family can become directly and indirectly responsible for food provision, and for food technologies (fridges/freezers and cookers) and their maintenance in sheltered accommodation. Families can also be responsible for

organising external 'food' care, such as the expansion of a 'care package' by the local NHS care funder to include carer visits that include food preparation tasks. Families may also choose to be directly responsible for food, and this care varied from bringing in pre-cooked homemade food, to bringing in groceries, to having groceries delivered by a supermarket, to encouraging the older person to have frozen meals delivered from a commercial food service as previously discussed. Having frozen food delivered was actively encouraged by the wardens who thought of strategies to maintain feelings of independence in the older person if they decided to take that option:

R: '...I think because they are so independent it's just changing or turning that change and thought around and making them feel that 'no I am still being independent because I can still warm my meal' or I say to them 'if there is not enough vegetables or it's not always a lot of cabbage on these menus' and I say 'just cook yourself a little bit in a saucepan or in the microwave and you've cooked...' (W1, line 215).

Many family relationships were emotionally close, one woman interviewed had pre-cooked food delivered by her son, on a plate, daily. Warden 2, below, expresses the degree of time and energy that some families will expend to look after their parents both physically and emotionally. Here the evidence of taking the parent out to the shops is raised, not just for the purpose of buying food, but also to provide an opportunity to spend time with their parent:

R: '...then you will have somebody else that's driving 30/40 miles on a weekly base to take Mum or Dad out, to go shopping, and spend some time with them you know, so it's sort of, you know, it's a bit in-between and of course some tenants have got fantastic support where people

almost call every second day you know which is lovely, or will be ringing up to make sure' (W2, line 218).

The quote below from a warden does express the varying level of involvement with the elderly parent, although the comment 'once they have got fed up delivering them stuff', does suggest that this is a bare minimum that a family can do, and that it is barely satisfactory as it does not involve 'time and thought':

R: '...it requires giving time and thought to the parent and some you know that you can rely on them doing that, and then others they say 'why don't you try these meals' [from delivery services] once they have got fed up delivering them stuff, you know' (W1, line 558).

The loss or absence of closeness between families, according to some warden interviews, can lead to quite a superficial relationship where some families accept at 'face value' that their parent is fine, where they '*..breeze in and breeze out..*' (W1, line 147) not staying longer than for a cup of tea. Interestingly, the parent can be complicit in this illusion by '*..isolating themselves..*' (W1, line 321) illustrated by not communicating that they are struggling and deliberately throwing food away to hide the fact that they are not eating. This isolation can be devastating for some older people, one warden tells the story of a woman who expressed her worry that she had been 'dumped in sheltered by her family' and the warden attempted to console her although she was plainly aware of what had happened:

R: '...I said 'no darling they want you to be secure', 'no, no, no' she said 'you are being kind, they have dumped me' and they did, but I couldn't tell her that' (W3, line 777).

The quote below from a warden does express this complex family dynamic, that some families take 'a back seat' and are not the main 'drivers' of care. The parent

may also be trying to be ‘too independent’ and so the families are unaware of the extent of the difficulties experienced with food:

R: ‘...I have had that very recently and the lady had very severe food poisoning and ended up in hospital for a week very, very poorly and I had to insist that family cleared out food in the fridge and everywhere you know. So it highlights the problem that families take sometimes too much of a back seat and that Mum or Dad be a bit too independent despite me saying gently, tactfully Mum or Dad needs a little bit more support, ‘no, no they are fine’, well not really so [sentence ends]’ (W3, line 198).

Wardens who were interviewed for this research were highly aware of the network of people that surround an older person in sheltered accommodation, and the importance of the scale of this network as expressed in the quote below. Ideally, according to the wardens, this network should include friends *and* family, whereby the role of friends would be an important contribution. The emphasis on the ‘it doesn’t happen, it doesn’t happen’ seems to indicate how confused and disappointed the interviewee is by the lack of the involvement by some families. It is this emotional and not physical ‘distance’ between parents and their children that determines the relationship:

R: ‘...it’s lovely to see [friendship] but it’s sad because it should be the family as well, not instead of, but if they could only see they are an extension, you know, it could be added, it gives you another person. But it doesn’t happen, it doesn’t happen, and I used to put it down to the fact that people live farther away from people but I don’t know that that actually is...I think because we live busy lives and they have got to set aside time maybe they find that difficult. Depends on the relationship they have when they were younger I think and how they view their parent

because you do... some of them do get this distance as the children have grown older' (W1, line 321).

This expression of 'disappointment' experienced by some older people was echoed by another warden, not necessarily due to the lack of involvement by families, but by the overpromising and then not delivering, or failing continually to do what they did previously, of lost trust. This may be in relation to the complexity of the relationship between parent and child preceding this situation, such as help being given by the parent in earlier years but not being received back.

Friendships are also often a lost relationship, peers may have died or may be in poor health themselves and can offer little practical support, although they can be '*..less begrudging..*' (W1, line 303) than family as they have more time available to help others. Strong friendships in sheltered accommodation resulting in one person with greater care needs relying heavily on the other are actively discouraged by wardens. Older people were discouraged of doing too much practical care for a friend and neighbour as there was the fear that the burden of caring for a friend could damage the health of the more able friend.

Although the loss of the closeness of family relationships and minimal food management by the family experienced by some can lead to isolation, there was also evidence that caring for themselves was a way to care for their family even when they feel that they are living '*past our sell-by dates..*' (Jean, 88 years, int. 3, line 235) a dramatic expression of the parallels between food and her perception of herself:

R: '...I am actually quite careful about food because and food poisoning and everything like that, because it's very serious and you know and I feel you see, if I have made myself ill or sick I couldn't look after the

place or myself and I would just be a bother to everybody and the reason I am here [in sheltered accommodation] is because I don't want to be a bother' (Jean, 88 years, int. 3, line 652).

A low emotional mood, or depression or dementia can lead to a lack of interest in food and self-care, as the motivation to look after health is depressed. They enter into a 'frame of mind' which for some causes a downward spiral which can be distressing to witness as expressed by the warden below:

R: 'They do become more frail and generally people that are in that frame of mind already have dementia, probably early onset of dementia. You tend to see, or sometimes people, you know, if they are depressed and that, you just don't want to eat. Other people go the other way and eat, you know, eat quite a bit and of course the less the appetite gets the less frequent they are eating, the appetite almost goes and we have to watch that obviously of course we would inform the family, we would talk about it with the tenants, the doctors... you almost see people fade in front of you... ' (W3, line 382).

Conversely, those who have always been single, some 20% of the Phase II population, seem to be more resilient to the effects of isolation as they have always been able to please themselves with regards to food, as it carries a different representation. They could put as much or as little effort into food, or the home in general, as they wished:

R: '...I am not a great sweeper and garnisher, I'm afraid (laughs).'
(Carol, 74 years, int. 14, line 566).

This single woman thought herself as being 'selfish' in only eating what she wanted, in only having to look after herself. The woman who provided the quote below had also never married and led a very full and busy life and managed food around her,

somewhat limited, food preferences. In the quote below she indicates that she found catering for someone else quite a strain, being responsible for both thinking and providing what someone else may like to eat:

R: 'Oh yes, other people, oh yes, yes I used to have a friend who used to stay quite a bit at one time and that was difficult with food she used to say 'I'll eat anything' 'yes, but what?' (laughs)' (Ruth, 83 years, int. 12, line 470).

In summary, those interviewed in this study place an intrinsic value on food, as demonstrated by the drive to keep hold of food as long as possible, and for some food can be a manifestation of wealth. Some will take this desire to keep hold of food to the point of it being a danger to health, whereas others will be more careful as they wish to preserve their own health, if not necessarily for themselves. There is also a value placed on the extrinsic value of food, for what it represents in terms of care received or given by others, and the impact of removal of that care can induce in terms of isolation, depression and lack of impetus for self-care including food provision. These extrinsic values placed on the food-associated roles that can be lost in later life could therefore be viewed as a barrier for some older people seeking access to the external assets that they may be in need of. However those who continue to follow the food practices of those who cared for them in the past, by upholding their standards and their memory, are harnessing that change of status (e.g. from husband to widower) as an impetus to care for themselves. Similarly caring for self as a way to care for others may also serve to provide the impetus required to seek external assets.

7.1.1.3 *The value placed on cleaning*

Many of interviewees placed a value on cleaning, the visible appearance of things 'looking clean', and also the ability to clean as it represented autonomy and physical ability. Furthermore, the male respondents who continued to abide by the standards of their late wives with food preparation were also concerned with cleaning and the 'look' of a clean kitchen.

The majority of women who were able to clean took satisfaction from doing so, except the two women and one man who had never been married who placed it as a relatively low priority. Those who were unable to clean had professional cleaners or friends to come and undertake the practice. The quote below does show how some used to enjoy the process of cleaning, although not necessarily linked to cleaning the kitchen. Mary uses the very strong word 'love' several times and greatly misses her ability to clean:

R: '...I only wish I could do the work. I used to love cleaning and polishing I use to always do it before I lost me sight. I loved doing housework, you know, I loved it, but course some things I could do, some I can't' (Mary, 93 years, int. 5, line 564).

The quote below demonstrates the frustration in not being able to clean, described as being 'disastrous', he has got all the materials to clean with but he struggles to continue the practice:

R: '...I used to do it you know and you get to a point when you think 'I just can't do it anymore' you know and its disastrous then, it really is, you know when you have been so used to doing it, you know, for what, 15 years now.'

I: 'What's disastrous? Not being able to do it?'

R: 'Not being able I mean. I have got all the cleaning materials and it does annoy me' (Arthur, 85 years, int. 6, line 569).

Similarly hand washing was of great importance during the childhood of the older people in this research, possibly because it was a (food) hygiene practice that involved them directly and was instigated by a parent. The quote below provides the only example of someone stating that they could remember seeing their mother wash her hands after handling meat and poultry in particular. The practice of hand washing at that time was largely from a practical perspective, they were washed when they were dirty or when they needed to be cooled in order to handle pastry. Ruth had learned of the practice through observing her mother, which had then become habitual to her too:

I: 'Do you remember anything you learned about food hygiene either what your mum did or what you learnt at school. Do you remember being told certain things, about how to keep food?'

R: 'Oh no they didn't bother with that, it was automatic, we knew how to do that.'

I: 'How did you know about that?'

R: 'You just did what your mum did, you washed your hands especially if you had chicken you always washed your hands they always knew that, um you washed that carefully but otherwise no you just washed your hands when you had to and that was it' (Ruth, 83 years, int. 12, line 247).

Below we get an indication of the importance of the kitchen looking clean from a vivid memory from a child admiring the visible outcome of the practices undertaken by her mother:

R: 'She was always wiping down the surfaces or cleaning up the sink I remember seeing her doing that, until it sparkled, I can't honestly remember any more than that' (Jean, 88 years, int. 3, line 229).

Furthermore, her mother 'ruled' over her kitchen, her 'Kingdom':

R: '...my aunt didn't do much cooking but my mum was queen of the kitchen...' (Jean, 88 years, int. 3, line 225)

In recent times there is a strong link between the expectation that whatever looks clean is clean, and the aesthetics of that practice is a high priority for some as found by Wills *et al.* (2015). The woman below was recently widowed and does not have children, and keeps her kitchen surface free from any dirty marks. The quote below does suggest that the practice of a dirty teaspoon marking the kitchen surface is not only a common fault but that it can be criticised and that she is almost embarrassed by it; indicating perceptions of social acceptability. It also seems to give her satisfaction and pride, to be able to walk into the kitchen and see it clean:

I: 'Do you ever worry about keeping the kitchen clean?'

R: 'No, because I always keep it clean. That sounds terrible no, no, um, I worry about it not looking clean. I don't like to see little coffee rings or you know, and we all do it, you'll make a coffee and well the spoon you just stand on there but no, I like to see it looking clean and I like to come into it looking clean' (Beth, 64, int. 1, line 461).

This is also echoed by the two men who continue the high standards of their wives with regards to food preparation. Both Arthur and George, who is quoted below, express their drive to clean anything that looks dirty. Again, as indicated by Beth above, there is the feeling that walking into a clean kitchen is a satisfying experience.

It is unclear whether his term 'there is nothing by and large hanging about' refers to visible 'dirt' or hidden microscopic bacterium:

R: 'I make sure that the surfaces where I work are clean and polished when I finish I always keep the draining boards and the sink as clean as I possibly can and I will also sort of wiping them and that at the end of the day so that they look nice and I know that they are all right when you come down in the morning and there is nothing by and large hanging about' (George, 79 years, int. 8, line 511).

There is also evidence of others limiting their kitchen cleaning to the area that has been used which was reported by the remainder of the single/widowed/divorced men and the women who had never married. The most extreme example is one of a divorced man who lives mostly on muesli and restricts his cleaning to the bowl and spoon and occasionally to the plate that covers the muesli:

R: 'So I put a secondary plate on the top. Now if the muesli is piled up a bit and you put this plate on top and you don't look at this plate on top and you take the other top plate off there are bits stuck to it and this can go mouldy and I got into trouble with that I didn't check this plate, this top plate, I didn't check it for cleanliness. So now I don't let the muesli get so high and occasionally I look at the top plate maybe and give it a wash' (Frank, 74 years, int. 7, line 498).

In the past he 'got into trouble' by not checking the top plate, so he has put in place very limited adaptations to his practice to ensure that it does not happen again rather than washing the top plate.

In summary, there are a variety of strengths placed on the value and purpose of cleaning, ranging from those who associate cleaning with their ability to do so, the importance of things looking clean and those who continue the standards set by their

deceased wives to respect their memory, and those who clean the very minimum. Those who place a value on cleaning, even if it is only of 'visual' importance, and those who are only cleaning what they use, are maintaining food hygiene standards to some extent above those who place cleaning at a lower priority or who struggle to be physically able to clean. In comparison, food and food management seemed to be more emotive and carried a higher value for most due to it being an intrinsic manifestation of wealth and its extrinsic representation of care through food and feeding others.

Continuing from the contextual understanding of the value of food and cleaning, the data presented in the following sections will indicate the attitudes and beliefs surrounding food hygiene practices and the acquisition and maintenance of food hygiene skills.

7.1.2 Attitudes to food hygiene

Attitudes towards past food preparation practices, were described as being ‘general’ or ‘very informal’ and even ‘automatic’, whilst others referred to it as being ‘the kind of common sense thing’, suggesting that it was not consciously thought about and that it was highly habitual. In addition, four current attitudes towards food hygiene held by the research population were identified during this research that had an impact on food hygiene practices. Each of the attitudes identified here may limit the willingness of a person to access external assets to help with food hygiene.

7.1.2.1 ‘Use-by’ dates

When being asked about current food hygiene practices, most referred to them in terms of ‘use-by’ dates only, indicating that is what separates past and current food practices. Rosie’s attitude in the quote below is slightly dismissive and her words ‘this date business’, does have some parallels with the large international commercial companies which dominate the food industry:

I: ‘Would you be more inclined to leave things in a bit longer [in fridge] do you think?’

R: ‘Yeah, yeah, yeah we never did all this date business like they do now’
(Rosie, 80 years, int. 9, line 515).

Women on the whole used a mixture of techniques to decide whether food was still suitable to be eaten, some only relied on the ‘use-by’ date, some used it as a guide and relied more heavily by using their senses, whilst other used the ‘use-by’ date for certain ‘high risk’ food only, such as dairy and meat products. Female attitudes to food and food hygiene seemed to be more of resignation and acceptance of having to abide by the retailers ‘rules’ most of the time. The quote below from George

represents a more common theme from men however, that they were more inclined to use their discretion, that there was ‘nothing to stop you’ using the foodstuffs beyond those dates, almost reminding himself that freewill still played a part in deciding what could be eaten and when. He justifies this attitude by ascertaining that food companies must provide some lee-way with the ‘use-by’ dates. This attitude also demonstrates the ‘conflict and ambivalence’ between expert and lay knowledge as found by Wills *et al.* (2015, p. 123):

I: ‘Ok so most of us have different types of food stuffs in the fridge such as leftovers and fresh preserved food how do you decide when the food in the fridge or freezer should be thrown away?’

R: ‘Well usually you get a best-by date, or then you get a use-by date, on there and I will look at the use-by date and when its approaching that I will in actual fact probably go at least two days over the use-by date because I mean, they are looking at that in a certain way, that you come up to that point, and that's fine, but there is nothing to stop you leaving it a little bit later because I think they know that people are not going to necessarily have something by the use-by date...’ (George, 79 years, int. 8, line 457).

There was also evidence, although only expressed by one warden, that attitudes surrounding the ‘use-by’ dates were shared amongst family groups, which was a strong reinforcing proximal influence, and therefore they had also ‘learnt that trait’ of being ‘not very particular’ with throwing food away:

R: ‘...it is that varied I would say because each tenant is so different their abilities are so different. I mean you can get some that will throw food away that's perfectly good, they are very particular, but then as I say you will get some that aren't at all. Um and usually if a person isn't very particular a lot of the time you will find that the family members

have learnt that trait as well and aren't as particular 'yeah, yeah that's all right mum you can eat it, it will be fine' so it very much depends I think' (W3, line 426).

Those therefore who hold a dismissive attitude to 'use-by' dates and who consider it a recent and unnecessary industrial construct to boost profits may retain food for use after the 'use-by' date. There is evidence that this attitude may be shared among family groups, and can be linked to beliefs that 'use-by' dates can be intellectualised (section 7.1.3.2), and that their good practice can be evidenced through endurance.

7.1.2.2 Endurance

Two interviewees expressed this dismissive attitude to food hygiene more directly in terms of resilience and endurance, that their age almost excludes them from worrying about it, that good practices are self-evident by their older years:

I: 'Do you remember being told about food hygiene at all at home?'

R: 'Such as?'

I: 'Such as keeping the kitchen clean or...'

R: '...no, no, no, no. I am 85 duck it couldn't have done me that much harm could it...' (Arthur, 85 years, int. 6, line 236).

These attitudes of resilience and endurance with regards to food hygiene practices were put into context by the interviewee below who experienced multiple health problems. She expresses a common phrase, echoing the opinions of social or cohort peers, but admits that she isn't completely sure what the phrase means:

I: 'Ok, so do you ever worry about keeping the kitchen clean or anything like that?'

R: 'I wouldn't say I worry no, because as us oldies say,' you have got to eat a peck of dirt before you die'. Although I don't know how much a peck is!' (Margaret, 77 years, int. 4, line 452).

For this woman there were more pressing and immediate concerns with regards to health, when asked what concerned her more than food hygiene she replied '*Whether I am going to be all right in the morning really*' (Margaret, 77 years, int. 4, line 457).

Other concerns expressed that were more pressing than food hygiene were in relation to family relationships and coping with other household tasks generally, such as not being able to clean the home which were more immediate and visible but not necessarily related to food hygiene.

7.1.2.3 Not wanting to communicate the need for help

As discussed previously, some people felt immense pride in coping with household tasks, and being seen to manage, such as in displaying a clean kitchen. Pride was seen as a barrier to asking for help with food when it was needed. The quote below seems to express a line of thought by one respondent, he starts by saying that he understands that he is old enough to be eligible for help, then expresses why he does not want to ask, and then recalls a recent instance of asking for help from his family which was fulfilled. Here we have evidence of an attitude of wanting things done a certain way and of continuing independence and autonomy, which was his immediate stance when asked as to what may help him clean. Issues of trust were also expressed, and that family were the only people he called on but very reluctantly:

I: 'So what would help you clean the kitchen?'

R: 'I don't want anybody to come and help me, I am old enough I know perhaps I ought to... but you can't trust them not really. I mean you hear all these stories about people who come and do, I mean up there [at the community centre] they all good people and that, but if I want something cleaned I want it my way you know. I mean, I don't even ask my family to do anything for me, all right, they did rush round and cut the grass fortnight ago because I really have been ill, you know, the last month'
(Arthur, 85 years, int. 6, line 579)

Although this attitude of not being able to accept nor ask for help was only expressed by one man, it was later echoed in all three of the warden interviews. The warden quoted below expresses her opinion that the only barrier to people accessing help with food, is that they aren't readily communicating their need to others:

R: 'But we are very lucky we have lovely tenants here and we have local shops so we are always in and out to pick things up so there is no reason and there isn't anybody without anything. There is no reason for them to be without anything, the reason they would be without anything is that they are telling everybody that they have got food in when they haven't'
(W2, line 224).

The position of wardens allows them to observe and get to know the older people that they care for as individuals. This investment in time may increase their understanding of how best to approach people and offer help that they can see is needed. Here the warden understands that some older people have a strong sense of pride in being able to manage themselves:

R: '...it depends a lot on the person and how that help is offered. You know, you don't want people, to make them feel they are a needing case, it's pride as well' (W1, line 396).

Wardens also expressed the perceived reluctance of older people to apply for financial benefits that they are entitled to, which was viewed as ‘charity’ by some. However, those who moved into sheltered accommodation run by Milton Keynes Council routinely had their finances assessed before a place was offered, ensuring that they received adequate financial assistance to help pay the rent with sufficient money remaining for living expenses. Those who hold the attitude of ‘not communicating the need for help’ puts them at a reduced motivation to seek all kinds of help, not just in relation to food and food hygiene. However, the intervention of those who have expended time and energy in understanding the older person who may hold these views, such as wardens or close family members, can encourage and support help-seeking behaviour.

7.1.2.4 Cooking is a waste of male time

Another attitude which emerged during this research was that cooking was perceived as a waste of male time, as there were strong enduring attitudes of the engendered roles of cooking and housekeeping. The quote below indicates this feeling, ‘knowing’ what went on in the kitchen was not his role, his was to eat what was cooked:

I: ‘So who did the cooking when you were married?’

R: ‘Oh I didn’t, but the wife did, Tom and I did the eating. No she was a good you know she was a good cook.’

I: ‘So do you remember anything she used to do to keep good food hygiene practice?’

R: ‘I wouldn’t know’ (Arthur, 85 years, int. 6, line 259).

Those who were used to women cooking for them, now expressed that cooking was a 'waste of time' for them:

R: '...to me cooking is a waste of time. I don't know if you follow that in so far as I have got to stop what I am doing to do cooking. I know I have got to have it, but I could find that particular amount of time more useful shall we say, for doing something else' (George, 79 years, int. 8, line 697).

Evidence of this attitude was repeated by others with the retelling of extreme levels of 'time economy' and 'effort economy' that went into preparing and cooking food. The quote from the man below emphasises the degree that he has embraced technology as a result to keep food preparation time to an absolute minimum. Although Jim is married, he cares for his sick wife and has taken on the role of cooking:

R: 'Yeah and um as we have got three microwaves you know potatoes and carrots go in one and while that's cooking sweet corn, because we both like sweet corn, its readily available and very cheap, so that goes in the other one and then in the third one anything that we can for a sweet goes in there.'

I: 'So it's all going simultaneously in the various microwaves?'

R: 'Well once two of them have run nearly out of time then I put the pudding or sweet on' (Jim, 72 years, int. 11, line 370).

Even though men largely expressed the opinion that cooking was too time consuming, most men did cooking of some description. Two men solely used microwave meals, with two more using convenience foods which only required heating such as canned goods and pre-prepared food that could be placed into the oven. However, one man, the eldest, cooked things himself from raw ingredients

every day. Another two men had never learnt to cook and had always relied on food bought at work or in cafes when they were without a female partner.

The most extreme example of cooking efficiency in men was from Frank, who was divorced and estranged from his children and by his own accounts 'very wealthy.' Frank's diet consisted mainly of muesli which he ate for a number of reasons. He explains the reasons for his limited diet as the efficiency in preparation and then the nutritious value of muesli:

R: '...and I just began to discover muesli and I discovered that cooking was pretty much a waste of time because even though you cooked food, you really didn't make it any better than you could get in a packet of muesli, because muesli contains everything and I am a muesli addict now' (Frank, 74 years, int. 7, line 362).

He does later refer to other moral stances such as vegetarianism and land ecology in the wasteful production of excess meat for human consumption. However, it is the ease of preparation, convenience and simplicity of having and accessing a dried foodstuff that really appeals:

I: 'Ok, it's one thing to be a vegetarian and decide not to eat meat but it's another thing to make your food entirely to one type of food. Is it because you think it's nutritionally adequate or is it the efficiency of just having time to prepare or don't want to spend time preparing food?'

R: 'It's not that, because I enjoy cooking, it is that it is so simple. It stores indefinitely, you buy your muesli now and you could go away for 10 years and come back open the pack and eat it because it's dry' (Frank, 74 years, int. 7, line 412).

Here we see parallels between the attitude of cooking being a waste of male time and unnecessary, and the value placed on being able to keep food as long as possible.

The limited time and effort spent may also be because they resent having to prepare their own food; that it is not their role and they have been forced into being responsible for it through their circumstances. Food preparation with this level of time and effort economy may make food perfunctory and without enjoyment, and the pleasure or satisfaction comes from the intellectual challenge of improving the efficiency of the cooking process rather than the food itself. The attitude of time and effort economy identified through the course of this research could influence the drive and motivation for some men to perform 'safe' food hygiene standards.

7.1.3 Beliefs surrounding food hygiene

Two main cognitive driven beliefs were identified during this research that have direct relevance to current food hygiene practice.

7.1.3.1 Food hygiene 'didn't exist' in the past

A strong belief emerged during this research surrounding the perceived absence of food hygiene practices employed in the past as performed by parents when the older people were children. This belief endured despite witnessing extensive cleaning in the home, hand washing in some circumstances and the complex and time-consuming techniques used to preserve foodstuffs (e.g. pickling, jam-making). The quote below from Arthur relays this belief and directly links food hygiene to food storage practices and storage ability, but no other forms of food hygiene practice:

I: 'Do you remember being told about food hygiene at all at home?'

R: 'Such as?'

I: 'Such as keeping the kitchen clean or...'

R: 'No, we had a cupboard in the living room if you like and the bread and butter was kept in there but food hygiene didn't exist in those days'

(Arthur, 85 years, int. 8, line 238).

All but one interviewee referred to the absence of food hygiene 'learning' in their childhoods with participants only being able to recall overt visual food hygiene practices that they had directly experienced. The one exception was of a man who recalled being responsible for salting 'black market' pig carcasses as they were delivered to the home which he related to the term.

Similarly, Beth below, cannot recall any food hygiene practices or food hygiene practice learning except that of hand washing, which was done for practical reasons

of having dirty hands. This was thought of as 'general hygiene', not necessarily having anything to do with food, although she struggles to remember clearly:

I: 'Right ok, so please tell me how you learned about food hygiene at that time?'

R: 'I don't know if I did, I don't think we did, we certainly... I don't ever remember apart from maybe washing your hands because they were sticky or had blood on you know what I mean from meat or whatever there was no such thing as it was just general... it was general hygiene that you washed your hands' (Beth, 64 years, int. 1, line 179).

Others referred to food hygiene practices in the childhood home as being limited to general cleaning and personal hygiene, with only two women recalling having been formally taught specific food hygiene practices as part of their cookery lessons at school.

However, there was recognition that some children, mostly men, were ignorant of practices that they were not directly involved in. The quote below from Frank indicates his lack of involvement and therefore knowledge about the basics of where food was stored in the home, as if it was a mystery that he simply accepted and didn't question at the time, although you get a feeling that he does question that attitude now. Again, he directly refers to food storage when asked about food hygiene but no other practice:

I: '...can you remember anything about good food hygiene practice, being told about it? Do you remember seeing your mum performing good hygiene at home?'

R: 'No I don't I'm afraid, I don't. I mean I mean if I took something out of the cupboard and I didn't very often I didn't do that [reference to

Mother's role].. *So I don't think I knew where a jam jar or a pat of butter was, it just appeared on the table in front of me and I would sit down and eat it and then get up and leave*' (Frank, 74 years, int. 7, line 283).

The key beliefs identified during this research were, therefore, that food hygiene didn't exist in the past as a collection of practices, but rather that the term meant different things to different people. The belief held by some that food hygiene did not exist in the past may influence some to disregard current recommended food hygiene practices *and* future food hygiene health promotion messages as being 'new' and 'unnecessary', and could act as a barrier to further learning. However, if food hygiene is made analogous to general hygiene, then this may be a commonly understand concept more amenable to some.

7.1.3.2 Intellectualising the instructions on food packaging

Another key belief that developed through the course of this research surrounded 'use-by' dates which were believed by some men to be needlessly short. There is evidence of male consumers utilising their 'knowledge' of world foods and modern technologies to intellectualise and justify consuming foodstuffs beyond the 'use-by' date.

George attempts to place himself in the retailers' position to justify extending 'use-by' dates, he believes that retailers have already 'built in' an extra few days to protect their customers' health and themselves from litigation:

R: '...because I think they know that people are not going to necessarily have something by the use-by date...' (George, 79 years, int. 8, line 457).

In the quote from Arthur, below, he compares the bacon bought from supermarkets in the UK to his 'knowledge' of how bacon is stored for months in other countries.

By drawing this comparison, and stating how it's been stored in the fridge and then how it will be cooked, he justifies taking the bacon four days 'over'. He states that he rarely considers a food product too 'harmful' to eat:

I: 'So most of us have a range of different food stuffs, you already kind of gave me a rundown of the sort of things you have in your fridge, but how do you decide when things in the fridge or freezer need to be thrown away?'

R: 'I don't. I just opened a pack of bacon that's four days over but it's been in the fridge and if you fry it, it's not going to do any harm in here, not bacon. I mean if you go on the continent the bacon hangs from the roof for months and months but very, very rarely I do come across something and I think no perhaps not, but not very often' (Arthur, 85 years, int. 6, line 474).

Similarly, the quote from the only man from Phase II who had never married, Richard, uses the consistency of the butter stored in his fridge to ascertain the temperature of the fridge, a very similar finding from other research (Wills *et al.*, 2015):

R: 'I know my fridge is pretty cold because of the butter, I have to carve it..so if it's a few beyond what it should be it will be OK' (Richard, 75 years, int. 15, line 447).

This external 'evidence' can therefore be used to justify how long foodstuffs can be kept for beyond the 'sell-by' or 'use-by' date.

Similarly the same interviewee intellectualises about the use of microwaves using his knowledge of physics and electronics. In the quote below he is talking about not needing to stir microwave meals part-way through the cooking process as recommended by the product instructions. He also refers to the difficulty in placing

back the film that needs to be partially removed prior to stirring. To circumvent this difficult practice, and possibly because it is easier to do so, he lets the food stand for a minute instead:

R: ‘...if its microwave cook on full power for 2 minutes remove cover stir, put the cover back on I’ve never worked out how to put the cover back on, that bit of cellophane you tear it off, it won’t go back again would it? I let it sit for a minute and then give it the other minute I am sure the heat circulates inside.’

I: ‘Because the sections are quite small aren’t they usually if you have got different things in different sections in a plastic container...’

R: ‘I think the early microwaves where you put it in, some of it could be hot spots but with the circular dish getting around that doesn’t happen. I even know why those hot spots occur, my computer days...’ (Richard, 74 years, int. 15, line 341).

He continues this rationale further by stating that sometimes he does not ‘need’ to let the product stand because by the time that he’s back in his armchair and ready to eat it, he guesses that a minute must have passed. He extends this justification further by stating that if it has not been stirred in the middle of the cooking time then it gets this ‘extra’ sitting time to let the heat ‘circulate’, suggesting that it is not getting the full cooking time, nor stirring, as instructed:

I: ‘So generally you, um, you maybe let the food sit for an extra minute or a minute between...’

R: ‘...well it takes me a minute to take it out bring it over to my armchair and sit down I let it rest, it has a minute’s rest in the microwave if it says stir half way through, even a bowl of soup I let that sit there for a minute and then a bit more...’ (Richard, 74 years, int. 15, line 356).

By his own admission, this man had suffered recurrent symptoms of food poisoning but tackled the problem by working ‘*..on the principal that if it’s diarrhoea or vomiting it will probably sort itself out..*’ (Richard, 74 years, int. 15, line 526) and the cause was simply that he ‘*..was unlucky in eating something that disagreed with..*’ (Richard, 74 years, int. 15, line 351) him.

A second belief has been identified that many of the men believe that they can ‘outwit’ use-by dates or cooking instructions on food packaging. This belief that it is possible to intellectualise ‘use-by’ dates and cooking instructions could limit some to seek fresh food. However, evidence of this type of belief does suggest those who rely on fact and science to support their practices, may be open to more ‘accurate’ scientific learning in the future.

7.1.4 Acquisition and maintenance of food hygiene skills and knowledge

Food preparation and cooking skills are interlinked with the learning of food hygiene skills and knowledge. Evidence of this close interaction can be taken from the inability of most to identify how they learnt their current food hygiene skills, though they can recall how and when they learnt to cook.

The associated loss of cooking skills in later life can consequently influence the ‘risk’ of foodborne illness. The majority of the older people interviewed expressed the belief that food hygiene skills were ‘common sense’ and that they had been ‘picked up’ during the life course. Two women could dissociate cooking from food hygiene, stating that food hygiene was learnt alongside cookery lessons at school. In addition, two, a man and a woman, also learnt about food hygiene as part of their working roles later on in life, one whilst working within a restaurant kitchen received the necessary food-handling training, the other learnt informally by reading kitchen notices whilst working in a hotel:

R: ‘...again I think working at the hotel is a lot to do with that because I can’t help drying things after [washing up] and that’s what the hotel does.’

I: ‘Ok, so you see what they do there?’

R: ‘Yes, I learn. I have been there 15 years so I learn, you know, they have parties so I learn how you deal with parties and how you clean and they have sort of standards it’s all laid out and so I follow that.’

I: ‘Is that just by watching?’

R: ‘You can watch and there is a lot of notes up to read, yeah’ (Nelson, 70 years, int. 10, line 403).

None of the interviewees taking part in this research could recall any public health campaigns regarding food hygiene, although newsreels regarding recipes on rations, nutrition and general hygiene were recalled, particularly throughout the war years. Formal learning of food hygiene skills was therefore limited to the four individuals who were either taught at school or had initiated their own learning associated with their employment.

Although most of the older people taking part in this research stated that they didn't know of food hygiene when they were young, many remembered food preservation techniques taking place in their homes. One woman still scalds her milk to keep it fresh for another day:

R: 'Mum would say some nights 'Mmm' because the milk would come in the morning anyway, first thing. 'Mmm that milk is not very cold' she used to scald it, so it didn't quite bring it to boiling point but just underneath, and that would keep until next day then so that was all right...'

I: '...oh that's interesting I have not heard that one before.'

R: 'I still do it myself sometimes.'

I: 'Do you?'

R: 'Yeah I think 'oh that milk is out of date tomorrow perhaps I will just do that before...(sentence ends)' (Ruth, 83 years, int. 12, line 261).

The remainder of the interviewees could not identify how food hygiene skills were learnt. However, all could remember how they learnt to cook, bar the two men who claimed that they had never learnt to cook. Only three of those who could cook could recall cookery lessons but these were in the minority, the remainder learnt cooking skills through observation, mainly from mothers or close family members:

I: 'So do you think you learnt more from the army than your mum or more from your mother?'

R: 'I learnt more from my mother I think...Yeah I done what other people done, just watching people' (Henry, 90 years, int. 2, line 163).

Three men interviewed stated that they learnt to cook through becoming involved in the cub or scout movement. These men wanted to learn to cook as boys so that they could earn and be awarded with 'badges' that demonstrated their scouting skills, one of which was cookery. All three men stated that they then watched their mothers cooking so that they could learn how to cook a meal themselves and be awarded with the cookery badge. Two of these men later married and the role of cooking passed back to being in the hands of their wives, and only when the wives were lost through death or divorce, did the men refer back to the cookery lessons from their mothers learnt during their scouting years.

As there is a close relationship between cooking and food hygiene skills then the evidence of the loss of cooking skills in later life could also have implications for food hygiene. There was evidence provided by one older person and from the wardens that food preparation skills may have become lost because they are no longer used through reliance or choice to use pre-prepared foods that require limited skills to prepare and cook. Richard, a man who had never married, had previously declared to the researcher that he didn't know how to cook, and then gave a detailed account of cooking one of his favourite meals that he used to prepare. The researcher then states that it did sound like he knew how to cook, to which he replied: *'I know but I have forgotten how to do that'* (Richard, 75 years, int. 15, line 667). Although the researcher is aware that Richard may have had other motives for stating that he

could not cook, opinion was also supplied by the wardens indicating that some older people lose cookery skills later on in life ‘*...they lose the skills don't they?*’ (W1, line 678).

The quote below from a warden does indicate the circumstances that surround some people only buying and cooking familiar food products. Some older people may not be able to experiment or learn about new products as they may be unable to get to the shops, walk around a large supermarket, or struggle to see or understand the products supermarkets hold:

R: ‘...people do tend to make their list and, you know, forget what else is in the shops because they don't want to walk around or they can't see it or they look at it and can't figure out what it is, you know, it's different packaging, you know, it sometimes it's not easy, so people just stick to what they know...’ (W2, line 283).

This in turn can lead to sticking to their shopping list, particularly men, who ‘*...won't browse and look at other stuff..*’ (W2, line 440) which can lead to a lack of variety in the food purchased and reduce the chances of learning new cookery and hygiene skills.

Some older people had therefore had to reduce their skills base through necessity; due to lack of ability to get to the shops, or inability to prepare food ‘from scratch’. Although fewer in number than there were, some older people still have a strong drive to purchase the ingredients to cook a complex dish ‘from scratch’ but may lack the skills, energy, memory or desire to do so. The quote from the warden below is an extract from a conversation where she is talking about a very elderly woman who lives in sheltered accommodation:

I: 'Do many people still like to cook from scratch?'

R: 'Not many no, not many no I must admit um that is decreasing very much so and I mean my 99 year old lady went out shopping last week she bought flour, sultanas and all that sort of thing and I said 'what are you going to bake' and she said 'I don't know'' (laughs)...

I: '...but I have got it there if I need it.'

R: 'That's the sort of thing that they used to stock up on... but the ability, yes, they knew they should have those ingredients but the ability to do it or even necessarily the want to do it but, 'I have got it in' (W3, line 691).

Modern cooking techniques such as the use of a microwave can provide a quick and convenient solution to preparing food for those who are of limited mobility or in poor health. However, these cooking techniques require new skills and knowledge which may still prove to be extremely difficult for some, particularly for those with poor eyesight. The technology may be too new for people to be comfortable with, 'all these waves' although the ease of using microwaves takes priority for Jean:

R: 'Yes, I cook quite a lot or heat stuff in the microwave yes I get... yes that's something I do, I get microwave dishes and pop them in quite often yes. Because that's easy, although I sometimes wonder about all these waves, whether they are doing bad things to us, but that's life' (Jean, 88 years, int. 3, line 478).

This suggests a link between those who worry or who are reluctant to use modern cooking technologies, and who may also be struggling to cook with traditional methods due to frailty. This may lead to inadequate cooking of foodstuffs (through lack of knowledge, skills and/or agency to perform either type of cooking) and the threat from foodborne illness. The quote below from one of the oldest interviewees, Mary, does express this difficulty. Even though her son cooks meals and takes them

around for her, it is the last stage of heating the food in the microwave that proves extremely difficult. She admits that it involves guess-work but stresses that she manages:

I: 'So how do you manage the microwave with your poor eyesight?'

R: 'Oh Ernie [son] tells me what to do just turn it a little bit, give it so long all according what you are having and I manage alright you know. Yeah, it's only the soup really that I put in there, you know, to heat up.'

I: 'So you put his meals in there don't you, so he tells you how long to cook it for?'

R: 'Yeah...'

I: '...and can you see all right to...?'

R: 'No, I just judge, I just judge' (Mary, 93 years, int. 5, line 443).

One warden seemed to understand the 'newness' of the concept of food hygiene practices. This extract indicates that the learning of food hygiene skills is continuous and on-going, that people need 'training', suggesting that the consumer has to refresh and update their food hygiene knowledge as new food products and technologies emerge:

R: '...it's retraining them, I think, because they have never had to do that.

It's more, I think, in our time isn't it, the dangers. It's a learning skill now isn't it?' (W1, line 427).

It seems as if food hygiene skills are 'hidden' and 'tacit' within more overt and obvious cooking practices in the past, and attempts to disentangle and distinguish the two may be difficult for some who have not had additional formal food hygiene learning. Consequently, modern foodstuffs may require the learning of additional cooking and the related hygiene skills, which is linked to the person's ability to be

familiar with and cook modern foodstuffs using modern technologies. Furthermore, if cooking skills are not maintained or updated to modern foodstuffs and technologies, adequate food hygiene knowledge and skills may not also be learnt. If, however, food hygiene skills are referred to more closely as those involved in cooking, then this lack of distinction between the two held by some may work in the favour of those promoting 'safe' food hygiene practices. This research also found other ways that an older person's agency in performing food hygiene practices is reduced through a reduction in power and autonomy.

7.1.5 Reduced agency in performing food hygiene practices

The research identified evidence that agency is reduced in this population in three ways, two of which may make them more susceptible to foodborne illness. Firstly, as consumers of mass-produced food they are given little information on the preservation techniques or the age of food that is purchased in order to make personal decisions on how long it should be stored. Secondly, older people experience reduced agency due to their health needs and the care they receive by way of carers from formal care agencies who prepare food for them. Thirdly, older people experience reduced agency by permitting ‘others’ to throw food away from their fridge, using their set of standards rather than that of the older person. Although from limited data, this last evidence of reduced agency may not necessarily be placing the older person at greater risk of foodborne infection. It may serve to protect their health when they hold previously reported beliefs, values and attitudes that make them reluctant to dispose of food.

7.1.5.1 Lack of information on modern foodstuffs

Foodstuffs can now be stored for long periods before it reaches the retailer and even longer before it reaches the consumer. The quote by George below expresses his awareness of the discrepancy between knowing the age of food in the past and the ‘opinion’ of how long food retailers think food can be kept now, which is open to interpretation. This lack of ‘knowledge’ about the food and how the preservation techniques may have altered its appearance or texture, means that consumers cannot apply their own ‘standards’ to decide how long food can be kept:

R: ‘... I knew that if things weren’t used very much they would go out and finish them before and up to the date but I knew, unlike today, that there was only a certain period of time when you could store food to eat, irrespective of what the food was’ (George, 79 years, int. 8, line 289).

Further evidence of the awareness of how current food preparation and transportation practices can alter the appearance of food comes from Eileen who is quoted below. Eileen’s background is in farming which frames her beliefs surrounding the current practice of transporting vegetables in water to supermarkets. She also refers to other techniques, showing her awareness that she is not knowledgeable about all practices, but understands that they take place and that modern foodstuffs may not be all that they initially seem:

R: ‘...that’s right, I mean, if I didn’t know carrots come out of the garden which is dirt, carrots that are coming into the supermarkets are all water they sit in water, they are fed with water and they swell up with water and then they are picked [unclear 00:43:51] and tomatoes are the same if they are not home grown then they are all pumped with everything’ (Eileen, 74 years, int. 13, line 638).

These data provide some evidence that the consumer has been disempowered and has little option but to trust food retailers. The consumer is no longer able to apply the ‘common sense’ approach to food storage that was employed when there was a clearer and simpler food chain between the producer, retailer and consumer. Although George and Eileen were the only interviewees who expressed this discrepancy, there was additional evidence that this lack of knowledge can cause additional problems when dealing with the self-freezing of foodstuffs bought ‘on offer’ for later use.

Three women interviewed regularly bought foodstuffs that were on a ‘Buy One Get One Free’ ‘offer’ available in the supermarkets, particularly of cooked meats. This was due to the offers being economical, but often left them with ‘spare’ produce as they lived alone, and was frequently even too much for the one woman who undertook this practice who was married. This led to them freezing the second ‘free’ packet of meat, which made the ‘use-by’ date presented on the packaging obsolete. This does then leave the consumer only with their senses or general guidance on the packaging, to discern how long the defrosted product is fit for consumption:

I: ‘So some people like to... will maybe go a couple of days over the use by date because they feel that sort of built in leniency from the food manufacturers would you say you kind of stuck to the date or how it smelt...?’

R: ‘I do go, I must admit I do go on appearance because you see if you actually freeze it [packets of BOGOF meat] I mean it can well be beyond the sell-by date. So I do, you know, I do keep an eye on it because you know meat if meat goes off it can have rather a nasty effect so I am a bit careful about that. But it is really by look and smell rather than the actual sell by date if I have had it in the freezer’ (Carol, 74 years, int. 14, line 551).

7.1.5.2 Loss of involvement in food provision

The second evidence of reduced agency is as a result of the involvement of organised care in response to a health need. The various care agencies are not connected to each other, resulting in a lack of communication between and within these organisations which can lead to an increased threat from foodborne infection. The older people who rely on carers to prepare food for them are particularly vulnerable as they not only have poorer health, but also because they are one ‘step’ further away

from the food supplier, and have to rely on another person to ensure the safety of their food. Only one person interviewed had sufficiently poor enough health to require a carer, so the data presented are from the warden interviews. The implications for the use of these data will be discussed in Conclusion chapter.

The first quote from the warden below does provide some contextual understanding of how differing carers or different agencies can contribute towards increasing ‘risk’ of foodborne illness:

R: ‘Yeah, there was one I find with carers is older people have pots of fish paste and stuff like that so they have opened the fish paste, used it but it’s not all used up so they will put it back in the fridge, a week later ‘oh, you want a fish paste sandwich’ immediately there is a problem’ (W3, line 256).

This warden was aware of this issue, having been a carer herself, because carers come from many agencies and there can be different carers day to day caring for the same person. Although the warden had suggested a way to deal with the problem, by carers writing on the packaging when the food was opened, this only works if the next carer takes the time to look:

R: ‘We have tried with carers, it’s very difficult because you get carers coming in from all different agencies now, it’s not just home care run by Milton Keynes Council, it’s carers from all different agencies... but we do say ‘right, if you open this, can you just write on it opened, whatever date?’, but obviously, again, it’s down to whether the next carer comes in looks and is observant’ (W3, line 265).

Carers are supplied by local care agencies to come to the homes of older people and perform a 'task' as pre-determined in their agreed 'care package'. Tasks are allotted a time and carers often have to undertake multiple tasks within a time window:

R: '...carers will come in they will grab the first thing, obviously they have got a time restraint, 'oh we will grab that one we will use that milk first', whereas really they should have used the other one first, but they haven't looked at that, so a lot of it is observation basically' (W3, line 233).

This warden can see that time and observation taken by the carer could prevent older and unsafe food produce being used, and a specific carer allocated to an individual to provide consistent care would be more aware of the food product history.

Carers are usually not permitted to buy food within the allocated 'care package' paid for by the care funder, unless someone is without family to help them. If the older person has no help with food and without a carer, then commercial companies can deliver pre-prepared hot or cold food. The preference of these two options has implications on the relative safety of re-heating a frozen meal versus immediately eating a hot meal when it is delivered.

A clear preference for frozen food was identified through the warden interviews due to further issues relating to the timing of carer visits. The 'window' of time in a carer's busy schedule is likely to vary each day. It is within this time that they visit the older person and undertake their allocated caring tasks but there can be a wide variation on when the carer arrives and then leaves. The delivery of hot food however is more 'fixed' to a mealtime and sometimes does not fit around the erratic and unpredictable visits from the carers. This means that the older person can have

two meals that are too close together if they have carers and use the ‘Apetito’ hot food delivery service:

R: ‘...a lot of people don’t like the Meals on Wheels, not that the meals haven’t improved because they have, it’s just that they will come in at say 11.30, 12.00 and the carer for the breakfast visit has only gone at half past 10, no way do they want their dinner then, so the hot meal service is not so good. But the frozen meal service that they can use or Wiltshire or Oakhouse is very good and as I say it’s quite reasonably priced’ (W3, line 481).

As this warden identifies, these two agencies (carer agency and Apetito) are not linked and do not communicate and cannot therefore provide tailored care to the older person, the ‘client’ in coordinating their visits.

In addition, many medications prescribed to older people need to be taken at certain times either before or after meals. This would then encourage the practice of some older people wishing to keep some food prepared by carers, so that they can take the medication with meals or eat when they are next hungry:

I: ‘Do carers routinely leave things out on the side or are they encouraged to keep things in the fridge?’

R: ‘It depends. Now if you have got a lady that is confined to a wheelchair and obviously they are going to say ‘oh leave me a sandwich out’ and they will leave it on the side table where they can reach it easily but of course it’s got time to be contaminated or go off’ (W3, line 280).

If this practice is combined with the use of a food product that is ‘..on the turn..’ (W3, line 275) this practice can be particularly unsafe. Similarly, the warden reported incidents of older people who have diabetes and who manage their disease by controlled timed calorie intake, making eating at certain times paramount and

which may not necessarily be compatible with visits from carers. In the cases of older people with dementia, some struggle to remember if a carer has visited, when they may next visit, or whether they have even already eaten.

7.1.5.3 Loss of control over food disposal

Carers do, however, throw away food from an older person's fridge when they see products that are out of date, which was more widely accepted by some older people from carers than by family members. This practice makes Rosie uncomfortable, although she has no choice but to allow it due to her dependency on the carers:

I: 'Do you remember learning anything about food hygiene back then?'

R: 'No, no more so now. I have got carers they look at all the dates, it's only got to be one day out of date and in the bin it goes, oh dear' (Rosie, 80 years, int. 9, line 246).

Retaining food and not allowing others to throw food away can be seen as indicative of not only the value placed on food, but also reflects the individual's own agency and autonomy, that they retain the power and control to do so. Some deeply resent families attempting to throw food away resulting in arguments, others found the difference of opinion as quite amusing '*...so either Jim or Shirley come and very tactfully and kindly say 'look that's got mould on it what more do you want?'*' (laughs)' (Jean, 88 years, int. 3, line 632). Others were reported by wardens as throwing food away needlessly to give the impression that they are eating more than they actually are to their families. Hence allowing others to throw food away is indicative of reduced autonomy and loss of agency. Throwing food away needlessly demonstrates some element of control even if it is only to placate or deceive those who are perceived to hold more power than the older person themselves.

7.2 Conclusion

There was an intrinsic value placed on food, especially by the older interviewees who could recall first-hand financial hardship and food scarcity. There was also an extrinsic value placed on food as a representation of love, and evidence of the removal or loss of that relationship on mental health and the motivation to care for one's own health. This extrinsic value of food was also demonstrated by the resilience of those who had never been married and had therefore never cared for others nor recently been cared for by others through food provision. The value placed on cleaning was mixed and there was evidence of three purposes of 'cleaning' 1) in relation to things looking clean, 2) as an expression of physical ability to do cleaning 3) maintaining the cleaning standards of a deceased wife. For others cleaning was minimal and only extended to cleaning the kitchen areas or equipment that had been used.

Four attitudes which limited the drive to perform 'safe' food hygiene practices were identified during this research, one of which was specific to men. Two beliefs were identified during this research. Firstly that food hygiene did not exist in the past and that food hygiene practices were not undertaken in their childhood homes. There was also a strong belief identified by some men of their ability to intellectualise 'use-by' dates and cooking instructions by drawing on external cultural or 'scientific' evidence e.g. physics, to justify their own practices.

There was strong evidence identified surrounding the link between cooking and the tacit nature of the acquirement of food hygiene skills as demonstrated by the lack of awareness of ever having been 'taught' food hygiene skills. The maintenance of food

hygiene skills can also be linked to the loss of cookery skills through choice or through the later loss of physical ability. Lastly, this research identified three ways in which the agency in performing food hygiene practices is reduced in the older population.

The analytical themes resulting from these quantitative and qualitative data will now be presented figuratively in the external and internal assets maps (Figures 19 and 20) in the following chapter ‘Development of the Analytical and Theoretical Themes’. This chapter will explain the categorisation of the asset identified in both Results chapters according to previous asset research and provide details of the asset mapping process. This chapter will also contain Figure 21 which represents the overarching theoretical conceptualisation of the asset maps which forms the basis of the Discussion that follows.

8. Chapter Eight: Development of the Analytical and Theoretical Themes

8.1 Introduction

This chapter will present the analytical themes resulting from the study data which are presented in the two food hygiene asset maps; one presenting the ‘external food hygiene assets’ (Figure 19) and the other the ‘internal food hygiene assets’ (Figure 20). Details will be provided on the source of the data that contributed towards their formation, interpretation and relevance to the study. The resultant theoretical themes will then be presented in Figure 21 before the Discussion chapter. The implications of this mapping process on the theoretical development of the asset model will be the focus of the first section of the Conclusion chapter.

8.2 Conceptualisation of the analytical themes

Figures 19 and 20 are summary representations of the food hygiene assets which were identified during the course of this research. These assets have been presented according to ‘external’ and ‘internal’ food hygiene assets as per existing asset literature as discussed in section 3.3.2 (Baban and Craciun, 2010; Rotegård *et al.*, 2010; Brooks *et al.*, 2012; Whiting, Kendall and Wills, 2013) and the decision making process for the map formation in section 5.5.4. This map structure will also aid the practical application of these findings in developing future health promotion strategies.

The structure of the external and internal food hygiene asset maps share a common construction and differ only in their emphasis. The maps consist of three concentric circles. In the inner-most circle are the internal food hygiene assets which have been conceptualised as constructs of the self: values, beliefs, attitudes, agency, skills and knowledge, which have a bearing on asset mobilisation identified through this research. Surrounding these internal constructs is the second circle that represents the environment that surrounds the individual. This social, economic and educational environment will shape and be shaped by an individual, as identified by the thick black arrow that links the two. This represents the ‘normative system’, the network of proximal and distal social influences, such as families and community members. The external assets are presented in the outer ring, and show the range and type of food hygiene assets that are available to the older person. The internal constructs in combination with the proximal and distal environmental influences can either facilitate or hinder access to these ‘external’ assets.

Both maps place the identified assets into relevant categories. The categories were formed in order to map the assets on a broad level, to encompass as much asset data into a relevant category as possibly regardless of the importance or depth of evidence supporting that category. The formation of the internal and external food hygiene asset maps were a result of a process of wider conceptualisation of the topic area through consideration of all the data. These are therefore conceptual maps which draw on all of the data sources, including field notes and the reflexive memo generated through field work (see section 5.5.4 for information on the integration of the data sources) which provided context to the structured data (see section 5.7.2), rather than a definitive representation of the results.

It was initially expected that only the external assets would be identified during the research process (systems, people, commercial ventures, aids/adaptations). However, as analysis continued, particularly of the qualitative data, the complex internal world of the respondents became apparent which formulated and shaped both the availability of, and the perceptions towards, food hygiene assets from past events and experiences. These became expressed by what was termed the ‘internal assets’ as they were situated within the individual. Evidence was also found demonstrating how the presence or absence of certain assets e.g. family and other social network members influenced the motivation to seek out and mobilise other external assets in the present and in times of need.

This interpretation of family and other social network members as the primary food hygiene asset led to the construction of the third map which presents the overarching theoretical contribution that this research makes towards the novel area of food

hygiene assets. Detail will now be provided on the underpinning data and formulation of all three maps.

8.2.1 External food hygiene assets map

Prominent in Figure 19 are the assets that lie external to the individual and have therefore been termed as ‘external food hygiene assets.’ The external asset categories have been formed as a result of three forms of data, namely the quantitative data from Phase I, the qualitative data from Phases II and III but also through the observations made by the researcher on site which were recorded in the field notes (see section 5.7.2). The key alongside the map provides the background information on the source of data which provided information on the components of the map. These data alone, or in combination, informed the researcher of the range of food hygiene assets mobilised by the older people in the study. It is recognised that some mapped assets come from a limited source of data, but have been included as they provide additional insights into the range of ‘available’ assets but primacy has been given to the assets which derive from multiple data sources.

The food hygiene assets have been categorised in groupings which indicate how the older person accesses them, similar to the development of children’s public health assets by Whiting, Kendall and Wills (2013), also analysed using Grounded Theory from data provided by the sample population. The formation of an asset ‘typology’ according to the categories presented here will also allow for the identification of potential health promotion targets. The external asset categories are: 1) individual relationships, 2) health, social and community care service, 3) commercial food companies, 4) physical aids and adaptations (data provided from the field notes), 5)

safe storage solutions, and 6) fiscal assets. These external assets are predominately extra-residential, coming from outside the home, due to the majority of the study participants living alone (80% of the study population). These assets may be physical; for instance the existing relationships developed with people through the social network and the application of technologies or in terms of services, fiscal advice or supermarket ‘offers’. As an example, the external asset category of ‘Assets of Individual Relationships’ was considered in response to the thoughts expressed principally from the quotes and field note excerpts associated with four of the themed memos ‘Food reflects relationships and wellbeing’ ‘Women as food hygiene gatekeepers’, ‘Intergenerational food hygiene learning’ and ‘Food hygiene didn’t exist in the past’. Tables 29 and 30 in Appendix F presents the integrated quotes, code and memo sources which combine to justify ‘Assets of Individual Relationships’ as an external asset in this map.

This asset typology also provides an indication of the type and degree of input needed to maintain the asset ‘availability’, for example, technological assets (e.g. a magnifying glass) may be extremely helpful and a one-off financial investment whereas the assets of individual relationships subsume multiple roles and may take different levels of time and energy to maintain with no guarantee that they will continue to ‘function’ as a food hygiene asset in the future.

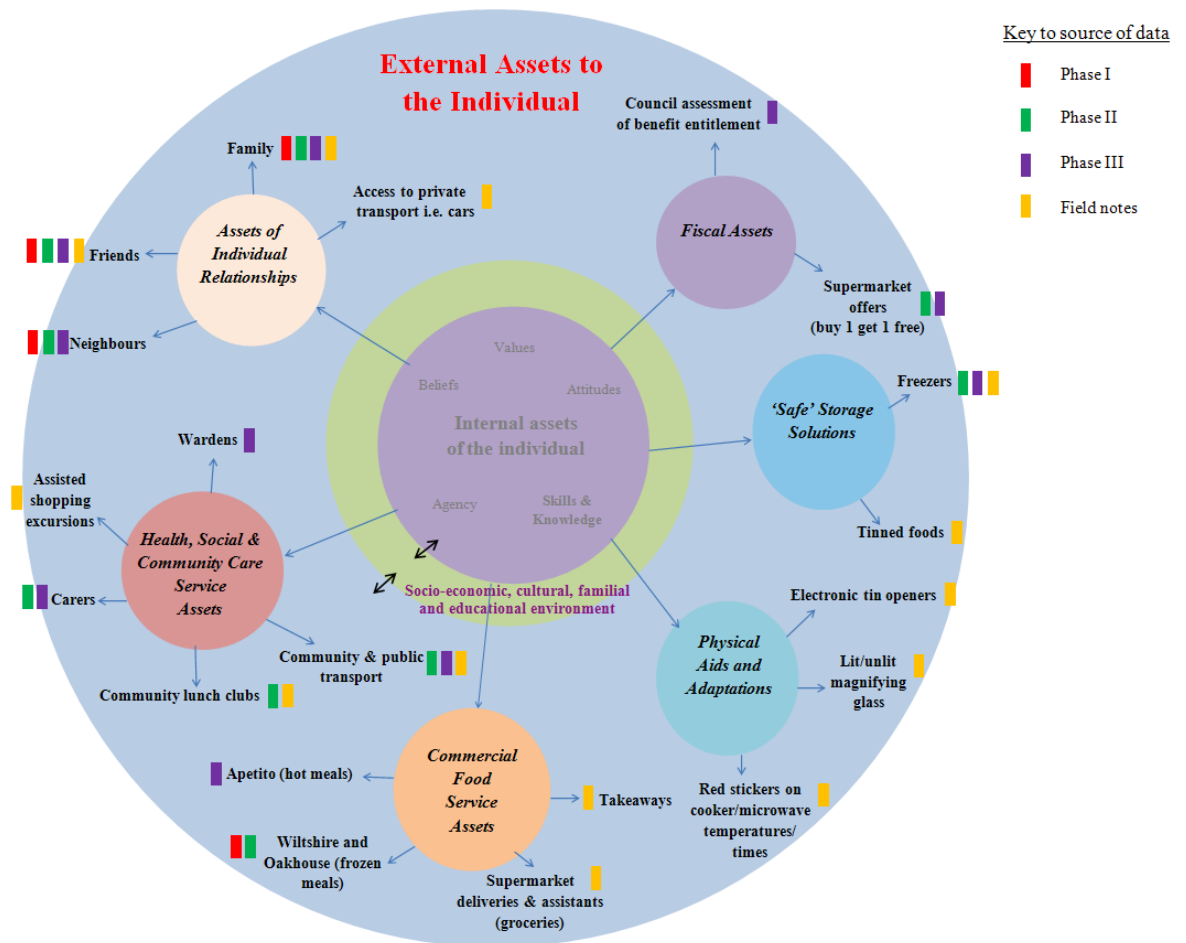


Figure 19: External food hygiene asset map.

8.2.2 Internal food hygiene assets map

Figure 20 shows the range of internal food hygiene assets identified within the study population. The data that influenced the formation of this map are primarily from the qualitative data, including the Phase III warden data (with the provisos set out in section 2.4.1.1), and the field notes. As in the external assets map, the key at the top right corner of the map provides information on the source data which contributes towards the components of the map.

These internal constructs (values, beliefs, attitudes, skills and knowledge and agency) were identified from the data through the maintenance and reflexive reading of the analytical memo which was written alongside the process of qualitative analysis (see section 5.5.4). As in Rotegård's concept analysis of assets (Rotegård *et al.*, 2010) the constructs had been formed over many years of life experience which directly or indirectly influenced food hygiene practices in the current day. For example, 'values' formed in response to experiencing dramatic world events, such as war, whose effects were felt at the local level through rationing and experienced personally by determining what food was placed on the table and eaten. These experiences were also tempered by those surrounding them such as other members of the social network (particularly parents and other family members) and their experiences and perceptions of the same or different events. For example, the value of 'the intrinsic value of food' came principally from the codes and quotes describing the lack of availability of food due to financial hardship for some and food rationing in the Second World War. Additional insights came from the themed memo and associated quotes in the 'Overstoring food' memo. An example of the integration of data sources for this asset can be found in Tables 31 and 32 in Appendix F. Again, these internal assets have been placed in asset categories to provide a 'handle' from which to develop health promotion strategies but also elucidate the complexity of attempting to change behaviour when the decisions unpinning them are ingrained in an individual's history and psychology.

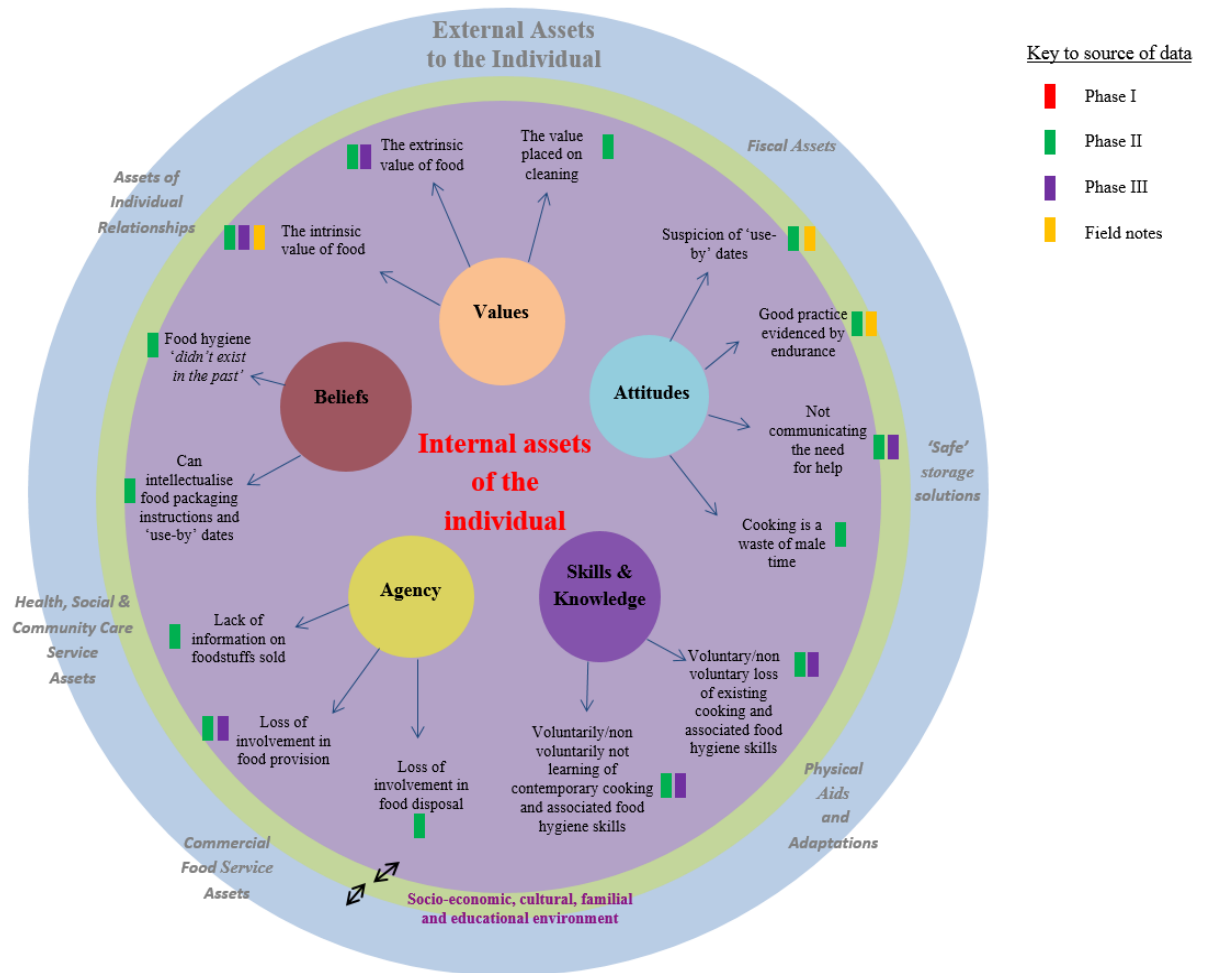


Figure 20: Internal food hygiene asset map.

8.3 Conceptualisation of the theoretical themes

The study findings suggest that the food hygiene lives of older people are a complex interplay of personal, emotional and social factors which act in synchrony to ensure or fail to meet food hygiene needs. Cutting across the different categories of internal and external assets is the role that the social network can hold in maintaining food safety and protecting the individual from harm, with family at the centre. It was the conceptualisation of the relationship with others that seemed to underpin both food hygiene asset maps; without ‘others’ the internal constructs would not have developed and the range of external assets would not exist nor, in some cases, the pathways to access them. In addition, review of the literature consolidated these thoughts, that of Antovosky considering ‘meaningfulness’ the key SoC element (see section 3.3) (Antonovsky, 1987), and Rotegård’s conceptualisation of ‘potentials’ for health which the social network can help supply, supplement or foster (Rotegård *et al.*, 2010). This review of the study data and the literature led to the conceptualisation of the third map (Figure 21), placing the social network and families as the core asset and bringing together the ways in which the family and social network facilitate or hinder the mobilisation of the internal and external assets, including themselves when categorised as an asset. Consideration was then given to the various food hygiene asset roles that members of the social network hold which forms the basis of Figure 21 and for the Discussion in chapter nine.

Figure 21 draws together all the data from Phases I, II and III, field notes, reflexive and themed memos into a single theoretical diagram, and presents an iterative

integration of the data (see section 5.5.4) rather than a definitive representation of the results.



Figure 21: Theoretical categorisation of the social network acting as the primary food hygiene asset through their foodcarer roles.

The researcher has extended this conceptualisation of the direct or indirect influence of family and the social network as one that has the potential to protect others from

foodborne illness. By conceptualising the care that older people receive with food and food hygiene as informal or formal 'foodcare', it is possible to examine the research findings in line with the more traditional discourse of 'care'. This has been termed 'foodcare' (rather than 'foodwork') (Bove and Sobal, 2006; Beagan *et al.*, 2008; Szabo, 2013) here and has been defined as:

Care provided directly or indirectly from others to ensure 'safe' food consumption for the protection against foodborne illness, and for the emotional representation of that care.

Figure 21 has this ultimate position of the social network members acting as foodcarers placed at its centre. The circle that surrounds the centre specifies the ways in which the social network members maintain their foodcarer status within roles categorised as 1) holders of food hygiene skills and knowledge, 2) guardians of formal foodcare provision, 3) informal foodcare providers and motivators of practice. The next circle out indicates the categories of data that support this foodcarer role grouping. As an example, the role category of 'Holders of food hygiene skills and knowledge' came from the data which evidences the social network acting as a 'reserve' of food hygiene skills and knowledge which is demonstrated through the enactment of certain roles or responsibilities. In Figure 21 then the role categories come from the data, largely through the themed memos with greater levels of encompassing hierarchy as it is read from the outer ring to the overarching descriptor role towards the centre. More specifically:

- The Phase II data suggests that food hygiene practices are tacit ('Food hygiene didn't exist in the past' themed memo) and embedded within witnessed cooking practices. Therefore social network members act as '(food) hygiene exemplars'.
- Data also suggests that women and the older generation were the principal cooks in family households ('Women as food hygiene gatekeepers' themed memo) and they therefore hold food hygiene skills and knowledge which they directly or indirectly impart to others ('Intergenerational food hygiene learning' themed memo). Therefore network members act as 'primary teachers of cooking and food hygiene skills'.
- The section 'communicators of food hygiene health promotion' relates to data which indicates that members of the network encourage 'safe' food hygiene practices through one-to-one communication with the older person. This data comes from codes from three themed memos 'Food hygiene didn't exist in the past' 'Intergenerational food hygiene learning' and 'Food reflects health and wellbeing'.
- The section 'food shopping assistants' derives from evidence of instrumental social support (see section 2.4.2) from the Phase I data (see section 6.1.3) and the qualitative data ('Food reflects relationships and wellbeing' themed memo). The inability of some to get to the shops to review new food produce and maintain or learn new cooking skills is related to the memo 'Food hygiene is linked to cooking de-skilling' themed memo.
- For the role category 'providers and maintainers of food technologies' arises from data that suggests that social network express their skills and knowledge

by facilitating or acquiring suitable fridge/freezers and cookers for older people resident in the case homes as evidenced by a code⁶ within the themed memo 'Food reflects relationships and wellbeing'.

The foodcarer roles of these social network members are related to their historical and current social positioning surrounding the older person at the centre of the network in the home setting. They may be acting as direct or indirect food hygiene assets - concurrent with addressing other social and health needs. In addition, by taking a pseudo life course methodology, the data suggest that those performing these roles can change and can 'shift' longitudinally down through generations of the family throughout the life course; from the mother, parent or caregiver, to the spouse and then finally to the child or grandchild, or laterally to friends or neighbours; to whoever is providing food and foodcare as a 'carer' in the (older) person's social network.

⁶ 'Warden codes: viewing the complexities of family relationships: different approaches to helping parents with food: families responsible re: equipment

8.4 Conclusion

This chapter has described the analytical process of creating the two food hygiene asset maps and how they were then conceptualised to produce the theoretical theme presenting the family and the social network as foodcarers in the lives of (older) people. The maps show the range of food hygiene assets accessed with the categorisation proving some evidence of the pathways which underpin asset mobilisation by the older person. These asset categories suggest a complex web of assets which collectively or individually influence the older person's ability to manage food in the home. Cross-cutting both maps is the influence of members of the social network acting as foodcarers which has been presented in Figure 21.

9. Chapter Nine: Discussion

9.1 Introduction

This chapter will discuss the social positioning of those in the foodcarer role within the social network surrounding the older person as related to Figure 21 and refer to the evidence provided from the study findings and wider literature. The final section of this chapter will assess these findings in relation to current social care policy and provide some guidance to health promoters on how these foodcarer roles could be developed in future health promotion interventions.

9.2 Holders of food hygiene skills and knowledge

In this study, family and other network members have been identified as being foodcarers through the role of ‘holders of food hygiene skills and knowledge’ throughout the life course. This is evidenced through family and social network members acting as 1) (food) hygiene exemplars, 2) primary teachers of cooking and the associated food hygiene skills in younger life, 3) communicators of food hygiene health promotion, 4) food shopping assistants and finally 5) providers and maintainers of food technologies in later years.

9.2.1 (Food) hygiene exemplars

Although this research has identified that ‘food hygiene’ may not have been recognised as a term relating to a collection of practices performed in the childhood household, there was evidence of the long lasting influence of viewing *general* hygiene tasks and the practising of food preservation techniques, particularly for females who were more closely involved with all household tasks.

Before the dramatic rise in the number of fridges (Food freezer and refrigerator council, 1972), and the development of the scientific field of microbiology (Hardy, 1999) and large international food production, there was a simpler and shortened food chain between food producer and consumer. Evidence of this change is found in that the term ‘food hygiene’ was not the ‘recognised’ concept that it is today. For some in this research the term ‘food hygiene’ was referred to in terms of ‘use-by’ or ‘sell-by’ dates and food storage only, rather than as a collection of grouped practices encompassing a range of behaviours. Although the ‘modern’ term of food hygiene as a collection of practices may be unfamiliar to the study participants and possibly that

of their parental generation, there were a considerable number of food hygiene practices undertaken in the childhood family home. The food hygiene practices witnessed in the past were however unrelated to food storage, and instead relate to general and household cleaning and the visible undertaking of food preservation techniques.

Interviewees state remembering the physical appearance of cleanliness in the childhood home and its value. This could be linked to the importance placed on a clean kitchen now; that *looking clean* is synonymous with the kitchen *being clean* for some, as also found by Wills *et al.* (2013). Although there is some disparity between the two concepts, objects that are perceived to be clean are more likely to be free from pathogens than those that are not, due to 'household logic' that 'washing equals clean' (Wills *et al.*, 2013, p. 53). Hand washing in the childhood home was limited but it was also taking place at a time when there may have been limited facilities to do so (Hardy, 1999) and was a practice that directly involved children themselves and therefore had added salience.

This research has also identified considerable food preservation skills being undertaken in the family home of the research participants. Techniques such as washing meat under running water with vinegar and 'scalding' the milk, all indicate high levels of awareness of the importance of food preservation and storage. Other techniques such as jam-making and pickling also involved considerable preparation, equipment, planning, time and skills to undertake, suggesting a close interaction between one individual foodstuff and the consumer, rather than the use of one 'blanket' preservation technique like freezing which requires little effort and skill in

preparing the foodstuff for preservation. This interaction of the consumer with the foodstuffs may have contributed to the intrinsic value placed on food whereby there is the belief that foodstuffs should be stored as long as possible. Although some of these practices and techniques could be perceived as unnecessary before the ready availability of modern food storage and cleaning products. Hence the discrepancy between the perceived absence of 'food hygiene' practice being performed and the recognition of other hygiene practices related to food may be due to attempts to associate past practices with modern-day terminology.

9.2.2 Primary teachers of cooking and associated food hygiene skills

This research has also found evidence of the close association between cooking and food hygiene skills through the impact of losing existing or failing to acquire new cooking skills. Parents or other social network members were identified as the primary teachers of cooking and food hygiene skills in the past. This is still the case in more recent decades where 76% of women and 58% of men aged 16-74 year olds from the 1993 Health and Life-style Survey undertaken by the Health Education Authority (Caraher *et al.*, 1999) claim to have been taught to cook by their mothers. The findings from the qualitative data presented in this dissertation suggests that although girls were more commonly taught to cook from a variety of sources (mothers, wider family members, from school lessons and as part of professions), some boys were taught how to cook to achieve the recognition of acquiring a scouting badge, which may have somehow 'justified' them performing a perceived feminine role (Sidenvall, Nydahl and Fjellström, 2000; Kaufmann, 2010; Daniels *et al.*, 2012). The recollection of the teaching of cooking skills by the research

participants in this study was either through direct, verbalised teaching or tacit learning through observation by the child in the home setting. This is evidence of situated learning (Lave and Wenger, 1991; Dunst *et al.*, 2000) taking place in the childhood homes of the study participants which is also in evidence today.

The learning of food hygiene skills may have been unstructured, unplanned and unintentional (Lancy, 1996; Göncü, 1999) when embedded within more overt cookery teaching which were more readily recalled by most of the participants in the research presented here. The non-traditional learning of cooking by some boys and the more traditional socially accepted learning by girls, could be characterised as being ‘conative’ (Huitt and Cain, 2005) and self-directed as the child is proactive in instigating cooking/food hygiene learning. This has parallels with modern-day self-empowered health education known to be a predictor of future success with health promotion initiatives (Green and Tones, 2010).

The participants in this study also reported that their parents demonstrated considerable food knowledge at a time of extreme food scarcity and expended considerable efforts in obtaining food. Some parents, mostly described as mothers, spent considerable time and effort attempting to acquire food, and social networks were utilised. In this way, those in the parental role maintained the level of ‘fresh’ food in the childhood home and also ‘knew’ how long food could be stored. This accumulated knowledge may have been communicated and shared among family groups and peers in the participants’ *parental* generation, before ‘use-by’ dates, food hygiene health promotion initiatives and mass media, suggesting that the same methods of familial food hygiene communication identified in this research may

have been of even greater importance in the past. This shared and accepted ‘knowledge’ surrounding the longevity of certain foodstuffs could be considered superior to modern-day consumers who have limited information on modern foodstuffs (Duffy, Fearne and Healing, 2005). This can lead to ‘guesswork’ on how long food should be stored beyond the retailers’ ‘use-by’ dates; a distrusted commercial construct. This strengthens the evidence provided from the study findings that there has been a general reduction in consumer agency during the lifetime of the older people.

There is additional evidence of intergenerational familial cookery teaching in the current day home setting of older people. Younger family members have also been identified as advising or ‘teaching’ older people how to cook using modern day technologies, such as microwave ovens, so that ‘convenience’ frozen or pre-prepared foodstuffs can be cooked adequately. However, there is evidence provided by this research that the younger generation may not have provided sufficient information or given due consideration to the needs of some older people, and therefore the teaching is ‘superficial’ (Lindström and Eriksson, 2010) and may not be sufficient to make new technologies a viable option to be considered a safe and ‘easy’ method of cooking by the older person.

9.2.3 Communicators of food hygiene health promotion

Younger family members and carers have been identified as communicators of food hygiene health promotion in this research. There is evidence of younger family members and carers assessing the foodstuffs owned by the older person and disposing or encouraging the disposal of foodstuffs. By expressing concern at the

continued storage and use of potentially 'unsafe' food products this may increase food hygiene knowledge by peer education which may have an impact on held beliefs and attitudes towards retaining food beyond the 'use-by' dates by possibly raising 'critical consciousness' (Freire, 1972) and instigating motivation for behaviour change (Prochaska, DiClemente and Norcross, 1992). Here families and network members are acting as health promoters, a role previously postulated (Duncan and McAuley, 1993; Berkman *et al.*, 2000) but extended to include food hygiene health promotion as evidenced by the findings from this research. However, actively disposing of food on behalf of an older person, although contributing towards health protection, may promote dependence and could therefore be disempowering for some older people. Removing the choice from the older person to dispose of their own food was categorised in this research as causing a reduction in agency.

9.2.4 Food shopping assistants

Family members, friends and neighbours have also been identified as instigating exposure to modern foodstuffs by taking older family members shopping and acting as food shopping assistants. This action not only maintains adequate food provision for those with sensory or physical impairment for adequate nutrition (Brennan, Horowitz and Su, 2005; Vesnaver and Keller, 2011) and the provision of 'safe' 'fresh' food, but may also facilitate the learning of the storage, preparation and cooking techniques of modern foodstuffs. The importance of continued food hygiene learning has been identified in this research, and this action contributes to the on-going maintenance and continued learning of food hygiene practices. Older people

have been found to hold negative views towards pre-processed food preferring natural food (Locher *et al.*, 2009), and some 'older' older people in this research were reported to still purchase raw ingredients for the making of meals completely 'from scratch'. However, the drive or the ability to make food 'from scratch' may be waning in later life and may make 'convenience' pre-prepared foodstuffs an appropriate alternative in order to maintain food safety and adequate nutrition.

It is possible that by facilitating exposure to modern foodstuffs the network member will be simultaneously providing guidance on how the foodstuff should be prepared and cooked. In this way, older people may be enthused to try new foodstuffs, maintaining the diversity and nutritious content of their diet, known to be important in the quality of food-related life (Dean *et al.*, 2008; Locher *et al.*, 2009).

9.2.5 Providers and maintainers of food technologies

Lastly, it has been identified in this research through the warden interviews, that family members are providers and maintainers of food technologies to those residing in sheltered accommodation and possibly outside. The wardens interviewed indicated family members were responsible for the effective functioning of fridges and freezers at the correct temperatures. Although it is unclear if the family members had sufficient knowledge and motivation to fulfil this responsibility, it is known that incorrectly set thermostats are a risk factor in the contraction of foodborne illness (Hudson and Hartwell, 2002; Food Standards Agency, 2012a). This is of particular importance in retarding the growth of *Listeria monocytogenes* which is known to multiply at temperatures as low as 5°C (Walker, Archer and Banks, 1990). As such, families could act as a valuable asset in maintaining the safe and effective functioning of these technologies and thereby reducing the risk of foodborne infections. In addition, by also being responsible for making sure that cookers are suitable for the older person's requirements in sheltered accommodation, such as height and visibility, they are also helping to ensure that food is sufficiently cooked.

9.3 Guardians of formal foodcare provision

Families and members of the social network have been identified as holding roles pertaining to foodcare through formal care provision (see Figure 21, section 8.3); helping to arrange formal extra-residential care to provide practical food and food hygiene related help in the homes of older people. Network members act as foodcarer assets as 1) instigators and maintainers of proportionate social care provision and 2) motivators for the use of food delivery services.

9.3.1 Instigators and maintainers of proportionate social care provision

Data resulting from the analysis of the questionnaires indicated that 16% (eight people) of the study population (16% of men and 17% of women) had someone come into the home to cook, with 75% of these people being classed by the older person as ‘others’, not related to the categories of family, friends and neighbours. This type of help was frequently received, with five of those eight people (63%) having meals cooked for them once or twice a day. This suggests that this foodcare was formal and extra-residential, coming into the home from an external care agency. Formal social care would have been arranged following a ‘needs assessment’ from the adult social care services within the local government authority. As discussed in section 2.4.1 this care may have been instigated by members of the older person’s network with the older person’s agreement.

Maintaining an appropriate level of support in the home may mean adapting the level of care in response to a change in mental, physical or cognitive ability of the older person. Network members who are physically closest to the older person, who have the time to remain observant to the older person’s health and well-being are best

placed to ensure that the appropriate level of foodcare is maintained. A large proportion of the study's Phase I population (32%) lived in sheltered accommodation due to the sampling methods employed. In this setting, the wardens' role is to ensure the health and well-being of older people in their care. If diligent, wardens are well placed to view any changes to the older person's health which may suggest further help is needed and can relay this information to the family or GP so that the level of formal care could be adjusted with the older person's consent. This may be critical when the older person is reluctant to ask for help directly, an attitude identified in this research.

Outside of the sheltered setting, this role may also fall on others of the network who remain observant to the older person's needs, such as family, as identified by Bowling (Bowling, 1991). Consequently, although family may hold overall *responsibility* for ensuring the correct level of care in accordance with the older person's wishes, the need to adjust this care may be recognised by wardens in the sheltered accommodation setting or others from the network who are geographically or emotionally close. In this way, members of the social network are acting as instigators and maintainers of proportionate social care provision.

9.3.2 Motivators for the use of food delivery services

A further example of the intermediary care role performed by wardens, and possibly family, is related to the encouragement they offer for the use of frozen food delivery when the older person is struggling to cook meals themselves, a service used by 12% of the study population (six people). As discussed, these decisions may be made in light of limited formal care provision to those with low or medium care needs.

The use of frozen meals delivered by an external company can provide a 'convenient' meal when properly cooked using adequate knowledge and skills as previously discussed. In addition to frozen meal services, one man in the study received supermarket deliveries and as such this was an infrequently used commercial food service asset in this study sample. Information on who arranged this delivery was lacking in the questionnaire data, although Phase III (warden interviews) indicates that families often arrange such services. Families and other members of the network, such as wardens are therefore encouraging and acting as motivators for the use of food delivery services, which can aid 'safe' food provision, although may not address other social issues surrounding food hygiene practice.

Notably no interviewees in this research were in receipt of a hot meal by way of the commercial company 'Apetito'. A study by Locher *et al.* (2009) reported that the motivating factors that influenced food choice in community living house-bound older adults in the United States (mean age 78.9 years SD 8.5) were 'matters of taste', but also 'price', 'convenience' and 'familiarity'. Barriers to eating what people wished in the younger old (unspecified group) were 'health' and 'being on a special diet'. Wikby and Fägerskiöld (Wikby and Fägerskiöld, 2004) found that 'independence' and the 'quality of the food' was a key factor in maintaining appetite. It has also been found that those who are in receipt of 'meals on wheels' services use physical appearance of the food rather than the conventions of socially and biologically defined meal patterns to induce hunger (Locher *et al.*, 1998). It may therefore be that the frozen food delivery service is perceived to be economical, provides familiar foods for varying health conditions, and is convenient to prepare

compared to the other food delivery options. Alternatively, as the study population were recruited from a lunch club it may be that they preferred to seek food provision in a social setting or that they had sufficient levels of health to be able to prepare and cook their own meals. It may also suggest that they had sufficient social support to provide help with meal provision or that they were not eligible to receive the *Apetito* food service.

On the whole, formal foodcare through external care agencies, frozen food services and supermarket deliveries were an infrequently used asset within this small sample, compared to foodcare from the informal network. Central to formal foodcare to those resident in sheltered housing is the role performed by wardens who appear to act as intermediaries between the older person, their families and external agencies (with the provisos set out in section 2.4.1.1).

9.4 Informal foodcare providers and motivators of practice

Section 2.4.2 discusses the importance of the social network in maintaining physical and mental health. This study has provided further evidence for the role/s that members of the social network hold in maintaining health, specifically by reducing the incidents of foodborne illness.

Figure 21 in section 8.3, presents members of the social network acting as foodcare providers and motivators of practice. The roles identified in this category are 1) providers of instrumental social support, 2) establishers of group social norms and 3) trusted social network members.

9.4.1 Providers of instrumental social support

Section 6.1.3 presented the findings of all the network members who contribute towards informal foodcare, through delivering cooked (26% of the study population) and uncooked food (10% of the study population) and cooking in the home of older people (25% who had not categorised this care as coming from ‘others’). Figure 17 shows how the use of these interpersonal food hygiene assets differs between men and women, with women being in greater receipt of support from a greater range of network members than men (family, friends, spouses and ‘others’), who in turn, proportionally receive more help from food delivery services (commercial frozen food and supermarket deliveries) and neighbours. The differences between the types of support received between the sexes may have been due the differences between physical difficulties reported in the EQ5D i.e. women experience greater ‘problems of pain and discomfort’ and greater ‘problems with conducting your usual activities’ meaning that women in this study may have needed a greater degree of ‘hands on’

help with food hygiene (see Table 12, section 5.9.6). However, the pattern of the help received from network members and how it changes in later life suggests that this finding could also be related to the social connectedness (Blum, McNeely and Nonnemaker, 2002) and the existing social ties experienced by men and women in this particular study.

Although the study numbers are small, this range of social support from network members may be as a result of the mobilisation of the existing network in times of need, which is known to differ between women and men as discussed in section 2.4.2. Furthermore, there is evidence in Figure 18 (section 6.1.3.8) that with increasing age, the pattern of network members involved in foodcare changes. This may be in response to changes in the availability and ability of the network members to provide foodcare later in life which is consistent with existing literature surrounding the loss of social network members as previously discussed.

Spouses in the married couples represented (16% of the population were married or in a long-term partnership) were a key food hygiene asset in the younger study participants, up until the age of 80 in this study, beyond which everyone in this study lived alone. As anticipated by the convoy model (Antonucci and Akiyama, 1994), family are the mainstay of this support throughout older age from the age of 70 upwards alongside 'others' who appear to be formal carers (see Figure 18). These results are in accordance with work by others who found that among all social network members, family provide long-term assistance and help in times of crisis (McGlone, Park and Roberts, 2000; Grundy, 2006), and that children are more likely to be providers of instrumental social support (Silverstein, Parrott and Bengtson,

1995). This was more notable for women, possibly due to their 'kin-keeping role' as discussed previously (Greenwell and Bengtson, 1997; Ajrouch, Blandon and Antonucci, 2005), which may explain the greater proportion of women who receive help from family than men in this study (67% vs 42%) as seen in Figure 17.

In the absence of family help, other network members may also be used as 'families of choice' which may be increasingly important in the demography of older age in the future as previously discussed. In Figure 18 there is a clustering of sources of help in the 75-79 year old age group, after which the help from friends is 'lost'. In later life friends may be lost due to death, increasing frailty or ill-health or due to relocating to be nearer their own families. However, neighbours, by definition, may be conveniently geographically close enough to offer help, if emotional ties are sufficiently strong enough and if health permits. Consequently the wider social network has been identified as providers of instrumental social support. The social network members that are mobilised in times of need and in the absence of family may reflect the existing extent of the social network and therefore determine what kind of help is offered and received in later life.

9.4.2 Establishers of group social norms

Societal influence and shared group social norms with regards to food and food hygiene were also identified in this research, whereby a connection was made between how 'particular' people were adhering to use-by dates within family units. These group social norms may be diffuse attitudes and values that have become entangled within other elements of family life. Notions of family norms surrounding food hygiene have been expressed as 'rule(s) of thumb' (Green, Draper and Dowler,

2003) and 'ways of doing things' 'told to us by family members' (Wills *et al.*, 2013, p. 50). Although difficult to attribute to a specific time, place and individual family members, these norms reflect social integration and health behaviours can be enhanced or constrained by the meaning and purpose of those group relationships (Umberson, 1992; Vesnaver and Keller, 2011). Group norms and their established 'frame of reference' of attitudes and values within a family unit brings order and predictability into the group, and abidance with normative behaviours leading to social approval and acceptance (Asch, 1956; Koelen and van den Ban, 2004) when they are confirmed and reinforced (Marsden and Friedkin, 1994). They are operational when they are perceived to be held by others i.e. subjective norms (Koelen and van den Ban, 2004), and exert a form of social control of health behaviour (Vesnaver and Keller, 2011).

In slightly later life the group social norms relating to spouses are also evidenced here by widowers continuing to abide by the cleaning and food preparation practices that they witnessed their wives undertaking. Again, these practices may only have been observed rather than verbally communicated, but the enduring influence of continuing good practice set by deceased loved ones may be a method to help cope with bereavement; also identified by and Wills *et al.* (2013) and Howarth (Howarth, 1993) whereby 'widowers and widows strive to maintain familiar practices from their former two-person household' (p. 67). Those men who do not continue the standards of their late wives, or those who have never had a spouse to act as a food hygiene role-model may place a lower value on undertaking food hygiene practices,

as cooking becomes efficient in terms of effort and time, also identified elsewhere (Murcott, 2000; Sidenvall, Nydahl and Fjellström, 2000).

Shared group social norms may not necessarily act as an asset as the shared values and attitudes may be deleterious to health, as evidenced by the warden who noticed that a whole family ‘weren’t very particular’ when it came to adhering to ‘use-by’ dates. This provides evidence of the duality of assets and the importance of consideration of the context in which they are used, as assets can become temporally or culturally ‘outdated’. However, they have the *capacity* to be beneficial and suggest how health promotion messages could be diffused (Rogers, 1995) within the group and shared with older family members. For this reason, family members as establishers of group social norms are accordingly categorised and included in this discussion.

9.4.3 Trusted network members

Families and other close members of the network have also been identified as trusted social network members. Social networks and social engagements provide an opportunity for companionship that can give a sense of ‘connectedness’ to one’s community with life-affirming consequences.

As mentioned in section 2.4.2, it is the level of confidence held within a family which seems critical, that help will be forthcoming when required (Wethington and Kessler, 1986), installing feelings of safety (Kelly, 2010) which may result in reduced physical and mental stress (Berkman and Syme, 1979; Fleming *et al.*, 1982). The importance of the elevated status of the ideal family is also therefore one based

on trust, being the reason why family would be called upon in times of a crisis; *'they rushed around'* when they were asked to help.

9.4.4 Motivators to perform food hygiene practice

The internal asset typology developed by Rotegård *et al.* (2010) provides a useful basis from which to conceptualise the role that family and other close network members have in mobilising internal types of 'strengths' (relational, motivational, protective and volitional) in accessing external food hygiene assets. These 'strength characteristics' (p. 518), which could also be expressed as power or capacities, may be latent or held in various degrees between individuals. Evidence from the findings from this study suggests multiple ways in which the mere presence or influence of close ties as part of the proximal social network can enhance these internal strengths.

Through involvement in social networks, close empathetic and supporting bonds relating to social, cultural and/or spiritual connectedness to others have been characterised as providing a 'relational' strength to access available assets (Rogers, Muir and Evenson, 2003; Cochrane, 2006). A sense of trust, already discussed as a central tenet to the place of the family in the social network, has been identified as a core basis of relational strength (Rotegård *et al.*, 2010) permitting members to be 'more open to the advice and support from others' (p. 518), possibly providing a route for food hygiene health promotion.

Familial love and care have also been found as a motivation to conduct food hygiene practice, which may explain a finding from the recent 'Food and You' survey (Food Standards Agency, 2012b) which reported that those preparing food in a multi-person household containing a child under the age of six were more likely to

undertake recommended food hygiene practice, particularly if that role was taken by a woman. In this thesis, an example of this motivation came from the woman who looked after herself in order to care for her family. This has maintained her role of caring for her children from a time when she could provide her children with food directly, and has been altered so that she now *cares for them by taking care with her own food hygiene* and so, her health. This is a further example of the emotional representation of food provision as an expression of love as found by others (Daniels *et al.*, 2012), extended here into the definition of foodcarer. This aspect of internal assets has been characterised as a ‘motivational strength’ held by some ‘to invest in one’s own or one’s children’s future’ (Rotegård *et al.*, 2010, p. 518). The presence of family and close family ties expressed in the presence of relational and motivational strengths outlined above also therefore have a direct impact on the ‘volitional strength’ or will to ‘keep going’ (Rotegård *et al.*, 2010, p. 519) by caring for others and oneself and seeking access to food related external assets. Therefore the existence and maintenance of close family relations, or substitutes from the network, can be viewed as mobilising the activation of various internal asset ‘strengths’ to seek access to external food hygiene assets.

There are also parallels with the accessibility of other forms of social support; emotional, appraisal and informational from close bonds with family and other members of the social network (Weiss, 1974; House, 1981). If close bonds are absent and these other forms of social support are not being provided, or believed to be provided, then there may be a negative impact on mental health as found by others (Murphy, 1982; Matt and Dean, 1993; Holahan *et al.*, 1995; Shankar *et al.*, 2011). If

people lack close emotional bonds, if they are lonely or isolated and lack other forms of social support, they may lack the motivation to seek access to external food hygiene assets. This may have more relevance to the lost foodcarer role of women and, if not replaced with other life-affirming roles, may lead to depression and physical decline and possibly an increased 'risk' of foodborne illness.

In conclusion to this section, members of the social network and families in particular have been categorised as providers of instrumental social support, establishers of group social norms and trusted social network members. These forms of direct and indirect informal foodcare do not just relate to the acquisition of 'safe' 'fresh' food, but also provides evidence of how group norms may direct food hygiene behaviour, which may, or may not be historically outdated. The presence of family or others with close emotional bonds can also enhance internal strengths as a motivation to seek out and utilise external assets. In this way, families and emotionally close others can be viewed, as seen in Figure 21, as informal foodcare providers and motivators to carry out food hygiene practices.

9.5 The social network as an asset exhibited by its absence

Evidence for the importance of network members as key food hygiene assets in older people's lives also comes from the consequences of the loss or absence of holding a foodcarer role and of being cared for. A distinction needs to be made between those who have lost meaningful relationships (spouses or regular bonding contact with family members) and those who have not had those relationships and the differences this may hold for men and women.

As presented in the Results, women were in receipt of more formal and informal cookery lessons and associated food hygiene teaching than men during childhood. However, some men had learnt to cook from their mothers in order to obtain the 'masculine' achievement of a Scout movement cooking badge, and those that had been married had been exposed to indirect learning about cooking and food hygiene skills through observing their spouses. Men who then become widowed were able to draw upon this maternal and spousal teaching to maintain the standards of their late wives and to care for themselves.

The men who have been in receipt of cooking training from family members demonstrated more food hygiene skills and knowledge than the one man in this study who had never married, not been a member of a scout group and stated that he had never learnt to cook. This man was the only person who claimed to have suffered numerous incidents of gastro-intestinal illness which he had not linked to poor hygiene or cooking practices in the home. This evidence is very limited, but it does seem to suggest that a *lack* of cooking and food hygiene learning in earlier life from the network may be a 'risk' factor in acquiring foodborne illness. The FSA's recent

'Food and You' survey (Food Standards Agency, 2012b), reported that men were 1.5 times more likely to report food hygiene practices that deviated from FSA recommendations, and although self-reporting of behaviour is a poor indicator of actual behaviour, this may explain a greater level of poor food hygiene knowledge in men. The nutritional status of married men is known to be better than those who are unmarried (Locher *et al.*, 2005), possibly because married men are less likely to skip meals and be able to afford them, and a lack of food hygiene practice role model may be a further consequence of lacking a spouse.

Men in this study reported receiving less social support from family compared to women (67% received help from family and 42% of men). This is the reverse of national data (Beach and Bamford, 2014) which reports that 27.8% of men receive informal care from the social network versus 14.8% of women aged over 75. Again this difference may be due to the sampling strategy of recruiting older people from lunch clubs which may have had a higher proportion of unmarried men or men with limited instrumental social support. The questionnaire did not capture information on the scale and structure of the family or the wider social network available to the older person and it may be possible that the men in this study had no children, and in particular, daughters. Daughters have been identified as providing the next line of care for men in the absence of a spouse, and there has been a reported degree of 'awkwardness' (Schröder-Butterfill and Marianti, 2006, p. 12) experienced when relying on daughters-in-law and grandchildren if there is no daughter to call upon in times of need (Schröder-Butterfill and Marianti, 2006).

Older men may also find requesting help from the network more difficult because it is perceived as a reduction in autonomy and independence, or because they simply have fewer cooking skills and lower confidence in preparing a meal 'from scratch'. There may be a general reluctance to spend a lot of time cooking as it may be considered as a reduction in their masculinity to take on a female role to create their own meals and a waste of their time, making 'easy' frozen meals a 'convenient' alternative in the home when immobile or living on a limited budget.

On one level, some men may simply be replacing the food 'service' which women have previously provided in married life. Men have 'not been socialized to be feeders' (Locher *et al.*, 2005, p. 4) and are known to be at risk of malnutrition if they are unmarried and in particular widowed (Vesnaver and Keller, 2011). Using food services may be a way for men to carry on their lives as they did before bereavement, and have identified a way to do so, independently, with the added masculine value of paying for the services. Alternatively, they may not feel the need or struggle to locate and integrate with others for the social contact that comes via informal foodcare. This would correlate with the study's sampling strategy, where men were recruited from lunch clubs where the social interaction had been pre-arranged for them.

Due to pre-existing food related roles in earlier life for women and one of their primary ways of expressing care for others (Locher *et al.*, 2005), and greater connection to family, women may continue their interest in food into later life. Older women may therefore expend greater efforts in going out to the supermarket, possibly for the social occasion as well as for food acquisition. Contrary to men who

were in receipt of more food services, a far higher proportion of women (70% vs 47%) received help with food shopping in this study, which may have been related to physical problems with 'conducting the usual activities' as identified by the EQ5D. The occasion of food shopping may also have concurrently provided women with an opportunity to bond with members of the network, such as family, but also expose them to modern foodstuffs. This may also reflect a continuation of existing habitual roles and responsibilities as also evidenced by men in earlier life, containing elements of 'continuation theory' (Atchley, 2000). In this way mental health and volitional 'strength' to care for self may be elevated. It has been found that older women who no longer have anyone to cook for, or perceive themselves as having low emotional support, are less likely to cook for themselves alone (Quandt *et al.*, 2000) and are known to be at risk of malnutrition (Locher *et al.*, 2005). It could be argued therefore that the 'loss' of those food roles or other forms of social support may have a profound effect on volitional strength to 'carry on' and may result in them '*just eating to survive*' for some women. Therefore in order for some women to continue the good food hygiene practice they have accumulated, and to continue learning, they simultaneously may need a social purpose, role and opportunity to continue to do so.

There was some evidence of the resilience of the effect of older age and food hygiene in those women who had never married and had never had children and had therefore never lost those caring roles. Although the perceived importance of cleaning and kitchen hygiene was found to be lower in those who had never married as there was no additional impetus to clean in order to 'care' for others, there was

also no 'loss' of a foodcaring role and identity in later years. As women, they had generally been equipped with cooking and food hygiene knowledge from earlier life, and had continued with their self-caring role into later life. However, the women who participated in Phase II of this research were single, had no children and were in relatively good health, and the question of how they would negotiate food hygiene assets in later life is interesting. Previous researchers (Grundy, 2006) report that an unmarried status and childlessness is associated with a lack of support and loneliness and poverty in older age in the current population of older people, but does raise interesting issues regarding the future generation/s of older people. Would the current 'younger old' childless and unmarried generation have characteristics of current widowed man in having instrumental support only, or perhaps they will mobilise other members of the family (siblings or cousins) as found by Bowling (1991), or friends to provide other forms of social support.

This section has considered the loss or absence of the impact of the social network in providing food hygiene assets at certain points in the life course. In response to health or social change, it is unclear if there is a preference, or choice, to continue or deviate from previous roles and lifestyles. Both men and women may be continuing their lives as they had done previously or may be actively taking alternative approaches when they find that they can no longer do so in response to bereavement or physical change, and mobilise other assets available to them. This level of adaptability, or resilience, in response to change may reflect the sum of the strengths of all the assets that have direct parallels with empowerment, that the older person

has the choice in how their food and food hygiene needs are managed if they are fully supported financially, physically and socially.

9.6 Implications for social care policy

The current policy for personalised care is intended to provide the care user with a 'choice' of local agencies from which to purchase care. As previously discussed, uptake for this form of provision is low in the older eligible population with the majority being in receipt of the more traditional form of care, managed and paid for directly by the local authority. Findings from this research have provided evidence of irregular care and inconsistent carer staff coming into the homes of older people. These irregularities could put frail older people at greater risk of contracting food borne illness if they try to manage their food or medicine intake around the times that the carer visits and if carers are unaware of what food should be eaten first from the fridge.

The competitive service market of small domiciliary care agencies and the pressures these agencies are under to retain staff and to maximise the number of visits a carer makes per day to maintain profits could explain this inconsistent care. If care is being received by the traditional structure of care, and that care is not meeting the needs of the older person, it may more difficult to locate and change care provider to one which is more suitable. Conversely, for those who have taken the option for individual budgets and direct payments and wish to seek care from personal assistants external to the formal care agencies, there are questions on how care standards are to be maintained and lines of accountability made clear.

As discussed previously, those with low or medium care needs either have to forego, co-purchase or purchase care privately if they fall below the threshold set by local authority to receive fully funded care. It could be that repeated incidents of

foodborne infection indicate that the older person is struggling to shop and prepare food themselves due to physical or cognitive limitations, or that their mental health is poor if they are lacking the motivation to care for themselves. This may suggest that additional social support, emotional or instrumental, should be considered to maintain the physical and mental health and well-being of the older person.

This personalisation of services can also be viewed in terms of direct food provision and the impact of current government austerity measures. Local authorities used to provide community meal services, delivering hot food to the homes of those who cannot or choose not to cook for themselves. Meals on wheels (MoW) has been a long standing service, delivered by social services as well as voluntary organisations. However, recent reporting in the media (The Guardian, 2015) has drawn attention to the fact that MoW provision has dropped in the UK. A freedom of information request by a Labour shadow minister sent to English councils responsible for MoW services, revealed that MoW provision has decreased by 63% (extrapolated from the responders: 296,000 2009-10 and 109,000 in 2014-15) with a simultaneous rise in average prices for those in receipt of meals. This may have resulted in older people having to use frozen meal delivery services and the possible issues this may cause for cooking these food using unfamiliar technologies such as microwaves. In addition, many lunch groups have also closed or have increased their charges significantly (Fitzgerald, Lupton and Brady, 2014). Local councils cutting these services in times of social care funding austerity may be compromising the mental and physical health of those who would benefit from receiving them.

Newman, Glendinning and Hughes (2008) consider the wider implications that the philosophy underpinning policy, 'independence, choice and control' have for the responsibility for self-governance of personalised care. They argue that those in receipt of formal care now hold citizenship within a communitarian model whereby:

'Risks that were previously collectively managed become individualised, with service users expected to manage their own risks as active, responsible and enterprising citizens. Moreover the poverty, deprivation and social exclusion that many disabled and older people experience means that the choices open to them may be very limited indeed, particularly if they consider themselves to be involuntary service users' (Newman, Glendinning and Hughes, p. 549).

Citizenship is argued to exist within a communitarian model where self-care could be seen as a duty or responsibility for wider society (Newman, Glendinning and Hughes, 2008). It can be seen that the pressures on those who have limited choices for care and little support to become empowered to sustain self-governance may not be best-served by this model of care, in effect the causes for inequalities in health (care) have been overlooked (Ferguson, 2007). The findings from this research would support this perspective with current social care policy and the spending cuts by local authorities increasing the vulnerability of some older people to foodborne infections.

9.7 Implications for health promotion practice

The research presented in this dissertation suggests that the family or social network is of primary importance as a key food hygiene asset as presented in section 8.3 and in light of the constraints of formal care discussed above. The conceptualisation of the family and social network as the principal food hygiene asset or resource could strengthen the evidence-base surrounding forms of social support (House, 1981; Berkman *et al.*, 2000) provided by the social network. It also suggests that food hygiene in this, and potentially the wider population, could be enhanced if the bonds in social groups were strengthened. This could be conceptualised in terms of enhancing differing forms of social capital; bonding (within family and close peers) but also bridging social capital (across different social groups) (Gittell and Vidal, 1998; Narayan, 1999; Putnam, 2000; Ferlander, 2007) to enhance social support and maintain mental health and well-being. Labonté's 'Empowerment Holosphere' (Labonté, 1993) represented in Figure 22, provides a useful framework to consider how the study's findings could be developed in practice.

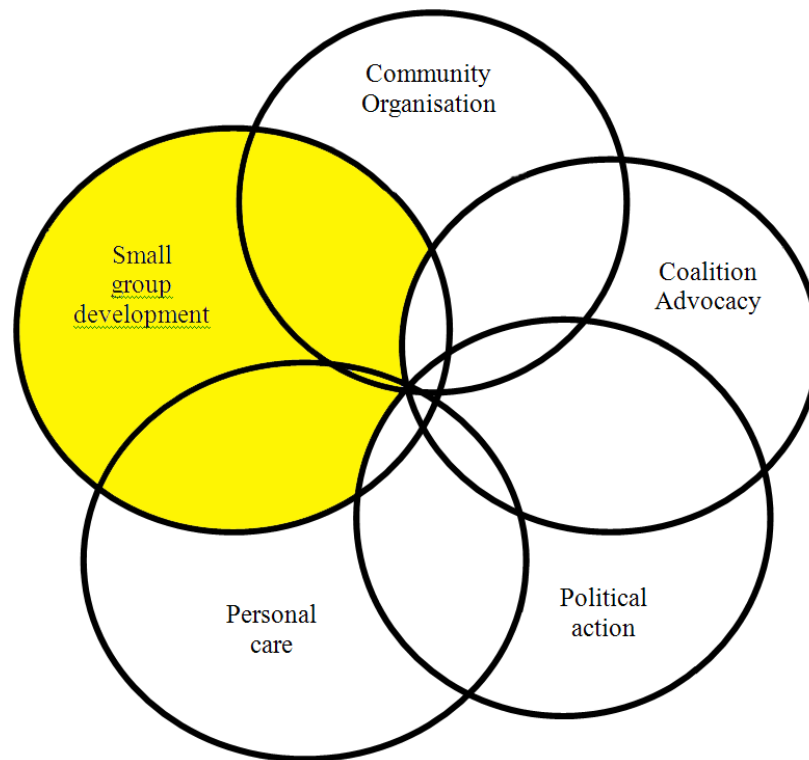


Figure 22: Empowerment holosphere (Labonté, 1993, p. 60) (Reproduced with permission from R. Labonté).

The health promotion approaches advocated as a result of this research would be situated within the areas highlighted by the researcher i.e. in the realms of ‘personal care’ and ‘community organisation’ via ‘small group development’ of the family unit or small community group as a means to do so. For example, the evidence from this research suggests that this could be achieved by ensuring food hygiene learning should remain contextually relevant to cooking, in the home setting as a site of situated learning. This approach could forge and strengthen social ties and encourage reciprocity and mutual aid in times of need to enable others to be in a position to provide all forms of foodcare. This could be placed within the long-standing and supportive environment of the family but where this is not possible, other

emotionally or geographically close members of the social network would be suitable substitutes.

Mobilisation of existing members of the older person's social network, or the development of close new relationships, may provide this instrumental social support but also the emotional bonds that may contribute towards well-being and motivation for continued protective food hygiene practices for some. This could be achieved by increasing ties with the geographical community within and outside the home setting such as in sheltered accommodation, an approach advocated by Field, Walker and Orrell (2002). Diversifying the accessible social network would possibly have the effect of accessing individuals who do not experience the same types of physical, fiscal and social constraints of those already residing in sheltered accommodation increasing the strength of social support available (Schröder-Butterfill and Morianti, 2006). In addition, ongoing institutional-level initiatives may counter the effects of neighbourhood instability and resultant distress (Ross, Reynolds and Geis, 2000) due to ill health, mortality or relocation for those living in sheltered accommodation. There was evidence provided through the warden interviews that help from neighbours in the sheltered accommodation setting was actively discouraged, as it was feared that it would become a burden on a more able co-resident. If, instead, the warden acted as intermediaries of informal foodcare, as they do in formal foodcare when organising external services, the opportunities for the development of closer ties could substitute for family and allow for instrumental food provision, and also other aspects of social support critical for mental health.

A possible small group intervention worth consideration is a peer-run single-sex cooking group, within the sheltered accommodation setting but encouraging attendance from people from the local area. This type of intervention could provide people with the skills and knowledge on cooking and the closely associated food hygiene skills. In addition, if the learning process was participatory (Belbin, 1981) and involved conative (self-directed) action (Huitt and Cain, 2005), it would potentially increase the effectiveness of the intervention and should therefore be participant-led with support provided by others if required e.g. wardens. In order to overcome gender perceptions of food roles effectiveness may be enhanced if classes are single-sexed and if topics of science and elements of competition are incorporated into the format,

Referring back to Antonovsky's thoughts on what the SOC contributes to an individual's outlook on the world (see section 3.3.1) this interventional approach could not only contribute towards making life comprehensible (by increasing knowledge) and manageable (by developing cooking skills) to the challenge of foodborne illness but also add 'meaningfulness', possibly the most crucial element, to peoples' lives by reducing social isolation and loneliness. There are clear overlaps between the application of these three elements in food hygiene learning with Bandura's Social Learning Theory (Bandura and McClelland, 1977), an association recognised by Atonovsky (1987, p. 59);

'First there is the belief that the intended outcome of a given behaviour is of value to one (that is, meaningfulness), second, the belief that performing the behaviour will indeed lead to that outcome (that is, comprehensibility); and

third, the belief that one can successfully perform that behaviour (that is, manageability).’

9.8 Conclusion

The social network, and in particular members of the family, have been conceptualised as being the principal food hygiene asset throughout the life course operating in the roles of holders of food hygiene skills and knowledge, guardians of formal foodcare provision and informal foodcare providers and motivators of practice.

The implications the findings from this study makes towards social care policy and the ongoing personalisation reforms may be an influencing factor in contributing towards increasing the vulnerability of some older people to foodborne illness. Health promotion strategies aimed at strengthening social bonds within the social network and beyond may provide the range of social support needed to maintain the health and well-being of the older population. Possible interventions include peer-led, single-sex cooking classes. In addition to peer food hygiene education these groups could also simultaneously facilitate bonding and bridging social capital to maintain all forms social support and mental health.

The study results have led to the characterisation of external and internal food hygiene assets presented in chapter eight. The food hygiene assets utilised have been acquired at different stages of the life course and the majority fulfil further psychosocial (e.g. lunch club meals, the extrinsic value placed on food), fiscal (e.g. BOGOF offers, suspicion of use-by dates) and nutritional (e.g. frozen food delivery) purposes. As such the role they play as ‘food hygiene assets’ are highly personal and are temporally, socially and emotionally determined. The mixture of assets used by an individual also cuts across asset categories, and can act in isolation or collectively

to have the potential to protect the older person from foodborne illness. The complex web of assets used by the older person at any one time is based on a demand to fulfil a physical or social need, and pre-existing or novel asset availability and the motivation or drive to mobilise them. This nuanced mobilisation of assets will be the focus of the first section of the Conclusion chapter.

10. Chapter Ten: Conclusion

10.1 Introduction

This chapter comprises four sections. The first critiques the theoretical implications of applying the asset model in this study to map the food hygiene assets utilised by a sample of older people. This section will be followed by a reflexive discussion on the limitations of this study in terms of the population sample and the study methods employed. Section three will pick up this theme and suggest how future research in this area could progress. The concluding remarks section will evidence what this research has contributed towards public health practice and theory.

10.2 Theoretical implications resulting from the study

10.2.1 Asset classification for map construction

The assets presented in the external and internal food hygiene asset maps (Figures 19 and 20 in chapter eight) and in the Discussion chapter have been conceptualised in terms of their *capacity* rather than their actual performance as a health asset, consistent with other work (McKnight and Kretzmann, 1993; Jasek-Rysdahl, 2001; Yanicki, 2005) and summarised by Rotegård *et al.* (2010, p. 518) that: ‘..assets can be latent or potent, a capability or ability and thus offer opportunities for use, development or change’. This classification of assets reflects the vague, ‘diffuse’ and ‘complex’ (Hills, Carroll and Desjardins, 2010, p. 81) nature of the asset model, everything is an asset, and even if it isn’t positive it can be changed into being positive. This echoes the sentiment towards the asset-based approach expressed by Friedli (2013, p. 40) ‘it is more important to be positive than to have an accurate sense of reality.’ This underlies an issue with the asset-based approach; that it is so inclusive and all-encompassing that it results in the identified assets being both ‘positive’ and ‘negative’, even when it is focused in one health context and in one population group.

Examples of this discrepancy pepper this research; when viewed in isolation, without the addition of the internal assets identified, there is a multiplicity of resources (categorised as ‘external assets’) from which older people could obtain and consume ‘safe’ food in the home. It is the majority of the internal assets identified in this research which may limit individuals to seek access to and utilise the existing external food hygiene assets identified in subtle or overt ways. For example, in this

research the formalised care from an external care agency and the lack of consistency of that care, provides evidence for the importance of the *temporal* and *situational* classification of a food hygiene asset. On one hand, carers may dispose of ‘unsafe’ food and help prepare food for the older person when they have difficulty in doing so, classifying them as an asset. Simultaneously carers may lack the time and opportunity for observation that could lead to them using an ‘unsafe’ food product from the fridge for a meal, putting the older person at increased risk of foodborne illness in that situation. Here the carers are using their *own* asset ‘maps’ when conducting food hygiene practices during food preparation which is perceived to result in a reduction in agency in the older person. These nuances surrounding assets are also found in the use of frozen meals which may or may not be perceived as an asset depending on how and when they are used. Furthermore, shared group social norms may also not necessarily act as an asset, nor the use of technological assets such as microwaves as discussed. This provides further evidence of the dual nature of assets and the importance of consideration of the context in which they are used, as an asset can become temporally ‘outdated’.

Context consideration notwithstanding, it could be argued that this lack of clarity on defining a factor as being ‘positive’ or ‘negative’ is irrelevant because it provides the ‘opportunity for use, development or change’ (Rotegård *et al.*, 2010, p. 518) with a targeted and ‘informed’ public health or health promotion intervention. However, this distinction is artificial because there seems to be little real difference between a ‘positive’ asset (because it can be changed) and a negative factor, which seems to be at odds with the ethos surrounding the ‘positive’ nature of assets. Indeed,

Antonovsky (1987, p. 31) saw this interplay in his critique of Billing and Moos study (Billing and Moos, 1981) of resources and stressors in the work-place environment:

‘But let us examine the two composite independent variables more closely. Are they really conceptually separable? If low autonomy is a stressor, is not high autonomy a resource?... If high involvement is a resource, is not low involvement a stressor? Cannot the same be said for high and low peer cohesion, for high and low supervisor support?’

This confusion is prevalent in some of the large-scale quantitative studies in adolescents and children which have linked demographic variables to the presence or absence of an ‘asset’ to adversely determine ‘risk’ (Evans *et al.*, 2004; Oman *et al.*, 2007; Brooks *et al.*, 2012), a deficit and largely bio-medical perspective. This aspect of asset ‘reversal’ is also indicated within this dissertation, whereby the social network operates as both a positive and negative influence exemplified in section 9.6; ‘The social network as an asset as exemplified by its absence’. Just as the opposite to health is not disease, then perhaps the opposite of deficit ‘risk’ identification (for health protection) is not ‘positive’ and all-encompassing health assets because the reality of the lived experience is far more complex.

Just as the categorising of assets as ‘positive’ causes the researcher concerns so does the delineation of ‘external’ and ‘internal’ assets which may not stand up to scrutiny. The asset maps have been delineated into ‘internal’ and ‘external’ assets, as per previous research on assets (Baban and Craciun, 2010; Rotegård *et al.*, 2010; Brooks *et al.*, 2012; Whiting, Kendall and Wills, 2012). It is not, however, difficult to extend this conceptualisation to one where the boundaries are blurred, that the internal

assets may determine the presence and availability of the external and vice versa. For example, as ‘not communicating the need for help’ was categorised here as an ‘attitude’ and internal asset, it may also impact upon relationships (with people in the category of ‘assets of individuals relationships’) in response to facing that attitude in others. Likewise, some internal constructs presented here could be formed due to the presence of the external assets. For example, the external assets of ‘safe’ storage solutions’ may have an impact on the ‘belief’ ‘that individuals can intellectualise instructions on food packaging’ (see section 7.1.3.2) as some used their ‘knowledge’ of the efficient workings of their fridges to determine how long things can be stored for rather than abiding by the ‘use-by’ date. This interrelationship between the individual and their social and cultural environment has been indicated on the food hygiene asset maps (section 8.2) in terms of the black arrows that links the individual with their surroundings, but this relationship may have such a profound influence on the classification of assets as ‘internal’ and external’ that it ultimately makes this distinction redundant.

Having considered the classification of assets as positive/negative and external/internal, attention will now be turned to the specific sections of the asset model and their contribution to public health practice. The order of the following sections will mirror the format of the presentation of the asset model (chapter three) by discussing the model sections A-C in sequence.

10.2.2 Section A: The salutogenic evidence-base

The research presented in this dissertation has led to the formation of novel analytical and theoretical food hygiene asset maps (Figures 19, 20 and 21, section

8.2). The older person has been both diagrammatically and methodologically placed at the centre of the food hygiene asset maps as the structure and content has been directly informed by the study data and field notes, drawing on Grounded Theory (Glaser and Strauss, 1967).

The process of asset mapping is the 'Action' advocated by those who developed the asset model (section B of the asset model, see section 3.4). The formation of the food hygiene asset maps presented has been made possible through the utilisation of both quantitative *and* qualitative data in the situated health context of food safety research. The quantitative data resulting from the questionnaire in Phase I has provided a cross-sectional single assessment of food hygiene assets currently being used, whereas the data from Phases II and III has provided evidence on how those assets have been accumulated throughout the life course; further contextualised to what prompts or hinders their mobilisation in times of need in the current day. This has provided valuable information which can inform future health promotion campaigns aimed at decreasing foodborne illness and possibly other public health concerns. Consequently this approach of mapping assets at the individual and small group level in one health context could be considered to be a valuable method in determining what factors older people draw upon when undertaking food-hygiene related practices and how those factors are used in daily life. The researcher therefore concludes that this research contributes towards the salutogenic evidence-base as recommended by section A of the asset model.

Unfortunately, when extending this concept further, there does appear to be little distinction between developing a salutogenic evidence-base using 'assets' in respect

to section A of the asset model and salutogenesis itself, especially in respect to types of GRRs (see section 3.3.1). Considering Lindström and Eriksson's definition of GRRs (2010, p. 33) these are 'biological, material and psychosocial factors' which have an impact on life experience and therefore an individual's SOC. Perhaps assets are another form of 'positive' or 'negative' and 'external' or 'internal' resources (or simply 'factors') that act as GRRs which may or may not contribute towards the postulated concept of the SOC within the theory of salutogenesis.

10.2.3 Section B: Asset mapping

Having critiqued both the definition and categorisation of assets, consideration needs to be given to what contribution the process of 'asset mapping' makes to health promotion theory and practice. As discussed in section 3.4, ABCD utilising asset community mapping, as per section B of the asset model, may be a method or tool which can inform the planning and implantation of health promotion interventions at the community level. It may be that mapping is a relevant and appropriate exercise in understanding the context of people's lives without the need to classify the resources or influences as being either 'positive', 'negative' or 'internal' or 'external' 'assets'. Community level mapping can target and implement health promotion actions at the communal or large-group level, whose effects will be boosted by the *process* of change, enhancing social cohesion and the positive elements of social capital (Bourdieu, 1986; Coleman, 1988; Putnam, 1993). When this approach is applied at the individual, small group or community level the same outcomes are suggested, which has implications for food hygiene health promotion practice which was discussed in the previous section. However, it is doubtful that this activity is

dependent upon the other component sections of the asset model, particularly section C ('Evaluation': Asset Indicators).

10.2.4 Section C: Asset indicators

The food hygiene 'assets' identified through these research methods suggest that the assets were complex, highly personal and are temporally, socially and emotionally determined by that individual. Asset 'worth' is consequently situational; weighted and relative against others to address a short term or long-term need that can be of changing priority. This complex web of assets used by the older person at any one time is based on a demand to fulfil a physical or social need, and pre-existing or novel asset availability. These food hygiene assets have been shaped in response to past events such as formative personal experiences, for example bereavement, and from the influence exerted through group norms and in response to national/economic crises such as war. However, these assets were not universally held in this study population and there is no indication that they are unique to older people. The existence of these assets, and undefined prevalence, may be a result of *period* effects (Ryder, 1997) due to 'a unique configuration of events' in a person's life (Victor, 2005a, p. 53) and of living through similar historical experiences. Any differences may be due to the older person being from the same or different generational view, or resultant from a *cohort* effect (Mannheim, 1997) whereby events are experienced at different ages or not experienced in the same way. As a result, the internal constructs (and the external assets which are accumulated in response to them) are complex, very personal and deep-seated because they reflect new, existing or lost roles and identities in response to lived experience. Not only

does this conceptualisation call in to question the transferability of the study's findings to other populations groups in other contextual settings, but also to their temporal relevance. It may be that the assets identified are specific to the population of older people participating in this study, and cannot be extrapolated to future generations of older people who will undoubtedly have different life experiences, not least in terms of 'virtual' socialisation and web-based information seeking.

In addition to the personal and temporal nature of assets, many of the internal and external 'food hygiene' assets also fulfilled additional important psycho-social functions which may or may not be related to food. For example, some may decide to visit a lunch club (a 'health, social and community care asset') for numerous reasons; because they felt lonely, because they had no food in the fridge or because it fitted in with other plans that day. This leads to questions regarding the validity of solely measuring assets using quantitative measures against demographic variables when they will only provide a 'snapshot' account of current assets used. Assets identified in this way cannot be objectively allocated a 'worth' nor their level of rated importance assessed in order to evaluate the effectiveness of a public health intervention. This then calls into question whether assets can be used as 'asset indicators', as per section C of the asset model, to assess the level of effectiveness of a public health intervention because they cannot be generalised nor transferred to different people or situations. This variability in resource use was recognised by Antonovsky in relationship to the strength of the SOC (see section 3.3.1), which 'allows one to 'reach out', in any given situation, and apply the resources appropriate to that stressor' (Antonovsky, 1996, p. 15). An individual has the capacity to

mobilise various assets when they are needed, not just to count and assess their worth at one specific point in time. This nuanced element of resource or ‘asset’ use seems to have been lost in the asset model but its importance reiterated in a recent paper on the similar concept of resilience (Hutcheon and Lashewicz, 2014). The lack of flexibility in the asset model in adapting to differing contexts has been recognised by the developers of the asset model themselves (Morgan, 2014) which may explain why ‘the evaluation of asset-based working seems to have lagged behind the actual practice of it’ (p. 5).

Consideration should also be given to ‘missed’ or unmapped assets. It is possible that some assets or resources that contribute towards food hygiene may have escaped identification in this research. Recent criticisms of the asset-based approach also take up the issue of ‘invisibility’ and ‘silence’ (Friedli, 2013, p. 135) of negative influences and systems, with the possibility that oversights could fail to address the causes of inequalities; power and privilege imbalances and short-falls in wages and welfare systems (Friedli, 2013). By solidly maintaining a positive approach and ignoring the negative impacts on the social, cultural and fiscal environment of a societal group it has been argued that health inequalities could be perpetuated. A counterargument by the authors of the asset model in a recent paper states that the policy commitment to this model is strong and that the impact of the model will need to be demonstrated ‘in population health and economic terms’ (Morgan, 2014, p. 4). Morgan’s paper reiterates the principles of the asset model but fails to address the possibility that any perceived health and economic benefits may only arise from those who successfully accessed an intervention, that is from the ‘easy-to-change’

groups (Green and Tones, 2010, p. 485) through the ‘diffusion of innovations’ in a population (Rogers, 1995) and not from the most disadvantaged. This reflects concerns expressed by St. Leger (St Leger, 2006) and Judd, Frankish and Moulton, (2001) that health promotion indicators are ‘often predetermined and shaped by those in political, administrative and economic fields’ (p. 194).

The asset indicator element of the model (section C), is from the positivist paradigm (see section 3.5), only ‘fits’ ontologically with research determining large-scale epidemiologically determined ‘risk’, a negative bio-medical approach, which is the opposite of what this model purports to be. This information *could* be used for authoritative large-scale ‘top-down’ health promotion interventions using deductive reasoning according to Beattie’s health promotion typology (Beattie, 1991) (Figure 7), but may lead to applying flawed reasoning in assessing the effectiveness of a health promotion intervention. If an asset is always considered to be positive, when in fact it is acting in a dual, context-relevant fashion, as identified in this research, and the asset is being measured as an indicator, then the assessment may be measuring a negative ‘risk-factor’ rather than a positive salutogenic factor. This is an issue identified by Green and Tones (Green and Tones, 1999) which can be expressed in statistical terms as resulting in a Type II error, put simply, that the wrong things are being measured.

How then do asset indicators (section C of the model) ontologically and practically ‘fit’ with asset mapping which can be used as a form of community development (section B of the model)? If indicators are being employed as standardised and transferable outcome measures then they may be appropriate for ‘fixed’ physical

assets such as buildings suitable for an intervention to take place. This is an opinion echoed by Judd, Frankish and Moulton (2001, p. 370) ‘Stakeholders of programmes and evaluators should recognize that communities are dynamic, and socially, culturally and economically heterogeneous.’ As soon as people influence the social world of a community through community development, then there is a risk that the same issues of generalisability and confounding variables abound, making ‘indicators’ a too positivist line of assessment as ‘..it is ideologically unsound for health promotion to treat people as objects..’ (Tones, 2000, p. 228).

In addition, these ‘epidemiological’ or ‘clinical’ measures of health assets may be so temporally removed from the implementation of a health promotion initiative (whose effects may take decades to emerge), that they are difficult to disentangle from other complex influencing variables. Relating other measures as short-term outputs, such as behavioural intentions, skills, knowledge, values and attitudes, to health promotion intervention may therefore be more realistic in an intervention timescale *and* be more valid (Green and Tones, 1999). Intervention assessments drawing on the salutogenic or section A of the asset model may therefore be more suited to interpretivist enquiry.

As the use of asset indicators has been brought into question from this study, this leaves the health promoter intending to use the interpretivist research paradigm to explore ‘assets’ to underpin a health promotion intervention with issues of intervention assessment. If the ontological perspective of the researcher is followed, and if empowerment remains at the heart of the project and the holistic view of health, then there is an impact on study evaluation methods which is not just a

question of philosophical rhetoric. As succinctly stated by Green and Tones (2010, p. 472);

‘It is worth emphasising that research-related values...must be upheld if an evaluation is to follow ideological commitments to an empowerment model of health promotion.’

As recognised by Judd, Frankish and Moulton (2001, p. 368) in a health promotion initiative ‘evaluation should not be a disempowering process’ and should strive to be beneficial to all stakeholders, including those who conduct the range of interventions as per Beattie’s model of health promotion. Alternative models of intervention assessment from a post-positivist perspective, such as Pawson and Tilley’s Realistic Evaluation (Pawson and Tilley, 1997), recognise that ‘health promotion does not take place in a vacuum’ (Green and Tones, 2010, p. 245) and instead focuses on context, mechanisms and outcomes (‘outcome = mechanism + context’) or on a range of ‘standards’ dependent on the setting and circumstances of evaluation (Judd, Frankish and Moulton, 2001). These approaches may have the tools to evaluate health promotion initiatives at the process, impact and outcome levels in the short, medium and long-term to determine effectiveness.

10.3 Study limitations

The aims and objectives of the study have been reproduced in Figure 25 in Appendix G with additional information provided evidencing how each have been met. However, the research presented in this thesis was limited in a number of ways which may have had an impact on the findings.

10.3.1 The study design

The study utilised a mixed-method approach in exploring food hygiene assets using Grounded Theory as a method of data analysis, which was discussed and justified in section 5.2.3. The researcher maintains that the quantitative data from the questionnaire in Phase I provided a valuable snapshot and glimpse of the range and type of food hygiene assets available and mobilised by older people. These data were not gathered with the primary aim of statistical analysis but rather to enhance contextual understanding of the study participants' lives and to serve as a tool to capture basic food asset information. However, the questionnaire may have unduly restricted the answers provided by the older people, particularly in the 'food assets' section where the data were more complex than anticipated. Although the questionnaire was administered in a mode more consistent with a structured interview, this could have been taken further to open up the range of responses directed by the respondents rather than be pre-determined by the researcher. The interview questions could also have sought elaboration on the responses provided in the food hygiene asset section of the questionnaire, for example, why frozen delivery services were used rather than other food delivery options from supermarkets or family. Furthermore, the interaction of the researcher with the questionnaire

respondent could have been recorded and analysed, which may have provided nuanced detail on the respondents lives for the demographic data and use of food hygiene assets.

10.3.2 Study sample

The study sample was recruited from the lunch club research sites as discussed in the Methods chapter. Some consideration needs to be given to the response rates and the possible bias resultant in this sampling strategy.

Approximately 25 people visited the community centre lunch club in Hitchin (site E), and membership of U3A in Milton Keynes is approximately 50 people, (information supplied by the AgeUK club manager by personal communication). No further information was available for those who physically visited site E or could access the virtual website, site F. The total 'available' population to the researcher was therefore approximately 87 for the AgeUK sites, plus 25 from site E and 50 from site F making 162 in total. Fifty people were recruited to the study resulting in an approximate 30% of the potential population participating in the research. However this recruitment ratio is an under-estimate as the numbers who visited the lunch clubs fluctuated and the researcher concentrated her efforts on talking to the core 'regulars' to build rapport within the limited time available to her on site (between bingo and lunch). When taking these additional factors into account the researcher estimates that the recruitment rate is nearer to 50% particularly when taking in to consideration the website (Site F) which did not allow for personal interaction with the unknown number of U3A members who could access the internet site.

A recruitment ratio of 50% could still be viewed as low and comparable with postal questionnaires in the general population but not yielding the potential benefits of face-to-face interaction at the sites where this was possible (Robson, 2002; Bowling, 2005) as discussed in section 5.3.1. Previous research has been contradictory regarding the anticipated response rates of older people to questionnaires with some suggesting that they are higher responders than younger people (Doll *et al.*, 1991) while others indicate that they may be low if very elderly or in poor health (Rockwood *et al.*, 1989; Osler and Schroll, 1992; Hoeymans *et al.*, 1998) which may apply to this study population.

A study population resulting from low response may or may not result in non-responder bias (Choung *et al.*, 2013). It is not possible to determine if the study population suffered from non-responder bias because it was not possible to gather information on the characteristics of those who did not take part to determine whether the Phase I sample was representative of the larger 'available' population. Potential strategies to overcome any non-responder bias include statistical weighting methods to compensate against making assumptions on the non-responding population (Holt and Elliot, 1991). Instead, the researcher attempted to minimise this bias by seeking a variety of individuals to take part as advocated by Bowling (2002), which included targeting those visiting the lunch clubs who were visibly seen to have a disability or sensory impairment postulating that they may mobilise a different group of food hygiene assets to those who were in better physical health. The level of success in achieving this ambition is unknown.

The study population was small and showed little economic, cultural and racial variability which was due to the limited diversity of the study sites and their geographical location. Mindful of Friedli's (2013) criticisms of 'invisible' assets or resources, the economic evaluation of the study participants was particularly insufficient due to the lack of variability of the study sites which resulted in many of the participants sharing the same postcode. Access to services was also possibly unique to Milton Keynes for some research sites. Milton Keynes has an unusual pre-designed 'hub and spoke' geographical layout, resembling multiple small villages within wide open spaces surrounding a central retail area. Each 'village' had their own purposely-provided and linked set of services and retail outlets, making it a well provided-for community.

In summary, recruiting participants from the non-responder population, or from different groups, clubs and societies in different regions of the country at different time-points and with other researchers, may therefore have resulted in a different set of food hygiene assets being identified. This gives weight to the researcher's doubts on the transferability and generalisability of 'assets' across different social groups and contexts which should remain highly specific to the target population of any public health action or intervention. The consequences of taking this approach in future research will be discussed in the section which follows.

The data supplied by the wardens from Phase III may have been biased through their stakeholder position or due to the nature of the relationships they had with the older people and their families but the extent of this bias is unknown. Where possible, data has been provided directly by the Phase II data but due to the small study sample

size, there is limited evidence available for some data categories presented in the Results chapter. For example, it was not possible to locate and interview more than one person who had a carer visit, possibly as a result of this being a harder to reach population group. Likewise, it was not possible to locate and interview someone who used a hot meal delivery service which may have been due to the recruitment of the study sample from lunch clubs. However, it is felt that this did not impact on the asset mapping process which was reliant on the breadth and categorisation of data using all data collection methods, rather than depth.

10.3.3 Data analysis

Data analysis may have benefitted from the perspective of a second researcher by the parallel coding of the qualitative data. This could have highlighted discrepancies in the researcher's theoretical thinking which may have redirected the study's findings. Although the researcher did not ask for the involvement of the older person in 'checking' through the interview transcripts to minimise their disruption (see section 5.5.4), it may have been that during this process, or through undertaking a second interview, additional contextual insights in the qualitative data could have been achieved. This activity may also have been more in line with the participatory hermeneutic-dialectic process of questioning assumptions (Guba and Lincoln, 1989; Schwandt, 1994) required of interpretivist enquiry.

10.3.4 Lay perspectives and study guidance

There was limited advice sought from older people themselves in the overall design of the study, question wording in the questionnaire and semi-structured interviews and in the written information provided in the information sheets and consent forms.

The researcher was constrained by being a lone researcher without access to a formal ‘steering group’ which is usually employed by larger externally-funded research organisations. Some consideration had been given to obtaining the opinions of older people, such as drawing on the POPP study questionnaire which benefitted from this input and by piloting the questionnaires and interview questions with a small number of participants prior to employing them more widely (see section 5.3.1). However, it is possible those involved in the pilot stage, and with whom the researcher had developed a considerable rapport (see section 5.7.1), felt uncomfortable providing constructive criticism for fear of causing offense. Consequently drawing on opinions of older people who were not directly involved in the study could have improved the wording of all the study tools and literature and enhanced the rigour of the study.

10.4 Future Directions

Increasing the sample size and variability (economic, racial and cultural) in future research populations would further the understanding of the past and present resources and factors that influence food hygiene practice in the home, without the necessity of classing them as ‘assets’. This approach would enhance knowledge on the prevalence of these resources and factors identified in this dissertation and explore the validity of attempting to confer concepts of generality and transferability on the findings to the wider older, and general, populations. The food hygiene ‘asset’ or factor maps presented in section 8.2 could be expanded and developed from this further exploration, but due to the issues of resource or asset classification highlighted in section 10.2, these maps would have to be fully annotated in their construction to indicate the interrelationships between the ‘assets’ or factors and their dual and context-specific nature.

Findings from this study suggest that further research could extrapolate and develop understanding of the ways in which social network members influence food hygiene beliefs and practices throughout the life course. By placing an individual at the centre of the research methodology it is possible to conceptualise how the food hygiene ‘assets of individual relationships’ are accumulated and maintained and the conditions that precede their ‘mobilisation’ in times of need. Information could be sought on marital status, family and network structure (e.g. size and density), history and strength of these bonds (e.g. frequency of contact and intimacy) through mixed methods to form networks maps and to assess how they may influence current and future generations of older people in conducting food hygiene practices. Assessment

to determine a network typology (Wenger, 1989), may prove to be a useful tool. However, this approach suggests an exploration using inductive and qualitative methods to address the nuanced nature of social interaction, which could be developed into larger scale quantitative research at a later stage. The purpose of taking this approach needs to be clear however, as targeting health promotion interventions to older people utilising the existing route of the social network is likely to be long-term and embedded in existing public health policy, and the outcomes difficult to measure within the short or medium-term.

More targeted strategies could be explored, however, in terms of alternative locations of informal food hygiene health promotion from the social network, such as influences exerted at the supermarket. The impact of electronic media for the younger old and future generations, such as through social network websites as sources of health promotion could also be explored building on work reviewed by Webb *et al.* (Webb *et al.*, 2010) in exploring how the internet can facilitate behaviour change. Further research could also consider the exploration of framing targeted health promotion strategies aimed at the current older population using more recognised terms identified in this dissertation such as ‘general hygiene’ rather than ‘food hygiene’. Strategies aimed at older men could also consider using elements of scientific learning and/or competition to boost the ‘masculine’ appeal of this topic area.

10.5 Concluding Remarks

This research has contributed to two fields of academic research, both that of food safety and in developing the theoretical foundation provided by the asset model. Social network members have been identified as the primary food hygiene assets throughout the life course of (older) people through their newly conceptualised position of foodcarer. Network members have been found to hold foodcarer roles within the categories of holders of food hygiene skills and knowledge, guardians of formal foodcare provision and as informal foodcare providers and motivators to practise food hygiene. The Discussion has focused on the positions that these individual social network members hold which cut across the external food hygiene asset categories ('assets of individual relationships' and 'health, social and community care assets') and contribute directly to the historical formation of the internal food hygiene assets identified (values, attitudes, beliefs, skills and knowledge and agency) which may serve to motivate or demotivate access to multiple external food hygiene assets.

The structure of formal care provision has been considered as a contributing factor in increasing the risk of foodborne infections. Instead, possible interventions aimed at increasing bonds within the social network have been discussed in terms of establishing small group, peer-led, single-sex cooking groups which may provide the food hygiene skills and knowledge but also the close emotional bonds which could contribute to people having the ability and motivation to care for themselves.

The methodological approach of interviewing with a life course perspective has also identified that those holding the various food hygiene asset roles may change in

response to national and social or familial events. These roles may shift longitudinally in generations of the same family and laterally to encompass existing and new network members; friends, neighbours, carers and wardens in later life in response to social and health need. As such, the historical and current social context of older people is a critical aspect in understanding and addressing the risk of foodborne illness in older people which extends beyond 'safe' and 'fresh' food provision, and is set against the back-drop of other concurrent health and social needs which are of continuous, shifting priority.

The contribution of food hygiene 'assets' or factors to the lives of older people and their health and social needs are highly complex, deeply personal and are temporal and contextually determined. The apparent ambiguity of some of the food hygiene assets identified has only been illuminated by taking the pseudo life course approach from the interview data. This has led the researcher to consider the implications of these findings on the asset model which has called in to question the classification of assets and the use of asset indicators in assessing the effectiveness of a health promotion intervention. Further research on food hygiene 'assets' or factors should involve qualitative methods, at least in the first instance, so that the study participant remains the focal point of any resource 'map' constructed. This would enable the individual to self-determine the relevant temporal and contextual boundaries of that map to their own social world which could be used in both individual, and later developed in to larger, community-level health promotion.

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12. Appendices

12.1 Appendix A: Addenda to Methods

Table 14: Questionnaire questions that relate to health, social context and asset data.

Questionnaire Section	Question Number	Source of the question	Social Context Data		
			Health	Socio-Demographic	Assets
About your Community Centre	1				
	2				
	3		*		*
	4				*
	4a				*
	4b				*
About Yourself	5	POPP		*	
	6	POPP		*	
	7	Deprivation Indices		*	
	8		*	*	
	9		*	*	*
	9a			*	*
	9b			*	*
	9c			*	*
	9d			*	
	10	POPP		*	
	11	POPP		*	
Your Health Today	12-16	EQ5D (POPP)	*		
	17	POPP	*		
	18	VAS (POPP)	*		
Visits to Hospital or GP	19	POPP	*		
	20	POPP	*		
Food in Your Home	21		*	*	*
	22				*

Table 15: Sex, mean age and ethnicity of the older person interviewees (Phase II).

Phase II – Older Person Interviews				
Site	Sex		Mean Age	Ethnicity
	M	F		
A	-	-	-	-
B	3	-	81.00 (SD 7.21)	3WB
C	-	2	86.50 (SD 9.12)	2 WB
D	1	1	81.00 (SD 9.89)	2WB
E1	3	3	72.83 (SD 6.76)	5WB, 1AC
E2	-	2	76.50 (SD 6.36)	2 WB
E3	-	-	-	-
F	-	-	-	-
TOTAL	7	8	77.87 (SD 8.06)	14 WB, 1 AC

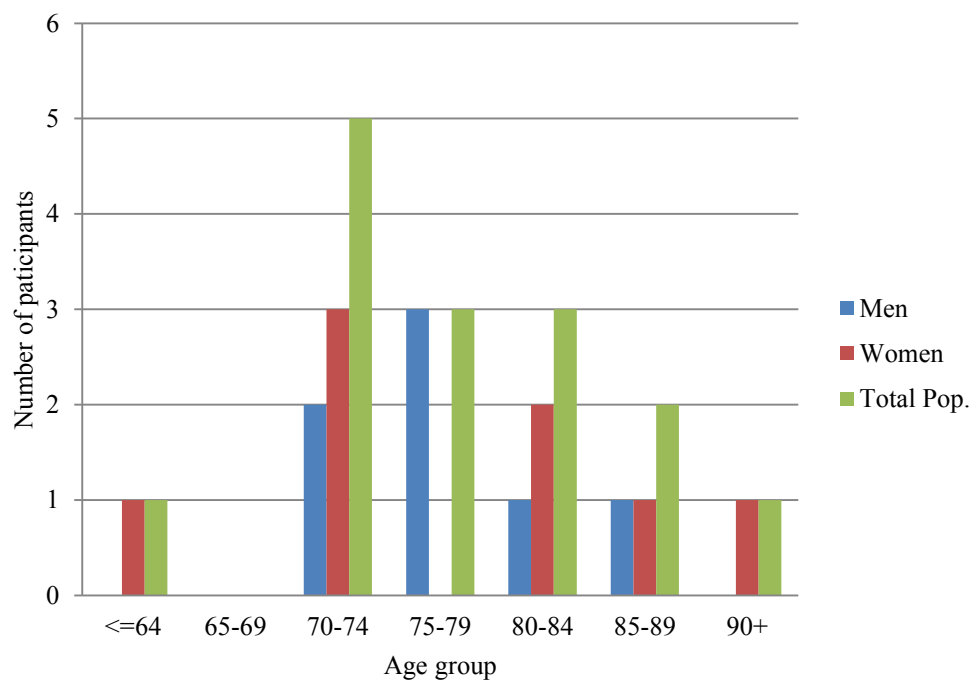


Figure 23: Number of Phase II participants in each age group by sex.

Table 16: Living companions of the older people taking part in study Phases I and II presented by sex and age group.

		Phase I - Questionnaires			Phase II - Interviews		
What sex do you consider yourself to be?							
How old are you?	Who do you live with?	Male (20)	Female (30)	TOTAL	Male (7)	Female (8)	TOTAL
≤ 64	Spouse/partner	1	0	1	0	0	0
	No one	0	1	1	0	1	1
	TOTAL	1	1	2	0	1	1
65-69	Spouse/partner	1	2	3	0	0	0
	No one	1	2	3	0	0	0
	TOTAL	2	4	6	0	0	0
70-74	Spouse/partner	1	2	3	1	2	3
	No one	2	3	5	1	1	2
	Family	0	1	1	0	0	0
	TOTAL	3	6	9	2	3	5
75-79	Spouse/partner	0	1	1	0	0	0
	No one	4	2	6	2	0	2
	Family	1	0	1	1	0	1
	TOTAL	5	3	8	3	0	3
80-84	No one	3	8	11	1	2	3
	TOTAL	3	8	11	1	2	3
85-89	No one	3	5	8	1	1	2
	TOTAL	3	5	8	1	1	2
90+	No-one	2	3	5	0	1	1
	TOTAL	2	3	5	0	1	1
Can't remember age	No one	1	0	1	0	0	0
	TOTAL	1	0	1	0	0	0

Table 17: Type of home of the older people taking part in study Phases I and II presented by sex and age group.

		Phase I - Questionnaires			Phase II-Interviews		
		What sex do you consider yourself to be?					
How old are you?	What kind of house do you live in?	Male (20)	Female (30)	TOTAL	Male (7)	Female (8)	TOTAL
≤ 64	Own or rented home	1	1	2	0	1	1
	Sheltered housing	0	0	0	0	0	0
	TOTAL	1	1	2	0	1	1
65-69	Own or rented home	2	4	6	0	0	0
	Sheltered housing	0	0	0	0	0	0
	TOTAL	2	4	6	0	0	0
70-74	Own or rented home	3	6	9	2	3	5
	Sheltered housing	0	0	0	0	0	0
	TOTAL	3	6	9	2	3	5
75-79	Own or rented home	2	3	5	2	0	2
	Sheltered housing	3	0	3	1	0	1
	TOTAL	5	3	8	3	0	3
80-84	Own or rented home	3	5	8	1	2	3
	Sheltered housing	0	3	3	0	0	0
	TOTAL	3	8	11	1	2	3
85-89	Own or rented home	1	1	2	0	0	0
	Sheltered housing	2	4	6	1	1	2
	TOTAL	3	5	8	1	1	2
90+	Own or rented home	1	1	2	0	0	0
	Sheltered housing	1	2	3	0	1	1
	TOTAL	2	3	5	0	1	1
Can't remember age	Own or rented home	0	0	0	0	0	0
	Sheltered housing	1	0	1	0	0	0
	TOTAL	1	0	1	0	0	0

Table 18: State benefits received of those taking part in study Phases I and II presented by sex and age group.

		Phase I - Questionnaires			Phase II- Interviews		
		What sex do you consider yourself to be?					
How old are you?	What state benefits do you receive	Male (18)	Female (30)	TOTAL	Male (7)	Female (8)	TOTAL
≤ 64	Retirement Pension	1	0	1	0	0	0
	Multiple Benefits	0	1	1	0	1	1
	None	0	0	0	0	0	0
	TOTAL	1	1	2	0	1	1
65-69	Retirement Pension	1	3	4	0	0	0
	Multiple Benefits	1	1	2	0	0	0
	None	0	0	0	0	0	0
	TOTAL	2	4	6	0	0	0
70-74	Retirement Pension	3	3	6	2	2	4
	Multiple Benefits	0	2	2	0	0	0
	None	0	1	1	0	1	1
	TOTAL	3	6	9	2	3	5
75-79	Retirement Pension	4	2	6	2	0	2
	Multiple Benefits	1	1	2	1	0	1
	None	0	0	0	0	0	0
	TOTAL	5	3	8	3	0	3
80-84	Retirement Pension	3	5	8	1	1	2
	Multiple Benefits	0	3	3	0	1	1
	TOTAL	3	8	11	1	2	3
85-89	Retirement Pension	2	1	3	1	0	1
	Multiple Benefits	1	4	5	0	1	1
	None	0	0	0	0	0	0
	TOTAL	3	5	8	1	1	2
90+	Retirement Pension	1	0	1	0	0	0
	Multiple Benefits	0	3	3	0	1	1

None	0	0	0		0	0	0
TOTAL	1	3	4		0	1	1

Table 19: Deprivation score by age group and sex in Phase I and II respondents.

How old are you?	Deprivation Score	Phase I - Questionnaires			Phase II - Interviews		
		Male	Female	Total	What sex do you consider yourself to be?		
					Male	Female	Total
≤ 64	≤0.140	1	0	1	0	0	0
	0.141-0.190	0	1	1	0	1	1
	0.191-0.220	0	0	1	0	0	0
	0.221-0.390	0	0	0	0	0	0
	0.391+	0	0	0	0	0	0
	TOTAL	1	1	2	0	1	1
65-69	≤0.140	0	1	1	0	0	0
	0.141-0.190	0	0	0	0	0	0
	0.191-0.220	1	0	0	0	0	0
	0.221-0.390	0	3	4	0	0	0
	0.391+	0	0	0	0	0	0
	TOTAL	1	4	5	0	0	0
70-74	≤0.140	0	2	2	0	1	1
	0.141-0.190	0	1	1	0	0	0
	0.191-0.220	0	0	1	0	0	0
	0.221-0.390	2	3	4	1	2	3
	0.391+	1	0	1	1	0	1
	TOTAL	3	6	9	2	3	5
75-79	≤0.140	1	1	2	1	0	1
	0.141-0.190	0	0	0	0	0	0
	0.191-0.220	3	0	3	2	0	2
	0.221-0.390	0	2	2	0	0	0
	0.391+	1	0	1	0	0	0
	TOTAL	5	3	8	3	0	3
80-84	≤0.140	1	3	4	0	1	1
	0.141-0.190	2	1	3	1	1	2
	0.191-0.220	0	3	3	0	0	0
	0.221-0.390	0	0	0	0	0	0
	0.391+	0	1	1	0	0	0
	TOTAL	3	8	11	1	2	3
85-89	≤0.140	0	1	1	0	0	0
	0.141-0.190	0	0	0	0	0	0

	0.191-0.220	1	2	3	1	0	1
	0.221-0.390	2	0	2	0	0	0
	0.391+	0	1	1	0	1	1
	TOTAL	3	4	7	1	1	2
90+	<=0.140	0	0	0	0	0	0
	0.141-0.190	1	3	4	0	1	1
	0.191-0.220	0	0	0	0	0	0
	0.221-0.390	1	0	1	0	0	0
	0.391+	0	0	0	0	0	0
	TOTAL	2	3	5	0	1	1
Can't remember age	Can't remember postcode	-	-	-	0	0	0
	TOTAL	18	29	47	7	8	15

Table 20: Summary marriage data for Phases I and II.

Question	Phase I (M:F)	% of Phase I	Phase II (M:F)	% of Phase II
Currently single	42 (17:25)	84	12 (6:6)	80
Currently married or have LTP	8 (3:5)	16	3 (2:1)	20
No. who were married in the past (incl. first marriages)	41 (16:25)	82	11 (5:6)	73
Mean duration of previous marriage	31.25 (SD 19.12)	-	19 (SD 17.34)	-
No. always single	8 (6:2)	16	3 (1:2)	20

Table 21: Overview of the EQ5D results for both men and women from Phase I presented by age group.

Phase I - Questionnaires				
Health Question	Response No. Age Range	No problems	Some problems	Unable/Severe
		M:F	M:F	M:F
		19:30	19:30	19:30
Do you have any problems with walking about?	≤ 64	1:0	0:1	0:0
	65-69	1:1	0:3	1:0
	70-74	3:4	0:1	0:1
	75-79	3:2	2:1	0:0
	80-84	2:2	1:5	0:1
	85-89	0:0	2:4	1:1
	90+	1:0	1:3	0:0
	TOTAL M:F	11:9	6:18	2:3
% of Phase I Sub Pop	58:30	31:60	11:10	
Do you have any problems with self-care?	≤ 64	1:0	0:1	0:0
	65-69	1:4	0:0	1:0
	70-74	3:5	0:1	0:0
	75-79	4:3	1:0	0:0
	80-84	3:7	0:0	0:1
	85-89	2:1	1:4	0:0
	90+	1:2	1:1	0:0
	TOTAL M:F	15:22	3:7	1:1
% of Phase I Sub Pop	79:73	16:24	5:3	
Do you have any problems conducting your usual activities?	≤ 64	1:0	0:1	0:0
	65-69	0:3	1:1	1:0
	70-74	1:4	2:1	0:1
	75-79	3:2	1:1	1:0
	80-84	3:3	0:2	0:3
	85-89	0:0	3:2	0:3
	90+	1:0	0:3	1:0
	TOTAL M:F	9:12	7:11	3:7
% of Phase I Sub Pop	47:40	37:37	16:23	

Do you have any problems with pain or discomfort?	≤ 64	1:0	0:1	0:0
	65-69	2:1	0:1	0:2
	70-74	3:2	0:3	0:1
	75-79	2:2	1:1	2:0
	80-84	1:1	2:5	0:2
	85-89	1:0	1:4	1:1
	90+	2:1	0:2	0:0
	TOTAL M:F	12:7	4:17	3:6
% of Phase I Sub Pop	63:23	21:57	16:20	
Do you have any problems with anxiety or depression?	≤ 64	1:0	0:1	0:0
	65-69	1:4	1:0	0:0
	70-74	1:5	1:1	1:0
	75-79	3:3	2:0	0:0
	80-84	2:5	1:2	0:1
	85-89	1:0	2:5	0:0
	90+	1:3	1:0	0:0
	TOTAL M:F	10:20	8:9	1:1
% of Phase I Sub Pop	53:67	42:30	5:3	

Table 22: Overview of the EQ5D results for both men and women from Phase II presented by age group.

		Phase II - Interviews		
		No problems	Some problems	Unable/Severe
		M:F	M:F	M:F
Health Question	Response No. Age Range	7:8	7:8	7:8
Do you have any problems with walking about?	≤ 64	0:0	0:1	0:0
	65-69	0:0	0:0	0:0
	70-74	2:3	0:0	0:0
	75-79	2:0	1:0	0:0
	80-84	1:1	0:0	0:1
	85-89	0:0	1:1	0:0
	90+	0:0	0:1	0:0
	TOTAL M:F	5:4	2:3	0:1
% of Phase II Sub Pop	71:50	29:38	0:12	
Do you have any problems with self-care?	≤ 64	0:0	0:1	0:0
	65-69	0:0	0:0	0:0
	70-74	2:3	0:0	0:0
	75-79	3:0	0:0	0:0
	80-84	1:1	0:0	0:1
	85-89	1:0	0:1	0:0
	90+	0:0	0:1	0:0
	TOTAL M:F	7:4	0:3	0:1
% of Phase II Sub Pop	100:50	0:38	0:12	
Do you have any problems conducting your usual activities?	≤ 64	0:0	0:1	0:0
	65-69	0:0	0:0	0:0
	70-74	1:3	1:0	0:0
	75-79	2:0	1:0	0:0
	80-84	1:1	0:0	0:1
	85-89	0:0	1:0	0:1
	90+	4:0	0:1	0:0
	TOTAL M:F	4:4	3:2	0:2
% of Phase II Sub Pop	57:50	43:25	0:25	

Do you have any problems with pain or discomfort?	≤ 64	0:0	0:1	0:0
	65-69	0:0	0:0	0:0
	70-74	2:1	0:2	0:0
	75-79	1:0	1:0	1:0
	80-84	0:0	1:1	0:1
	85-89	1:0	0:1	0:0
	90+	0:0	0:1	0:0
	TOTAL M:F	4:1	2:6	1:1
% of Phase II Sub Pop	57:12	29:76	14:12	
Do you have any problems with anxiety or depression?	≤ 64	0:0	0:1	0:0
	65-69	0:0	0:0	0:0
	70-74	1:3	1:0	0:0
	75-79	2:0	1:0	0:0
	80-84	1:1	0:1	0:0
	85-89	0:0	1:1	0:0
	90+	0:1	0:0	0:0
	TOTAL M:F	4:5	3:3	0:0
% of Phase II Sub Pop	57:62	43:38	0:0	

Table 23: The relative reporting of health level within the five health categories of the EQ5D between men and women in Phase II.

Health Category	Phase II		
	No problems %M:%F	Some Problems %M:%F	Unable/ Severe %M:%F
Problems with walking	M>F (71:50)	M<F (29:38)	M<F (0:12)
Problems with self-care	M>F (100:50)	M<F (0:38)	M<F (0:12)
Problems conducting usual activities	M>F (57:50)	M>F (43:25)	M<F (0:25)
Problems with pain and discomfort	M>F (57:12)	M<F (29:76)	M>F (14:12)
Problems with anxiety or depression	M<F (57:62)	M>F (43:38)	M=F (0:0)

Table 24: NHS service use in men and women in the preceding three months for Phases II participants.

NHS service	% (M:F)	Phase II - Interviews	
		Mean age Men (SD)	Mean age Women (SD)
Had visited an OT or physio	29:12.5	75 (6)	80 (0)
Had visited A&E	0:12.5	0	63 (0)
Had stayed in hospital overnight	0:0	0	0
Had a clinic or outpatient apt	57:50	76 (2)	83.5 (9)
Had visited doctor or nurse at GP surgery	86:50	79 (6)	76 (11)
Had a doctor or nurse visit at home	14:12.5	83 (0)	80 (0)

Table 25: Key summary differences between Phase I and Phase II participants.

Descriptive Variable		Phase I	Phase II
Sex	M	40	47
	F	60	53
Mean Age	Total	78.98	77.87
	M	78.95	78.92
	F	79	77.50
% Living Alone		80	73
% Living in Sheltered Accommodation		32	27
% Receiving Multiple Benefits		37	33
Mean Deprivation Score		0.2301	0.231
% Currently married or in LTP		16	20
% Current single relationship status		84	80
% Never married		16	20
% Health deterioration from previous year	Total	36	27
	M	37	14
	F	37	37.5
Mean VAS	Total	6.89	6.62
	M	6.96	6.2
	F	6.85	6.99
% who had a GP apt.	Total	59	67
	M	57	86
	F	60	50
% who had a hospital clinic apt.	Total	45	53
	M	42	57
	F	47	50

12.1.1 Excerpt of Field notes/Reflexive memo

8th June 2012 – Interview

Went to interview 'Jean' at XX today, and the weather is absolutely foul for June. High winds and torrential rain made it really miserable day today. When 'Jean' answered the door to her flat which is on the top floor quite far from the elevator, she looked really small and vulnerable and she said she was feeling quite depressed. I can see now that the happy facade she puts on in lunch clubs is just a front and she is actually quite a nervous and depressive type of person. She was a bit jittery and wanted to make me a cup of tea or coffee, so all I asked for was a glass of water. The flat was neat and beige and again there were lots of pictures all over the place but not as many as XX had. She had a dining room table underneath the window where she had lots of books and papers. She clearly had a favourite place to sit on the sofa where she had a protective cover in case she wet herself, and she could see that she had spent many hours sitting there by the indentation in the sofa cushion. The television was on then she turned it off, and strangely enough the curtains were drawn on the window to her right and held down by a can of beans. She was having a snack of Ryvita when I turned up, but didn't have any more after I arrived.

So we sat the sofa side-by-side to do the interview, which wasn't ideal because it meant that I had to be twisted towards her and there was a small coffee table between us. I had to move a couple of teddies so that I could sit on the sofa, but I made sure that I put them back after we'd stopped the interview. I wonder if she feels they are company? I have to say it was probably the most depressing interview because she really is quite sad. I can see that she is depressed and anxious about being in sheltered accommodation, and she thought she had lived past her sell by date. I think she said she wanted to get it over and done with, and by this I think she meant dying. This reminded me of words that mum had used and maybe it's the language for coming to terms with death. She is religious though, she does wonder what more Jesus and God had for her to learn. I think she's quite miserable due to her memory loss which she says is due to a fall she had last year. She had some good strategies to overcome this with food so I look forward to reading the transcript.

I think I saw a different side to 'Jean' today, and I think it was the side I was expecting to see with older people but haven't until today. That being old is tiring and stressful and you feel like a burden to family. I think food hygiene is way down the list of importance to people. Again, what people brought to mind, when talking about how they learn to cook, was watching other people, such as their mothers. Formal education through school or environmental health officers didn't generally get a mention.

During the middle of the interview somebody came round and asked her to go downstairs ready for tea and cake and biscuits. Felt a little bad preventing her from doing this. I feel deeply honoured the people let me into their houses and trust me to be there. I do get nervous and think what if something goes wrong? What if I get accused of something I haven't done? People generally seem to be quite happy to have me there. She did seem quite keen that her interview remain anonymous, and I did reassure her that nobody will ever know she took part. She did keep deviating from the topic, which is not surprising that she has memory problems and so I'm quite keen for XX to do the transcription as much of it will be irrelevant. I also e-mailed the team with questions about when I can change and adapt the questions my interviews and they thought I could do it more or less on an ongoing basis at this stage. So I had a first run through the new question format today with 'Jean'.

12.2 Appendix B: Phase I Questionnaire



University of the
West of England

Wise Eating in Later Life The W.E.L.L. Study

Questionnaire



To be completed by the survey administrator

Locality Code

Individual Code

The W.E.L.L. Study. Questionnaire. 2.12.10

At another community centre (go to 4b)
↓

4b) How frequently do you have a meal at this or another community centre?

Weekly About once a month Less than once a month

About yourself

This section is concerned with details about you, your health and your home.

5) How old are you?

6) What sex do you consider yourself?:

Male Female Transgender

7) What is your post code?

8) What kind of house do you live in?

Your own or rented house Residential home
 Sheltered housing Nursing home

9) Who do you live with?

My spouse or partner (go to 9a)

No one (go to 9b)

The W.E.L.L Study. Questionnaire. 2.12.10

Other residents of the care or nursing home

A friend

A relative

9a) If 'My spouse or partner': How long have you been married or had a long term partner for in your adult life?

Years (go to question 10 – next page)

9b) If 'No one': Have you ever been married or had a long term partner?

No (go to question 10 - next page)

Yes (go to 9c)



9c) If Yes: How long have you been married or had a long term partner for in your adult life?

Years (go to 9d)



9e) How long you have been single?

Less than six months ago

More than six months, less than a year

More than 1 year but less than 3 years

More than 3 years but less than 5 years

Five years or more

→ 10) Do you receive any state benefits?

- Retirement pension
- Disability living allowance
- Housing benefit
- Attendance allowance
- Others (*please describe*)
- Incapacity benefit

11) What ethnic group do you consider yourself to belong to?

- White
- Chinese
- Black African
- Black Caribbean
- Black Other
- Indian
- Pakistani
- Bangladeshi
- Other..... (please specify)

Your health today

By placing a tick in one box in each group below, please indicate which statements best describe your own health state **today**.

12) Mobility

- I have no problems in walking about
- I have some problems in walking about

13) Self-Care

- I have no problems with self-care
- I have some problems washing or dressing myself
- I am unable to wash or dress myself

The W.E.L.L Study. Questionnaire. 2.12.10

14) Usual Activities (e.g. work, study, housework, family or leisure activities)

- I have no problems with performing my usual activities
- I have some problems with performing my usual activities
- I am unable to perform my usual activities

15) Pain/Discomfort

- I have no pain or discomfort
- I have moderate pain or discomfort
- I have extreme pain or discomfort

16) Anxiety/Depression

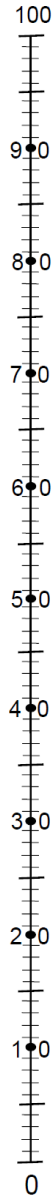
- I am not anxious or depressed
- I am moderately anxious or depressed
- I am extremely anxious or depressed
-

17) Compared with my general level of health over the past 12 months, my health state **today is:**

- Better PLEASTICK
- Much the same ONE
- Worse BOX

18) How is your health? We would like you to indicate on this scale how good or bad you think your own health is today. Please do this by drawing a line across the thermometer to indicate how good or bad your health is.

Best
imaginable
health state



Worst
imaginable
health state

The W.E.L.L Study. Questionnaire. 2.12.10

Visits to hospital or your G.P.

19) Have you visited the hospital in the last 3 months for any of the following reasons:

	No	Yes	
A physiotherapy or occupational therapy appointment?	<input type="checkbox"/>	<input type="checkbox"/>	How many visits?
Have you been to accident and emergency (casualty)?	<input type="checkbox"/>	<input type="checkbox"/>	How many visits?.....
Have you stayed in hospital overnight?	<input type="checkbox"/>	<input type="checkbox"/>	How many nights did you stay in hospital?.....
Have you had a clinic or outpatient appointment at the hospital	<input type="checkbox"/>	<input type="checkbox"/>	How many visits?.....

20) Have you:

	No	Yes	How many appointments did you have?
Seen your GP or nurse at the surgery?	<input type="checkbox"/>	<input type="checkbox"/>
Seen your GP or nurse at home?	<input type="checkbox"/>	<input type="checkbox"/>

Food in your home

21) Who is responsible for food preparation in your house?

- Me
 My spouse
 Shared jointly

 Other family member or friend

 Provided for me in the nursing / care home where I live

22) Does anyone help out with food in the home?

	No	Yes	Typically, how many occasions per week?
Do you use a 'Meals on wheels' or community meal service to deliver food to your home?	<input type="checkbox"/>	<input type="checkbox"/>
Do you use a Commercial company such as 'Apetito', 'Wiltshire Farm Foods', or 'Oakhouse Foods' to deliver food to your home?	<input type="checkbox"/>	<input type="checkbox"/>
Do you use a professional home catering service to cook for you in the home?	<input type="checkbox"/>	<input type="checkbox"/>
Does a member of your family, friend or neighbour prepare uncooked food for you <i>and bring it to your house</i> ?	<input type="checkbox"/>	<input type="checkbox"/>	Who?
Does a member of your family, friend or neighbour prepare cooked food for you <i>and bring it to your house</i> ?	<input type="checkbox"/>	<input type="checkbox"/>	Who?
Does a care provider such as a 'home help' or friend, neighbour or relative prepare food or cook for you in your home ?	<input type="checkbox"/>	<input type="checkbox"/>
Does anyone help with food shopping?	<input type="checkbox"/>	<input type="checkbox"/>	Who?
Does anyone help with washing and drying dishes after meals?	<input type="checkbox"/>	<input type="checkbox"/>	Who?

Thank you for taking the time to complete this questionnaire.

The W.E.L.L Study. Questionnaire. 2.12.10

12.3 Appendix C: Information sheets and consent forms

12.3.1 Information sheet, consent form and oral descriptor for Phase I and II participants

12.3.1.1 *Older person information sheet*



Information Sheet

Wise Eating in Later Life

The W.E.L.L. Study

You are being invited to take part in a PhD research project. This information sheet will tell you all about the study and what it involves so you can decide if you want to take part. Please take your time to read it through and think about whether you want to be involved. You can discuss the study with as many people as you like. My and my project supervisor's contact details are at the end of this information sheet so you can contact us if you have any questions about the study.

Introduction

I am a research student the University of the West of England, Bristol. I am undertaking this research as part of my PhD thesis, and hope that you can help me find some answers to my research question. The project has been approved by the University's Research Ethics Committee and will abide by the Data Protection Act (1998) and as a result all the information received will be kept confidential.

What is the study?

I want to find out the tricks and tips you use to make sure that the food you eat is safe. These tips may come from knowledge or skills you've had all your life, or equipment that you use, or from asking

W.E.L.L. Study. Helena Wythe. Participant Information Sheet. Version 2 19.3.12

other people or services to help out. These tips and tricks you use may have stayed the same or have changed throughout your life. By gathering together all the different tricks and tips that people use to stay well when cooking, we hope to develop better health education programmes around food hygiene in the home. We hope to have approximately 50 people take part in the study.

Why have I been asked to take part?

You have been asked to take part because you visit a community centre, lunch club or other similar club and are in the age group that I am interested in talking to. The study has two stages, and you may be asked to be involved with just the first stage, or the first and second stage of the study. I may invite you to take part in the second part of the study at a later date. You can indicate which parts of the study you would like to be involved in on the consent form or by telling me verbally. You can change your mind at any time.

What does the study involve?

The study has two stages that will involve me asking questions in a questionnaire and during an interview. This 'interview' would just be us having a chat that I tape record. There will be no 'wrong' or 'right' answers as I'm only interested in what you think.

First stage: Questionnaire. (15-20 minutes). This will help me find out more about the people who attend the community centre or club that you belong to. Questions will be about your age, an overall picture of your health and the housing that you have, such as if you live in your own home, rent or live in sheltered accommodation.

Second Stage: Informal Interview (1 hour). Some people who complete the questionnaire will be asked if they would be willing to talk with me at the community centre, lunch club, or in their own

homes about food. This will be tape recorded. You can decide where and when this talk should take place.

Are there any risks or benefits in taking part?

There are no physical risks involved with taking part in the study, but talking about your past or present may make you feel sad. If you feel that you may wish to talk to someone about these feelings, I've added some contact details at the end of this sheet of people who will be able to help out. My hope is, however, that taking part will be fun and enjoyable!

Do I have to take part?

You do not have to take part if you do not want to. Please use the contact details at the end of this form to get in touch if you have any questions. If you decide not to take part you will not have to explain why.

What if I change my mind?

You can change your mind and withdraw from taking part in the study at any point. You can also withdraw any information that you have already given within two months of providing it. If the information is withdrawn it won't be included in the study results and you will not have to give a reason. No individuals will be named in any study results.

What will happen to the information I give?

You will be issued with a study name and study number if you decide to take part in the study. The information you provide will be confidential and therefore your involvement will not affect any services that you receive from anyone. The completed questionnaires will be stored in a locked cabinet in my security

alarmed home. The recordings made from the interview discussion will be anonymous and stored digitally on a password-protected computer. The study information will be kept for five years to comply with data storage regulations.

The results of the study will be published in journals and presented at conferences for people who are interested in food safety and communication.

Your real name and contact details will never be disclosed to anyone and no one will know you took part.

We will also let you know what the study results are by sending out newsletters to the community groups that take part.

What do I do next?

If you do decide to take part please complete the attached consent form, indicating which parts of the study you would be willing to take part in by putting your initials in the box next to the information on each study stage. You can return this to me when I next visit the community centre/lunch club or club that you belong to. Alternatively I can record your voice saying that you would like to take part. If you decide not to take part, do not complete and return the consent form.

If you have any questions please contact:

Me, the researcher

or

My Supervisor

Helena Wythe,
Post Graduate Research student

Dr Emma Weitkamp
Senior Lecturer

Faculty of Life Sciences.
University of the West of England
Frenchay Campus



University of the
West of England

Consent Form

Wise Eating in Later Life

The W.E.L.L. Study

Please read this consent form carefully and complete only if you wish to take part in the W.E.L.L study. If you agree to take part please complete two copies of the consent form. Keep one copy safely with the information sheet and return the other to me when I next visit the community centre or club that you belong to.

I have read the information sheet and have decided to give my consent to take part in the following parts of the W.E.L.L study:

*Please initial the box/es **for the parts of the study you would like to take part in***

First Stage: **Questionnaire** (15-20 minutes at location of your choice or over the telephone)

Second Stage: **Informal Interview** (1 hour) at community centre, club or in your own home.

- I understand that I might not be asked to take part in the second stage of the study.
- I understand that I agree to take part voluntarily and I can withdraw my consent at any time.
- I understand that all information that I provide will be confidential

Please sign and date below, and write in your contact details which you would be happy for us to use.

Signed:.....Date:.....

Name:.....

Address:

.....
.....
.....

Telephone Number:

Email:.....

Please tell me the best way to get in contact with you e.g. letter, telephone or email:

.....

Thank you!

Helena Wythe,
Post Graduate Research student

Dr Emma Weitkamp
Senior Lecturer

Faculty of Life Sciences.
University of the West of England
Frenchay Campus
Coldharbour lane
Bristol
BS16 1QY

Email: helena.wythe@uwe.ac.uk

emma.weitkamp@uwe.ac.uk

Telephone: 07810 763892

0117 32 82081

12.3.1.3 *Oral descriptor for verbal consent*

W.E.L.L Information sheet and consent form

Information for those unable to read or write

My name is Helena. I am a research student at a University and I'm asking you to take part in a research study. I'm aiming to find out how older people manage food in their homes. The study is in two parts, the first is a short questionnaire which I can help you complete. This contains some questions about you, such as your health and who you live with. The second part of the study will be you and I having a chat, or 'interview' about food. This will be tape recorded so that I can listen to it at a later date. You may not be asked to take part in this stage.

You do not have to take part in the study, and if you decide that you would like to take part now, you can change your mind at a later point. Any information you give will be kept confidential, anonymous and kept securely at my home.

I will now ask you some questions, please speak the answers so that I may record them;

(I will speak the date and location into the recorder)

- *What is your name please?*
- *Do you understand that you are being asked to take part in a research study?*
- *Do you understand that the project is asking older people about food in their home?*
- *Do you understand that the information that you provide is provided voluntarily and all information that you provide will be kept confidential?*
- *Do you understand that you may withdraw from the study at any time?*
- *Would you like to take part in the study?*
- *(if 'Yes') Which elements of the study would you like to take part in? The questionnaire, the informal interview or both?*

If they agree to take part in any phase, I will ask them to give me their full name and contact details.

12.3.2 Information sheet and consent form for Phase III

12.3.2.1 Warden Information sheet



Information Sheet
Sheltered Housing Staff
Wise Eating in Later Life
The W.E.L.L. Study

You are being invited to take part in a PhD research project. This information sheet will tell you all about the study and what it involves so you can decide if you want to take part. Please take your time to read it through and think about whether you want to be in the study. You can discuss the study with as many people as you like. My and my project supervisor's contact details are at the end of this information sheet so you can contact us if you have any questions about the study.

Introduction

I am a research student at the University of the West of England, Bristol. I am undertaking this research as part of my PhD thesis, and hope that you can help me find some answers to my research question. The project has been approved by the University's Research Ethics Committee and will abide by the Data Protection Act (1998) and as a result all the information received will be kept confidential.

What is the study?

The main purpose of the study was to ask older people how they manage to eat 'safe' and fresh food in the home despite the physical and cognitive challenges of old age. These questions were asked by means of a questionnaire and semi-structured interviews. 49 people have been recruited from lunch clubs based in 6 different community centres/sheltered accommodation sites in Buckinghamshire and Hertfordshire. These 49 people have completed the questionnaire and of these, 13 have had an interview.

In the course of analysing my data it has become apparent that seeking the opinions and hearing the experiences 3-4 people who work closely with older people in sheltered accommodation would help me /answer my research questions. My hope is that with your involvement, the research will help support future services for older people enabling them to remain well at home.

Why have I been asked to take part?

You have been asked to take part because you have experience of observing older people's lives within your working role.

What does the study involve?

The study would involve undertaking a short recorded interview (about 1 hour) in a location and at a time of your choosing where I can ask your general thoughts and opinions on how older people manage food within the sheltered home setting.

Are there any risks or benefits in taking part?

There are no physical risks involved with taking part in the study. If at any point you feel uncomfortable or do not wish to take part in the research, the interview can be stopped.

Do I have to take part?

You do not have to take part if you do not want to. Please use the contact details at the end of this form to get in touch if you have any questions. If you decide not to take part you will not have to explain why.

What if I change my mind?

You can change your mind and withdraw from taking part in the study at any point. You can also withdraw any information that you have already given within two months of providing it. If the information is withdrawn it won't be included in the study results and you will not have to give a reason. No individuals will be named in any study results.

What will happen to the information I give?

The information you provide will be confidential and will not be fed back to anyone. The recordings made from the interviews will be anonymous and stored digitally on a password-protected computer. The study information will be kept for five years to comply with data storage regulations.

The results of the study will be published in journals and presented at conferences for people who are interested in food safety and communication.

Your real name and contact details will never be disclosed to anyone and no one will know you took part.

What do I do next?

If you do decide to take part please complete the attached consent form.

Thank you for taking the time to read this information sheet.

If you have any questions please contact:

Me:

Helena Wythe,
Post Graduate Research student
Email: helena.wythe@uwe.ac.uk
Telephone: 07810 763892

My Supervisor:

Dr Emma Weitkamp
Senior Lecturer
Faculty of Life Sciences.
University of the West of England
Frenchay Campus
Coldharbour lane
Bristol
BS16 1QY
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12.3.2.2 *Warden consent form*



Consent Form
Sheltered Housing Staff
Wise Eating in Later Life
The W.E.L.L. Study

Thank you for reading the accompanying information sheet.

If you would like to take part in the 'Wise Eating In Later Life' study, please tick the boxes below and complete the section underneath.

- I understand that the information that I provide is voluntary
- I understand that the information that I provide will be held anonymously and that no one will know that I took part.
- I understand that I can withdraw from the study at any point.
- I would like to take part in the above study.

.....
Name (please print) Date

.....
Sign

.....
Researcher

12.4 Appendix D: Interview Schedules

12.4.1 Phase II semi-structured interview schedule (older people)

W.E.L.L Study – Proposed Interview Schedule. Helena Wythe. Updated 8th June 12

Thank you for agreeing to undertake this interview, it will take about an hour and it will be recorded so that it can be analysed later. I just want to remind you that this recording is anonymous and if I forget and accidentally call you by your name, I can delete your name when typing up the conversation. You can ask for the interview to be stopped at any time. You can just say or point to the recorder.

As you may recall my research is looking into how older people use resources, such as knowledge, equipment or services to help you eat safe food. To start with I'd like to ask you about your childhood and your childhood household so that I can gain an understanding of your 'food' background and how that may influence your life now.

I'd like to start by asking you about your earlier life.

- 1. Please tell me a little bit about your childhood family life {era, where, who with}**
How would you describe the house, area?

Next I'd like you to tell me about food shopping and cooking when you were a child.

- 2. Who did the food shopping when you were a child and when was it done?**
{routine}
- 3. What planning went into the meals?**
- 4. Where was food obtained from?**
- 5. Do you remember what kinds of food were bought?**
- 6. What factors do you think influenced the kind of food bought back then?**
{Price, availability}
- 7. After it was bought, how was food transported home and stored?**
- 8. Who then prepared the food and did the cooking?**
- 9. Were there any leftovers after meals and if so, what happened to them?**

10. Can you tell me about how you learnt to cook?

11. Please tell me about how you learnt about food hygiene?

12. What do you remember being told about good food hygiene practice, or remember seeing at home? {public health messages or env health campaigns}

13. Do you still abide by any of those good food hygiene practical tips? If so, which?

I'd next like to ask you about the way in which you shop, prepare and cook food may have changed during the course of your life.

14. Can you think of any changes in your life, such as important milestones, that have caused you to change how you shop for food? Such as the frequency of shopping or the type of food bought.

15. Likewise, can you think of any milestones that have changed how you prepare and cook food?

16. Have there been any changes to how food is stored both before and after cooking?

17. Can you remember about how you felt about those changes?

I will now ask you some questions about how you manage your food now.

18. Can you please tell me a little about how you plan your meals?

19. Where do you obtain food from now? {variety of sources, supermarkets, eating out, takeaways, delivery cooked foods}

20. Would you say that you eat what you want, or are there any practical barriers that you encounter due to your health? { *These could be for example constraints in acquiring, cooking food, cutting, removing packaging, opening cans, lifting heavy saucepans. Dental health.*} *That must have been difficult for you. When did you start to notice a change? How did that make you feel? Have you come up with any strategies to overcome XX barrier?*

Most of us have a range of different food stuffs in the fridge, such as leftovers and fresh/preserved food.

21. How do you decide when food in the fridge or freezer should be thrown away? {sell by, use by, senses, ref 'special-consideration' foods}

22. How do you make sure that the food you eat is cooked properly and ready to eat? {cooking instructions, sensory judgements, texture, colour, smell}

I like to clean down the work surfaces after I've cooked so that it is ready for the next meal (although my husband doesn't think it's important because we use chopping boards to prepare meals).

23. Do you have a kitchen cleaning routine? {products, cloths}

24. Do you ever worry about hygiene in terms of keeping the kitchen clean? {if yes, when and what bought about the concerns, if no, what makes them confident about their hygiene standards?}

25. Do you think that you've ever had a stomach upset that was down to food that you've eaten? {if yes, tell me about it, has it made you think more about FH in the home? Anyone else ill?} {If no, do you think you are at risk? Does it worry you? What worries you more?}

It can be hard to keep on top of shopping, cooking and cleaning in later life as there is so much else to think about.

26 What or who is most helpful with providing food for you? What couldn't you be without?

26. Can you think of anything that would help you better manage shopping for food?

27. Can you think of anything that would help you better manage preparing and cooking food more easily?

28. Likewise what could help you clean the kitchen more easily?

29. If things change in the future for you, what would you consider using in terms of gadgets, services, or personal /family help, to help you make sure that the food you eat is prepared properly? What would limit you using this help? {price, awareness of etc}

30. Is there anything else that you think I should know or understand better?

Expanding upon questions

You mentioned something that I would like to go back to.

Can I go back to a point you mentioned before ...

Can you tell me more about..

How do you feel about the fact that...

When did you first experience..

What was it like when...

Bringing people back on track

That's very interesting and maybe we can pick up on that another time, but first can we just go back to...

Concentrate on

Actions; processes, conditions,

Focus on specific words and phrases which seem important to the participant.

12.4.2 Phase III semi-structured interview schedule (wardens)

Questions for sheltered housing staff.

I'm interested in finding out your thoughts and opinions based on your experience of working in sheltered accommodation. My topic of interest is how older people manage to acquire, store and cook 'fresh' food so that they don't become ill from food poisoning. I'm particularly interested in the support that older people receive from friends, family, carers and services which help them manage food in the home.

Can you tell me a little bit about your role here; for example how long you have worked here and can you give me a broad outline of your responsibilities please?

Can you tell me a little bit about the general characteristics of the people who come to live here? For example, their health and why they may have decided to come to live here?

Do the majority of older people living here have family living nearby?

Of those people who have family nearby, do residents receive regular enough visits to help with food shopping/ cooking etc?

How important are friends who live outside the home when it comes to food provision?
What about friends living inside the home?

For those who have no friends and family nearby, where do they generally acquire food from? How do they manage in terms of shopping for and the preparing and cooking of food?
(Prompt carers, staff, delivery services)

Finally, what do you consider the most helpful 'resources' that help older people use to successfully manage food in their homes here?

What barriers are there to people accessing those resources? Either physically, financially or emotionally.

What facilities are provided by the home as standard in the way of kitchen equipment, fridges, freezers etc? Who is responsible for their upkeep?

Conversely, what do you think people struggle with the most when it comes to food in the home? Can you think of any particular experiences or events that have happened that can demonstrate these issues?

12.5 Appendix E: Addenda to Results

Table 26: Overview of community centre and lunch club use in Phase I participants.

Question	No. of total responses	Popularity of responses from the most (1) to the least commonly (6) given:					
		1	2	3	4	5	6
How long have you been coming to this cc?	48	'Over 5 years'	'1-5 years'	'Under 6 months' and 'Resident here'*	'N/A'	'6 months-1 year'	
	% of the total population who responded	29	27	17 and 17	6	4	
	Numbers of men and women who responded (M:F)	3:11	4:9	4:4 and 4:4	2:1	1:1	
How frequently do you come to the cc?	50	'Weekly'	'Resident here'	'More than once a week'	'About once a month'	'N/A'	
	% of the total population who responded	58	16	12	8	6	
	Numbers of men and women who responded (M:F)	11:18	4:4	1:5	2:2	2:1	
How do you get to the cc?	50	'Community minibus'	'Walk and drive myself'*	'Resident here'	'N/A'	'Public transport' and 'Lift from friend/neighbour'*	'Taxi'
	% of the total population who responded	32	18 and 18	16	6	4 and 4	2

	Numbers of men and women who responded (M:F)	5:11	2:7 and 6:3	4:4	2:1	1:1 and 0:2	1
Do you have meals at this or another cc?	50	'At this centre'	'At this centre and another'	'N/A'	'At another'		
	% of the total population who responded	52	22	20	6		
	Numbers of men and women who responded (M:F)	11:15	5:6	4:6	0:3		
How frequently do you have a meal at a cc?	49	'Weekly'	'More than once a week'	'N/A'	'About once a month' and 'less than once a month'*		
	% of the total population who responded	43	29	20	4 and 4		
	Numbers of men and women who responded (M:F)	8:13	6:8	4:6	1:1 and 0:2		

cc = Community centre

* Equal placing of responses

Table 27: Overview of community centre and lunch club use in Phase II participants.

Question	No. of total responses	Popularity of responses from the most (1) to the least commonly (6) given:					
		1	2	3	4	5	6
How long have you been coming to this cc?	15	'1-5 years' and 'Over 5 years' and 'Resident here'*	'Under 6 months'	'6 months- 1 year'	-	-	-
	% of the total population who responded	27, 27 and 27	13	7	-	-	-
	Numbers of men and women who responded (M:F)	2:2, 1:3 and 2:2	1:1	1:0	-	-	-
How frequently do you come to this cc?	15	'Weekly'	'Resident here'	'More than once a week'	-	-	-
	% of the total population who responded	53	27	20	-	-	-
	Numbers of men and women who responded (M:F)	4:4	2:2	1:2	-	-	-
How do you get to the cc?	15	'Walk'	'Drive' and 'Resident here'*	'Community bus'	-	-	-

	% of the total population who responded	40	27 and 27	7	-	-	-
	Numbers of men and women who responded (M:F)	2:4	3:1 and 2:2	0:1	-	-	-
Do you have a meal at this or another cc?	15	'At this centre'	'N/A'				
	% of the total population who responded	87	13				
	Numbers of men and women who responded (M:F)	7:6	0:2				
How frequently do you have a meal at a cc?	15	'Weekly'	'More than once a week'	'N/A'	'About once a month'		
	% of the total population who responded	53	27	13	7		
	Numbers of men and women who responded (M:F)	4:4	2:2	0:2	1:0		

cc = Community centre

* Equal placing of responses

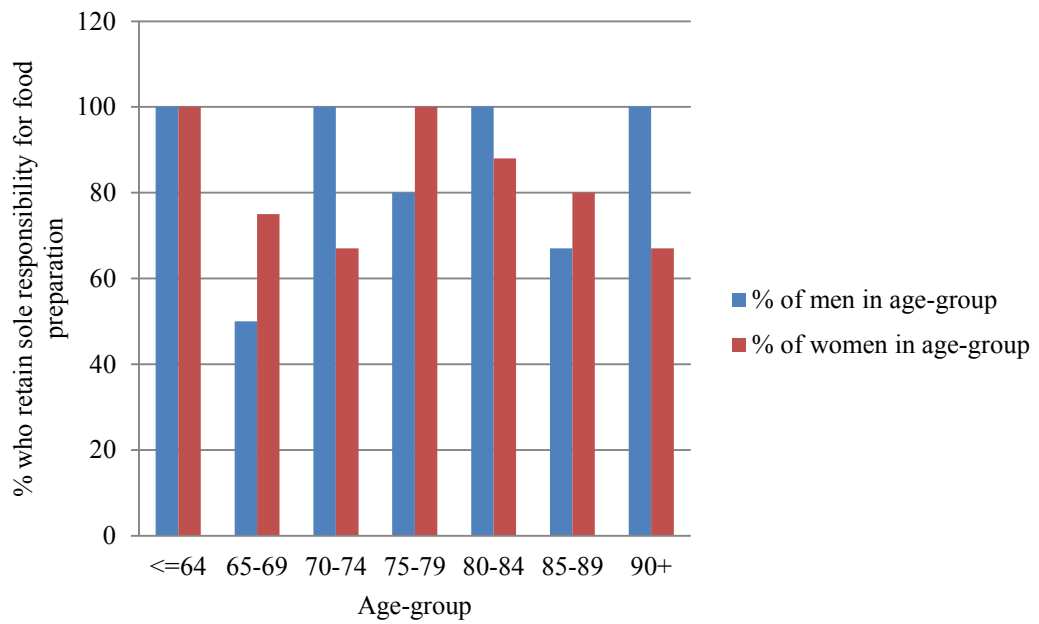


Figure 24: Graph showing the inter-sex proportions of men and women from Phase I who were responsible for their own food preparation within each age group

Table 28: Complete food hygiene asset data.

Food Asset	Total Yes M:W % M:W	Who helps?							How frequently?							
		Person	<64 69	65- 74	70- 79	75- 84	80- 89	85-90+ 90+	TOTAL	Freq. per wk	<64 69	65- 74	70- 79	75- 84	80- 89	85- 90+
Use a commercial company to deliver food to the home	4:2 21:7	-	-	-	-	-	-	-	< Weekly						1M	1M
									1	1M						1M
									4			1W	1M			1M, 1W
									7			1M	1W			1M,1W
F, F, N prepares uncooked food and brings to home	3:2 16:7	Family			1M		1W	1M,1W	< Weekly	1M	2M					3M
									1					1W	1W	
									D/K			1W			1W	
F, F, N prepares cooked food and brings to home	4:9 21:30	Family			1M, 1M, 1W 2W	1W	3W	2M, 7W	< Weekly		3M,1 W	1M,1 W	1W	1W		4M, 4W
									1					1W	1W	
									2						2W	2W
									7				1W		1W	
									D/K					1W		1W

CP, F, F, N = Care provider, friend, family, neighbour. D/K = Don't know

Food Asset	Total Yes M:W % M:W	Who helps?							How frequently?								
		Person	≤64 69	65- 74	70- 79	75- 84	80- 89	85- 90+	TOTAL	Freq. per wk	≤64 69	65- 74	70- 79	75- 84	80- 89	85- 90+	TOTAL
CP, F, F, N prepares food and cooks in the home	3:5 16:17	Family	1M	1W				1M,1W	2						1W	1W	
		Other	1M		1M	1W	2W	1W	2M, 4W	3	1M		1M				2M
										7		1W	1M	1W		1W	1M,3W
									14					1W		1W	
Help with food shopping	9:21 47:70	Family		1W		1M,4M, W	2M,2M, W	1M,3W	4M, 10W	< Weekly	1M	1W		1M			2M,1W
		Friend				1W			1W	1		1W		4W	3M,2M, W	4M, 7W	
		Spouse/ Partner		1W	2W	1M, 1W			1M, 4W	2					1W	1W	2W
		Other		1M	1W		2W	1M,3M, W	3M, 6W	3	1M						1M
		Supermarket delivery		1M						1M	7	1W	2W	1M, 1W	3W	2W	1M, 2W

CP, F, F, N = Care provider, friend, family, neighbour. D/K = Don't know

Ctd

Food Assets	Total Yes M:W % M:W	Who helps?							How frequently?								
		Person	≤64 69	65- 74	70- 79	75- 84	80- 89	85- 90+	TOTAL	Freq. per wk	≤64 69	65- 74	70- 79	75- 84	80- 89	85- 90+	TOTAL
Help with washing/drying dishes	4:11 21:37	Family	1W					1W	< Weekly	2M	1W	1M	3M, 1W				
		Friend	1W					1W	4	1W	1W						
		Other	1M	1M	1W	1M, 2W	2W	3M, 5W	7	1M, 2W	1W	1W	1W	1W	1W	2W	1M, 8W
		Spouse	2W	1W	1M, 1W				1M,4W	14	1W					1W	

F, F, N = Friend, family, neighbour. D/K = Don't know

12.6 Appendix F: Addenda to the 'Development of the Analytical and Theoretical Themes' Chapter

12.6.1 All qualitative data codes: Parent and Child

'NV' denotes an *'in vivo'* code – derived directly from the data. FH stands for 'food hygiene'

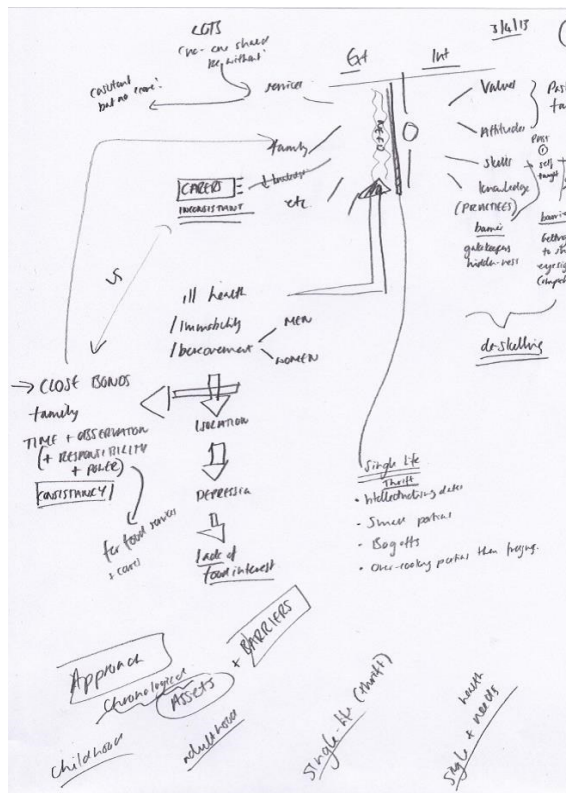
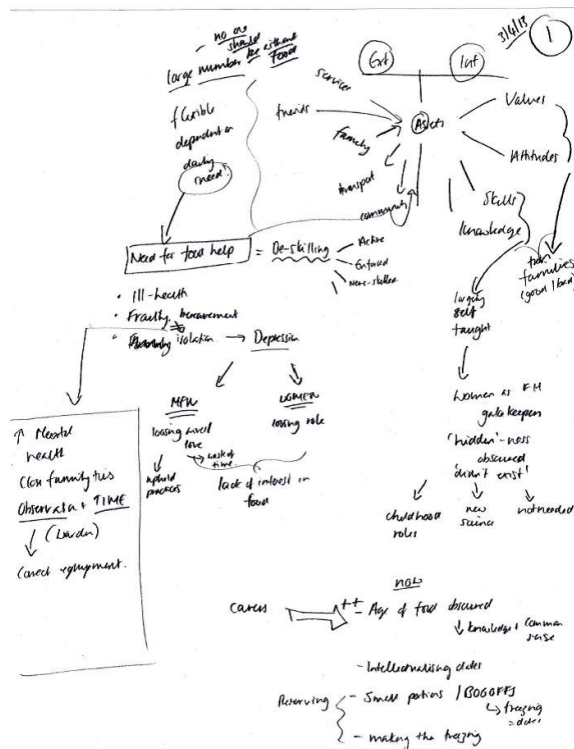
- | | |
|--|--|
| <p>1. After a spouse has died
 After parents have died
 Emotional impact of grief
 Keep food routines to keep spouse
 Food as an expression of care</p> <p>2. Changed shopping and cooking habits
 Due to being on your own
 Ethical choices
 Financial
 Food being delivered
 Frequency
 Men taking on the role when women are unable
 More responsibility - getting older
 Moving cultures
 Supermarkets
 Women working and feeding family default</p> <p>3. Current cleaning
 Cloths
 Confidence in current practice
 Importance of being able to clean
 Just cleaning what you use
 Looking clean is being clean
 Others helping with cleaning
 Perceived importance
 Perceived necessary cleaning products
 Routine
 Special weekly cleans</p> <p>4. Current cooking
 Barriers to preparing food
 Overcoming barriers
 Confidence in skills and knowledge
 Relying on cooking times
 Relying on senses
 Food provision as care
 People helping out
 Sharing responsibility</p> <p>5. Current Food Hygiene
 Being confident in your own FH practices
 Evidencing optimistic bias
 Food hygiene practices as habit
 NV 'you know, what is the harm?'
 Opinions of others FH knowledge
 Reporting of 'unsafe' practices
 Throwing food out or not participating
 As part of caring
 Intellectualising dates
 Remembering how long food has been there
 Remembering scarcity
 Throwing food out to hide not eating
 Using dates to decide
 Using senses to decide</p> <p>6. Current meal planning</p> | <p>Convenience and ease of freezer use
 Easily done foods
 Eating as an organised social occasion
 Eating food straight away
 Economy driving choice of foods
 Importance of stock foods
 Leftovers and clever storage and covering
 Making the most of what you've got
 Not having to plan
 Unable women retain management role</p> <p>7. Current shopping
 Difficulties and solutions with shopping
 Expressed reasons for methods for transporting shopping
 Growing your own now
 People helping out with shopping
 Daughters do mother's work</p> <p>8. Food poisoning
 Belief that stomach bug is passed on from other people
 No personal experience
 Perceived personal risk and consequences
 Some personal experience</p> <p>9. Future food provision
 Cooking possibly becoming a past time
 Possible deliveries or ready meals
 Possible gadgets
 Possible people to help
 Standards of future food provision</p> <p>10. Learning to cook
 Alternative male roles
 As a male pursuit in the absence of women
 From cookery books
 Having to learn to help out
 Learning as an enjoyable past time
 Learning by watching the older generation within families
 Not learning by not watching
 Learning from school lessons
 Learning with spouse
 Not learning or forgetting and de-skilling
 NV 'I learnt most of it by doing it'
 Taught as part of job</p> <p>11. Cooking as a waste of male time</p> <p>12. Younger generation passing up FH skills</p> <p>13. NV 'all past our sell-by dates'
 Struggling to cope with daily tasks
 Worries for the future</p> <p>14. NV 'my Mum was queen of the kitchen'</p> <p>15. Parental Cooking
 Gender defined expectations of cooking roles
 Kitchen were dangerous places
 Life defining parental barriers to cooking
 Recalling and deducing parental cooking roles</p> <p>16. Past food</p> |
|--|--|

	Food preparation skills		Role of carers in throwing away
	NV 'good solid food'	food	
	NV 'it just appeared on the table'		Services available to help with food
	Tasting better than now		Sheltered as an 'old fashioned' community
	The family seasonal timetable		Skewed perception of food ownership
			Throwing food as power within
	17. Past food hygiene		
	Kitchen cleaning as a necessary but no special families		
thing	Learning about 'FH' from school, work and		Tenants with a variety of approaches to FH
Mum			The changing role of friends
			How health information is shared in
	NV 'Food hygiene didn't exist in those days'		sheltered
	The perceived importance of handwashing	Warden responsibilities	
	Treating meat and milk		Caring over and above role
	18. Past food management		Knowing the family and their importance
	Children not aware of planning		Managing family expectations of
	NV 'we only bought it as we wanted it'		the warden
	19. Past food purchasing		Levels of care and implications of the change
	Child food fetching errands		of care
	Growing your own food		Organising medical care
	NV 'food was hard to get'		Understanding and knowing their
	NV 'it was all cheap you know'	health	
	Sourcing local food		And the impact of food on
	Buying ready to eat food		medicine and vice versa
	Through parental and work contacts		The importance of rapport and observation
	To help out with war effort		Caring from a distance
	Transporting local food home		Importance of the
	20. Past food storage		continuity of the log book
	No leftovers left		NV 'it take a bit of time'
	Some leftovers left		NV 'some people are very
	NV 'anything we could keep as long as we		good at hiding things'
	could would be kept'		Reminding people of appointments or when or
	Special attention foods		what to eat
	21. Public health messages		Viewing the complexities of family
	Limited to hand washing	relationships	
	Making the most of war-time rations		Different approaches to helping
	22. Technological advances		parents with food
	Provided in sheltered accommodation		Encouraging or throwing food out
	23. Warden codes		Families are responsible re:
	Cold weather effecting food supply	equipment	
	Food and blindness		The importance of seeing what you
	Food management as the key to independence		are buying
	Not being able to be adventurous with food		Families overpromising visiting
	Not being able to put foods in correct place in		Financial abuse by families or for
	fridge		families
	NV 'it's a learning skill now'		NV 'being dumped' by family
	NV 'it's a vicious circle, it's not just food,		Wardens caring for family
	everything impacts on everything else'		relationships too
	Older people eating more in social situations		Views of ready prepared meals
	Not bothering to eat due to		Barriers to people using ready meals
	loneliness and effort		Expense
	Cooking in bulk and saving food		Helping people to use delivery
over		services	
	No effort food to encourage eating		Problems with ready prepared meals
	No recognition of effort		Why people move into sheltered
	Organised food events in the home and		For health or social reasons
	opportunity for 'news' dissemination		For security
	Pride as a barrier to accepting help		Moved by council to free homes up
	Role of carers in food		Upheaval of moving a distance
	Carers in communicating food		To be near families
needs			To be near services
	Carers leaving food out		When people move into sheltered –
	Inconsistent carers		seasonal
			Where they have relocated from

Widowers' response to food

203 codes

12.6.2 Developmental diagrammatic rendering of the asset maps



12.6.3 Memos and codes for Figure 19: External food hygiene assets: ‘The Assets of Individual Relationships’

Table 29: Memos and codes for asset category 'Assets of Individual Relationships'.

Memo 1: ‘Food hygiene didn’t exist in the past’ Sub-theme 1 ‘Food hygiene is hidden within cooking and parental practices (see Table 2 and 3)

Memo 2: ‘Women as food hygiene gatekeepers’

Past food: NV* ‘it just appeared on the table’ (total of 10 sources, 18 references)

Past food hygiene: learning about ‘FH**’ from school, work and mum (total of 4 sources, 10 references).

Past food hygiene: NV: ‘Food hygiene didn’t exist in those days’ (total of 12 sources, 25 references)

Parental cooking: gender defined expectations of cooking roles (total of 7 sources and 12 references)

Parental cooking: recalling and deducing parental cooking roles (total of 11 sources, 18 references)

NV ‘my mum was queen of the kitchen’ (parent code) (total of 7 sources, 7 references)

Changed shopping and cooking habits: women working and feeding family default (total of 4 sources, 7 references)

Current meal planning: unable women retain management role (total of 2 sources and 2 references)

Memo 2: ‘Intergenerational food hygiene learning’

Learning to cook: learning by watching the older generation within families (total of 14 sources, 28 references)

Learning to cook: learning by watching the older generation within families: not learning by not watching (1 source, 1 reference)

Younger generation passing up FH skills (parent code) (total of 2 sources, 4 references)

Memo 9: ‘Food reflects relationships and wellbeing’

Current cooking: food provision as care (total of 4 sources, 11 references)

Current cooking: people helping out (total of 6 sources, 25 references)

Daughters do mothers work (parent code) (total of 6 sources, 14 references)

Current shopping: people helping out with shopping (total of 4 sources, 8 references)

Current cooking: people helping out (total of 6 sources, 25 references)

Current cooking: sharing responsibility (total of 1 sources, 1 references)

Current food hygiene: throwing food out or not participating: throwing food out as part of caring (total of 4 sources, 6 references)

Food poisoning: perceived personal risk and consequences (total of 9 sources, 13 references)

After a spouse has died: the emotional impact of grief (total of 4 sources, 4 references)

After a spouse has died: after parents have died (1 source, 1 reference)

After a spouse has died: keeping routines to keep spouse (1 source, 1 reference)

After a spouse has died: food as an expression of care (1 source, 4 references)

Warden codes: widowers’ response to food (1 source, 1 reference)

Changed shopping and cooking habits: due to being on your own (total of 3 sources, 4 references)

Future food provision: possible people to help (total of 6 sources, 8 references) (ctd overleaf)

*‘NV’ relates to a code derived directly from the data i.e. ‘in vivo’ ** FH refers to food hygiene

Warden codes: the changing role of friends (total of 3 sources, 8 references)

Warden codes: sheltered as an old fashioned community (total of 2 sources, 2 references)

Warden codes: viewing the complexities of family relationships (total of 3 sources, 3 references)

Warden codes: viewing the complexities of family relationships: different approaches to helping parents with food (total of 2 sources, 7 references)

Warden codes: viewing the complexities of family relationships: different approaches to helping parents with food: families responsibility re: equipment (total of 3 sources, 7 references)

Warden codes: viewing the complexities of family relationships: families over promise visiting (total of 1 sources, 2 references)

Warden codes: Older people eating more in social situations (1 source, 1 reference)

Warden codes: Older people eating more in social situations: not bothering to eat on their own loneliness and effort (total of 3 sources, 17 references)

Warden codes: Older people eating more in social situations: no effort foods to encourage eating (total of 2 sources, 3 references)

Warden codes: Older people eating more in social situations: no recognition of effort (1 source, 1 reference)

Warden codes: skewed perception of food ownership: throwing food as power within families (2 sources, 4 references)

12.6.4 Example of the Integration of Data for Figure 19

Table 30: Integration of data for asset category 'Assets of Individual Relationships' from the themed memo 'Food reflects relationships and wellbeing'.

Phase I data

See section 6.1.3

Recorded field notes/reflexive memo

'Notes today this is Thursday the 5th of May [2011] I was talking to a woman today. Um, she's got sheltered accommodation, she's got people on hand to get her things if she needs them and they provide food, um, fish and chips are bought in for them every week or every two weeks, she's got sheltered accommodation, carers there, she's got friends close by that'll pop in and make sure that she's alright. It's going to go over to something called flexible care which I think is something between a care home and sheltered accommodation in the near future. And I think that friends and family for her, more so friends, are a huge asset because she can depend on them and they can pick her up food if she needs it...I also spoke to an older gentleman at 93, he has lots of friends that help out, but I think he's a bit more on his own, he is in sheltered accommodation, I've given him an information sheet as well but he's got a poor throat though, and he finds talking difficult.'

28.8.12 - Analytical memo

Re-reading Int. 3 re: line 368⁷, and I wonder about these people who help out, these carers, these family members these people who hand over food that has already been cooked for people to re-heat. Do they give much thought as to what becomes of it? How it is re-heated or prepared again? I'm not saying that they should, and they are being very kind, because eating something is better than not, but what do they think happens? She says she eats a little when she feels like it, line: 373⁸ and I wonder if she just nibbles away rather than re-heating it all - how long does she keep it for?

7.11.12 – Code development memo

Ok, starting at the top of my list now, I can see that I have a parent code of '**after a spouse has died**' with three sub-codes within it. There is nothing within the parent code. In 'differences between men and women' 'how to look for a new partner' and 'keeping the routine'. The only one I like here is 'keeping the routine' because it relates to food directly where the other two don't. I think it relates to 'carrying on' with food practices after someone has died because 'it seems like the right thing to do', I think therefore I'm going to delete the other two sub-codes but keep them in the 'deleted code' code, and rename this 'keeping the routine' as 'keeping food routines to keep spouse'.

Codes and additional representative example quotes

Current cooking: food provision as care (total of 4 sources, 11 references)

R: 'One of the neighbours said 'cor you ain't half lucky to have a son to fetch you dinners' I said 'well' I said 'they appreciate what I done for them years ago, I looked after them' you know 'and that's why they do it' (Int. 5).

Current cooking: people helping out (total of 6 sources, 25 references)

R: 'Quite often [daughter-in-law] has already cooked it and they have saved some for me, and they bring it over, so they have cooked it from scratch I suppose' (Int. 3).

Daughters do mothers work (parent code) (total of 6 sources, 14 references)

⁷ **Code:** Current cooking: people helping out: R: 'There is a gentleman down there he is very kind and what he does see I actually have a very small appetite I am a little and often person I am a nibbler so when I ask for a small portion downstairs and one of the chaps there who sort of serves the meals he quietly says ok and gives me a wink puts some foil over the rest of my meal which already I have asked for a small one and slides it on a table that I can grab on my way out he is very kind. I have forgotten his name now but he's had a lot of trouble poor fellow. But anyway they are all so kind so what I do I bring it up here, pop it in the fridge and then I eat a little when I feel like it.'

⁸ 'But anyway they are all so kind so what I do I bring it up here, pop it in the fridge and then I eat a little when I feel like it.'

R: 'I did all of the cooking again like my mother, I did all of the shopping again like my mother I did all of the washing again like my mother I did the housework, all like my mother' (Int. 13).

Current shopping: people helping out with shopping (total of 4 sources, 8 references)

R: 'No, any day I just phone her up and say here's my shopping list, she writes it down and then she brings it back' (Int. 2).

Current cooking: people helping out (total of 6 sources, 25 references)

R: 'He [neighbour] cooks in his own place and fetches it over on the night you know, when he's done it he brings it over and says 'there you are, there is a meal for you tomorrow' and then perhaps if he has got some the next day he will do the same again' (Int. 5).

Current cooking: sharing responsibility (total of 1 sources, 1 references)

I: 'So before your wife became ill did she do most of the shopping and cooking or did you share it between you?'

R: 'We shared it' (Int. 11).

Current food hygiene: throwing food out or not participating: throwing food out as part of caring (total of 4 sources, 6 references)

R: 'Well funnily enough [name] usually does that he says I say 'oh no its perfectly fine, I have only had it three weeks' sort of thing he says 'mother' and he goes and he says 'that's out, that's out, that's past its sell buy that's out' so either [son] or [daughter-in-law] come and very tactfully and kindly say 'look that's got mould on it what more do you want (laughs)' (Int. 3). (Also coded as 'Younger generation passing up FH skills')

Future food provision: possible people to help (total of 6 sources, 8 references)

R: 'I would sooner cook my own and if I can't cook, then I think she [daughter] would come down and cook for me' (Int. 2).

Warden codes: the changing role of friends (total of 3 sources, 8 references)

R: 'I can think of one family where they made the person feel that they were asking so much of them and they haven't got much time and this friend said 'I will do it'' (W1).

Warden codes: viewing the complexities of family relationships (total of 3 sources, 3 references)

R: 'We have a gentleman who is 90 and has a daughter on the next estate and rarely comes you know and she will pop in and out maybe once every fortnight or ring him and ask him what does he want from the shops which is fine but then you will have somebody else that's driving 30/40 miles on a weekly base to take mum or dad out to go shopping and spend some time with them you know so it's sort of you know, it's a bit in-between and of course some tenants have got fantastic support where people almost call every second day you know which is lovely or will be ringing up to make sure' (W2).

Warden codes: viewing the complexities of family relationships: different approaches to helping parents with food (total of 2 sources, 7 references)

R: 'Some of them take the trouble to get the wheelchair out and take mum or dad out and shop with them. Some of them say 'well it's quicker if I go and get it and pick up the shopping list' but then they are denying their parent the luxury of seeing what's in the shops' (W1).

Warden codes: viewing the complexities of family relationships: different approaches to helping parents with food: families responsibility re: equipment (total of 3 sources, 7 references)

R: 'If the same problem happens again and I think the seal on the door has gone, or something, we can try and get round it because a lot of the places do have second hand freezers or whatever and we say to the family members 'fridge freezer is not working properly' or broken down whatever so again it is making sure that the equipment that they have got is working properly' (W3).

7.3.13 – themed memo SUMMARY

Food reflects life, impact on both internal assets/external assets? FAMILY (or any close social bond) maintains mental health and wellbeing and purpose which without could result in a lack of self-care. Relationships maintain wellbeing and motivation to be interest in food, particularly for women. Acquiring it, cooking it, not relying on 'quick' pre-packaged food which has a risk of listeriosis. Bereaved women have more of a loss of role with family and spouse; no one to care for. Men, loss of spouse, loss of care received? (Isolation v desolation?) Food may lose its pleasure (some reduce it to functional; such as men and never married women) therefore reflects loss of close ties, but what if they've never had them? Some men do the things their wife did so as to keep memory alive, as a tribute. Family also have overall responsibility for tech/kitchen/service provision and health. People who can take family out to the shops so they can see foodstuffs, retain skills/interest.

12.6.5 Memos and codes for Figure 20: Internal food hygiene assets: Values: 'The Intrinsic Value of Food'

Table 31: Memos and codes for the asset category: Values: 'The Intrinsic Value of Food'.

Codes relating to the scarcity of food in the past

Past food purchasing: NV*: 'food was hard to get' (total of 12 sources, 29 references)

Past food management: NV: 'We only bought it when we wanted it' (total of 9 sources, 13 references)

Past food management: NV: 'We only bought it when we wanted it': NV 'it was all cheap you know' (total of 5 sources, 8 references)

Memo 5 'Overstoring food'

Past food hygiene: NV: 'Food hygiene didn't exist in those days' (total of 12 sources, 25 references)

Past food storage: no leftovers left (total of 10 references, 16 references)

Past food storage: NV 'anything that we could keep as long as we could would be kept' (total of 13 sources, 22 references)

Current food hygiene: throwing food out or not participating: remembering scarcity (total of 7 sources, 9 references)

Current food hygiene: throwing food out or not participating: using dates to decide (total of 6 sources, 8 references)

Current food hygiene: throwing food out or not participating: using senses to decide (total of 9 sources, 15 references)

Current food hygiene: throwing food out or not participating: intellectualising dates (total of 6 sources, 9 references)

Current meal planning: leftovers and clever storage and covering (total of 9 sources, 20 references)

Current meal planning: economy driving choice of food (total of 6 sources, 10 references)

Current meal planning: making the most of what you've got (total of 4 sources, 4 references)

Warden codes: skewed perception of food ownership (total of 1 source, 4 references)

*'NV' relates to a code derived directly from the data i.e. 'in vivo'

12.6.6 Example of the Integration of Data for Figure 20

Table 32: Integration of data for asset category: Values: 'The Intrinsic Value of Food' from the themed memo 'Overstoring Food.'

Recorded field notes/reflexive memo

'Today is 21st of April [2012] I just spoke to two ladies in the cafeteria of Sainsbury's and they said some very interesting things. There wasn't the spare food in the old days, rationing portions were so small you just had enough or not enough even to last through the week just for a few days, there was very little butter. I think rationing meant that you had plan the food more carefully and so I get the impression that the amount of food available today is a little overwhelming. So butter, there was very little of it, meat was stored outside in the meat safe and milk came every single day so that was never hanging around for very long. Plenty of, much more fruit and vegetables, and, um, mushrooms particularly if you lived in the country. Yes, I think rationing and planning are very important and just not having the amount of food available, particularly risk and bombing and the war, I think it's changed their perception of what's dangerous in life. If they can survive machine-gun fire as one lady told me out in the country then food poisoning really isn't frightening.'

7.3.13 – Analytical memo

Int. 8, line 460⁹, he says something interesting about how he thinks that the food producers know that people will usually take it past the use by date, so it has some built in leniency. So he always takes it over the use by date by a couple of days. Is that what we all do? But when does 2 days become 3 become 4 etc?

It is TIME dependent, PRODUCT dependent, MEMORY dependent, STORAGE dependent, so all we can work on are general rules but they often appear unnecessary because we trust modern food and the safety net of legislation and technology, so we push as far as we can to save money by extending use by dates etc. Is it the supermarket chains then that aren't trusted (because they are seen to be making profits, closer to the purchaser) rather than the food producers and distributors?

8.11.12 – code development memo

'Covering it in the fridge' and 'keeping it a short while', I've recoded a couple in there to 'intellectualising dates' and copied 'keeping it a while' into the 'importance of covering'. I think that this importance of covering is more to do with clever storage which is in my current meal planning parent code, so I'm going to move this into there 'clever storage and covering'. Ok, this parent code is much better, but it needs renaming to 'throwing food out' and needs putting as a major sub-code under 'current FH'.

Codes and additional representative example quotes

Past food hygiene: NV: 'Food hygiene didn't exist in those days' (total of 12 sources, 25 references)

I: 'Do you remember about the kitchen, what she did to keep the kitchen clean?'

R: 'Yes she used to wipe the step outside on a Sunday morning one of the girls used to wipe the steps,'

⁹ **Code:** Current food hygiene: throwing food out or not participating: intellectualising date: R: 'Well, usually you get a best-by date or then you get a use-by date on there and I will look at the use-by date and when it is approaching that I will in fact probably go at least two days over the use-by date because I mean they are looking at that in a certain way that you come up to that point and that's fine but there is nothing to stop you leaving it a little bit later because I think they know that people are not going to necessarily have something by the use-by date particularly and I go on that, I mean I will overrun use-by the 26th of the month I will probably keep it to the 28th or 29th depending on what it is.'

wipe the steps and one of the girls would clean the knives and forks you know clean them' (Int. 2).

I: 'Do you ever remember learning about food hygiene?'

R: 'No, no not at all' (Int. 4).

I: 'Do you remember learning how to prepare food in a certain way or store food?'

R: 'No, nothing like that, no nothing like that' (Int. 5).

Past food storage: no leftovers left (total of 10 references, 16 references)

R: 'No never, if you left it you would get it the next meal and if you said you didn't want it she said 'well, you will get it at tea time' and you did' (Int. 4).

Past food storage: NV 'anything that we could keep as long as we could would be kept' (total of 13 sources, 22 references)

I: 'So what happened to leftover food, where was it put?'

R: 'In a big container I think, but as I say, leftovers, we didn't leave any' (Int. 2).

Current food hygiene: throwing food out or not participating: remembering scarcity (total of 7 sources, 9 references)

R: 'Well you see as I said to you I was brought up, no waste, and all the rest of it during the war so I sort of carried that on you see so I think 'oh I can't waste that' you know 'it's still got a couple of days to go'' (Int. 3).

Current food hygiene: throwing food out or not participating: using dates to decide (total of 6 sources, 8 references)

R: 'Yes, much more guided, I use my own, I don't take *any* notice of use-by dates' (Int. 1).

Current food hygiene: throwing food out or not participating: using senses to decide (total of 9 sources, 15 references)

R: 'I had a fried egg one day and bacon and I knocked the top off and I smelled the egg and I thought 'no that don't look very right' and I just emptied it out in the sink. It didn't look right' (Int. 2).

Current food hygiene: throwing food out or not participating: intellectualising dates (total of 6 sources, 9 references)

R: '...ham for sandwiches, I again take strict note of that, but I don't let that go very far probably only a day over the use by date because I think that that maybe more sort of liable to be picking up stuff than say, bacon would' (Int. 8).

Current meal planning: leftovers and clever storage and covering (total of 9 sources, 20 references)

R: '...what am I going to have today and even sometimes I would have prepared a meal, got it ready and think I don't really want this today and I'll plate it, cover it and then heat it the next day if I don't feel like it' (Int. 6).

Current meal planning: economy driving choice of food (total of 6 sources, 10 references)

R: 'I go to Iceland to get some foods because they are cheaper in there, believe it or not, and that's where I get my real bargains and tomato soups or any soups and rice pudding and that sort of thing' (Int. 13).

Current meal planning: making the most of what you've got (total of 4 sources, 4 references)

R: 'If I got any potatoes left over or cabbage I mix it all together and have bubble and squeak. I don't waste food' (Int. 2).

Warden codes: skewed perception of food ownership (total of 1 source, 4 references)

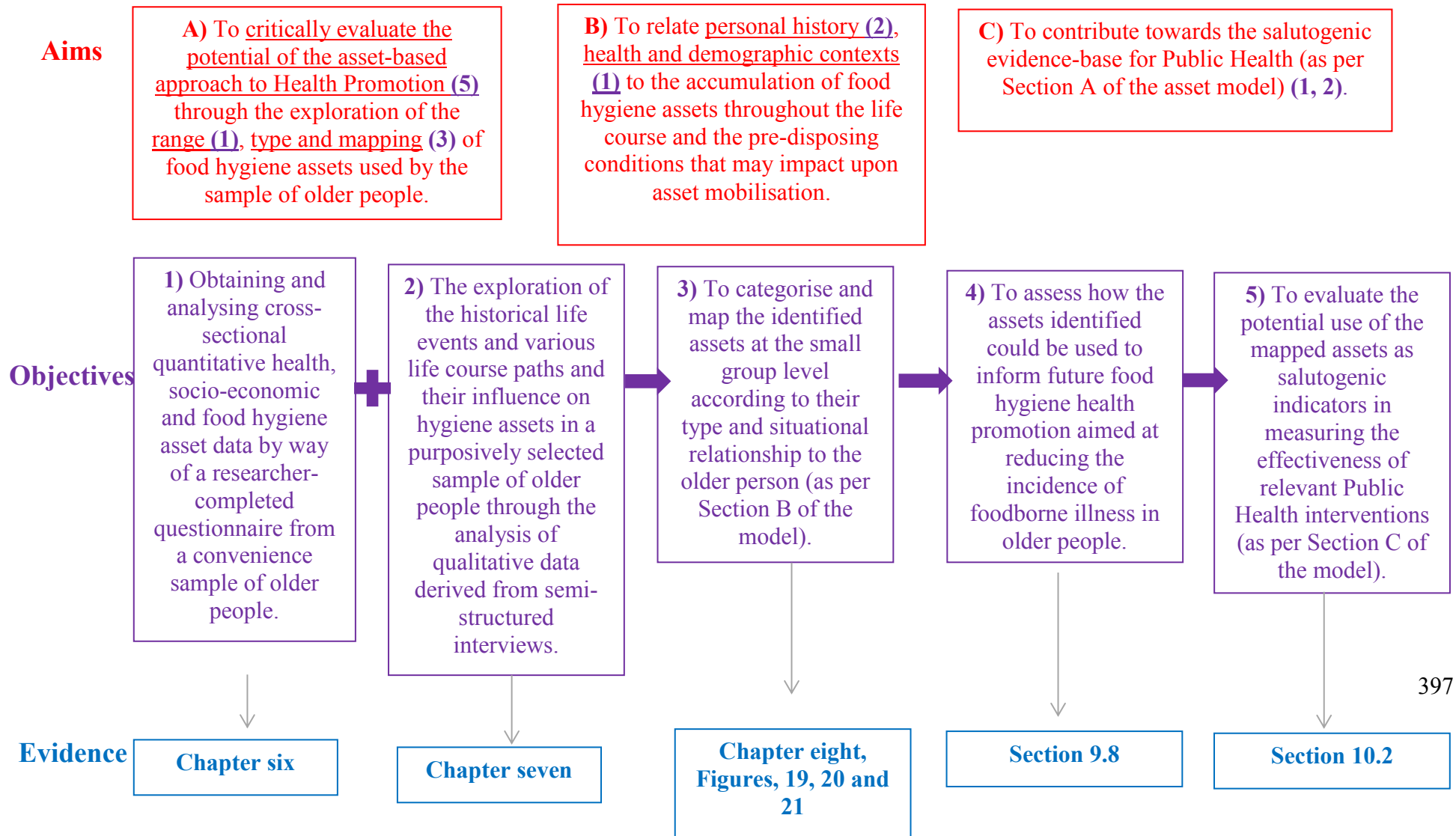
R: 'I would say 'oh [name] do you need anything I am popping into Morrison's at lunchtime is there anything you need? 'Oh no, I have got loads, I have got loads in' so I say 'I will just have a quick look shall I' open the fridge and there is one packet of ham in the fridge nothing else and I say 'what do you mean you have loads I can't see anything in here' you know then I say 'come on let's make a little bit of a list' (W2).

7.3.13- themed memo SUMMARY

Reasons for over storing from eras and attitudes of thrift, economy and experiences of rationing, possibly passing on these attitudes and for some skewed perception of food ownership (possibly early dementia). In the past there was nowhere to store food for any length of time and scarcity of food. Now lack of knowledge on age of food, attempting to attribute past skills with new technologies with not enough information on the age of a food product, leading to intellectualising dates.

12.7 Appendix G: Addenda to Conclusion

Figure 25: The study aims and objectives with evidence of them being met.



12.8 Appendix H: Dissemination

12.8.1 Conference paper and poster presentations

Wythe, H., Wilkinson, C., Orme, J., Meredith, L. and Weitkamp, E. (2013) Food Hygiene Challenges in Older People: Intergenerational learning as a Health Asset. In C. A. Brebbia and R. Kiss (Eds.), *Environmental Health Risk VII*. Budapest, Hungary: Wessex Institute of Technology Press. pp. 211-224.

Wythe, H., Weitkamp, E., Wilkinson, C., Orme, J. and Meredith, L. (2012, August) *Meeting Food Hygiene Challenges In Older People: Mobilising Health Assets For Health Promotion (Prize winning poster)*. Paper presented at the University of the West of England Post Graduate Forum, University of the West of England, Bristol.

Wythe, H., Weitkamp, E., Wilkinson, C., Orme, J. and Meredith, L. (2013, 7th February) *Meeting Food Hygiene Challenges In Older People: Mobilising Health Assets For Health Promotion (poster)*. Presented at the South West Public Health Scientific Conference, Western-Super-Mare, England.

Wythe, H., Wilkinson, C., Orme, J., Meredith, L. and Weitkamp, E. (2013) Meeting Food Hygiene Challenges In Older People: Mobilising Health Assets For Health Promotion (nominated to be video-taped for UWE publicity), *Post Graduate Research Forum*. University of the West of England, Bristol, England.

Wythe, H., Wilkinson, C., Orme, J., Meredith, L. and Weitkamp, E. (2013, 10-11th September 2013) *Meeting Food Hygiene Challenges in Older People: Mobilising Health Assets for Health Promotion (poster)*. Paper presented at the Public Health England Conference, University of Warwick, England.

12.8.2 Public engagement presentations

Wythe, H. (Apr 2011) The 'Wise Eating in Later Life' (W.E.L.L.) Study: Food Hygiene and Older People. Milton Keynes AgeUK lunch club staff: Peartree Bridge, Milton Keynes, Bucks.

Wythe, H. (Jan 2013) The 'Wise Eating in Later Life' (W.E.L.L.) Study: Food Hygiene and Older People: Some results! Milton Keynes AgeUK lunch club staff: Peartree Bridge, Milton Keynes. Bucks.

Wythe, H. (July 2013) Meeting Food Hygiene Challenges in Older People: Services and Facilities in Milton Keynes, *MKU3A*. Salvation Army Hall, Conniburrow, Milton Keynes, Bucks.