

**The effect of the environment on the care of older people with dementia
or confusion in acute general hospital settings**

Bernadette Keenan

Student number: 1931161

**Thesis submitted for Doctorate in Applied Social Research: Dementia
Studies**

University of Stirling

December 2021

Declaration

I declare that none of the work contained within this thesis has been submitted for any other degree at any other University. The contents herein have been composed by the candidate, Bernadette Keenan

Acknowledgments

With grateful thanks to my supervisors; Dr Louise McCabe and Dr Jane Robertson

Abstract

Aims:

This study aimed to explore the impact of specifically designed ward-built environments on standards of care and outcomes for older people with dementia or other forms of confusion in acute general hospital wards in a large N.H.S. Trust in England, UK.

Background

There are a dearth of studies that have looked comprehensively at the effect of the built environment on the care of older people with dementia in acute general hospital settings, and very few with sufficiently robust methodology with which to make generalisations (Fleming et al 2014; Marquardt et al 2014). Hence this study attempted to address current gaps in the available research in this area in order to promote more appropriate care.

Methods

This was a comparative study of 180 older people with dementia or other forms of confusion on one standard medical ward and two purposively adapted dementia-friendly medical wards in a large acute general hospital in England. A mixture of both quantitative and qualitative methods was used to evaluate a range of clinical and quality issues.

Data analysis

S.P.S.S. and R software were utilised for the quantitative elements of the data which were analysed using binomial regression, Poisson regression and chi-square test of association (Pallant 2005; R Core team 2013; Cormack 2000). The qualitative interview data was catalogued using NVivo (2012) and analysed using thematic content analysis. Descriptive statistics were also used where appropriate.

Results

There were statistically significant differences between the standard medical ward and the dementia-friendly wards in terms of assessment of cognitive impairment and care planning regarding this, and the involvement of the patient and family in care. There was also a statistically significant difference in the levels of patient interaction and engagement between the dementia friendly wards and the standard medical ward. Statistically significant differences were also found in the unexpected readmission rates between the dementia friendly and standard medical wards.

Conclusion

The findings indicate that purposively adapted dementia friendly hospital wards are not only thought by staff to help them provide more patient-centred care and support but are linked to more patient-centred and supportive behaviours and care practices. This research also suggests that purposively adapted built environments may contribute to more effective and 'safer' discharge. These findings have implications for practice and offer the potential to improve the quality of care for older people with dementia or confusion in acute general hospitals if the insights are further shared and explored.

Contents	Page
1) Introduction	7
2) Literature review	22
3) Methodology and methods	70
4) Results	118
5) Discussion	177
6) Reference list	201
7) Appendix A	266
8) Appendix B	290
9) Appendix C	304
10) Appendix D	312

1) Introduction

Introduction

This chapter will introduce both myself as the researcher, and the thesis. There will be a discussion of; the aims of the research, a definition of the main terms and the context in which they will be used, the background to this study, and the focus and format of this thesis.

The researcher

I am the daughter of Irish immigrants and spent part of my childhood in Northern Ireland until my parents settled permanently in Luton, Bedfordshire, where my father could obtain more work as a labourer. I am one of the eldest of a large family and caring extensively for my younger siblings was an accepted part of my family role. Nursing seemed like a natural extension of my personal history as well as my personal attributes and so I entered nurse training when I was 18 years of age. When I had finished my Registered Nurse training, I immediately completed a second Registered Midwife qualification as to be dual registered was an accepted norm at the time.

During this period, I had a strong feeling that there were gaps in my education and that there were academic interests that I wished to explore so I then completed a BSc (hons) degree in Social Science and administration at a University in London. Upon completion of my first degree, I returned to nursing on neuro-medical and general medical wards where I developed an interest in the care of older people. This led to my first ward manager post at a community hospital in Birmingham where I was seconded to complete an MSc in Nursing studies, with a focus on the care of older people. Since then, I have worked both in community hospitals and acute general hospitals as a Clinical Nurse

Specialist Elderly Services, Clinical Nurse Manager Elderly Services, Senior Nurse for Older People and Lecturer/ Practitioner within this field.

My experiences in clinical practice led me to develop a particular interest in the quality of care received by the often confused older people on the acute medical wards (Alzheimer Society 2009). Although I am now a full time Senior Lecturer in Nursing at a local University, I have maintained close links with the large NHS Trust where I was previously employed. During the past decade I have continued to work with clinicians and service users of that Trust in a collaborative process of identifying gaps in good practice and evaluating responses to these. The impetus for the present work has developed from those experiences, and the modus operandi of the research and the paradigm of Praxis, (Lather 1986), within which it is located have been fundamentally influenced by the need to change and improve current practice.

As a Registered Nurse with very strong beliefs about the delivery of person-centred care I used Norman's (2003) process of 'situating the self' to ensure the authenticity and trustworthiness of the data collection and analysis. I examined and recorded my motivations and the life experiences that had the potential to impact on the data collection and analysis. I used a reflexive journal throughout the study as a process to acknowledge influences on the research.

Aims

Older people are the biggest users of acute general hospitals, (Goldberg et al 2012; National Institute of Health Research (N.I.H.R.) 2017), and an estimated 20-50% of individuals over 80 years admitted as an emergency have dementia, (Dementia Services Development Centre (DSDC) 2012; Goldberg et al 2012; N.I.H.R. 2017). Yet that environment is not designed to meet their needs (The Royal College of Psychiatrists (R.C.P). 2011), and the quality of care can be less than ideal (Clissett et al 2013; Dewing & Dijk 2016). This study aimed to

explore the impact of specifically designed ward built environments on standards of care and outcomes for older people with dementia or other forms of confusion in acute general hospital wards in a large N.H.S. Trust in England, UK. The wards incorporated the features recommended by best practice guidelines, (Dementia Services Development Centre (DSDC) 2007; NHS Confederation 2010; Design Council 2011; Yates-Bolton et al 2012; Royal College of Nursing (R.C.N.) 2013; Dementia Action Alliance 2018) and were compared with a standard medical ward in the same hospital.

The ward environment is not only a physical setting but also comprises a psycho-social environment that influences the type of care delivered (Davis et al 2009; Moos 1969; Moos 1974)). Hence this research also attempted to explore the interplay of the physical environment with the organisational culture and staff attitudes, and how these influence staff behavior and delivery of person-centred care (Kitwood 1997). The health care environment is a complex setting and defies a simplistic notion of cause and effect (Senior & Fleming 2006; Pawson & Manzano-Santaella 2012). As Pawson & Manzano-Santaella (2012) indicate, there is a need to search for the underlying mechanisms that in particular contexts generate outcomes, for example as I found in my study, the difficulty in assigning the attitude of nurses directly to their built environment as nursing staff can move 'en masse' from one ward to another at regular intervals in acute care.

Deficiencies in the care of older people with dementia or confusion in general hospitals were identified decades ago (Norton et al 1962; Towell 1975; Clarke 1978; Evers 1981). The seminal work in this area was conducted by Norton, et al (1962), in a study which addressed the basic nursing care of older people in hospital. They found that older people with varying conditions and disabilities had to conform to a rigid pattern of ward routine determined by time of day and geography of the ward, irrespective of their basic physical and social needs, which robbed them of their initiative and independence. Towell (1975) too

found that the predominance of the medical model influenced the need to complete rigidly scheduled regimes based on medical/physical needs. Evers (1981) also indicates that the dominance and hierarchical nature of the medical model is a determinant factor in less personalised care.

Clarke (1978) makes the link with the poor environment of the old asylum buildings and the lack of facilities as an integral aspect of the value ascribed to the older people by both society and the biomedical model. Because the cure goal was not seen as being attainable on these wards doubt was cast upon the legitimacy of the service user's implicit claims on the resources of the hospital, echoing Marshall's (1999) observation of staff views that; 'they really shouldn't be here'. More recently Yun et al (2014) find similar issues in their exploration of the attitudes of 579 registered nurses attending professional education courses at a London University. They indicated that those nurses who expressed negative views towards working with older people were found to have absorbed the negative attitudes towards older people in the wider society and the view that they were less entitled to care (Marshall 1999; Digby et al 2017). So, it can be surmised that the stigma with which older people are viewed by society still fundamentally affects their care (Innes 2009).

The literature review will demonstrate how far these issues are still prevalent (Cowdell 2010; Tadd et al 2011; Clisset et al 2013; Backhouse et al 2016; Livingstone et al 2017; Kadri et al 2018). The perpetuation of poor care practices would suggest that previous research has failed to affect change. It is postulated that this is in part due to the 'research/practice divide' (Oborn et al 2010; Pentland et al 2011), with research traditionally being conducted by academic experts in an isolated process that did not involve the clinicians as partners in that process. A more current view is that practitioners and patients are involved at all stages of the research (NIHR 2021).

Consequently, this study incorporated an action research perspective, part of a family of related investigative approaches under the umbrella of 'Action inquiry' (Morley 1991). In particular, to directly inform current practice, the study is embedded within the paradigm of Praxis; acting upon existing conditions in order to change them, with knowledge derived from practice and practice informed by knowledge in an on-going process (Lather 1986).

To address the complexity of the health care setting the study used a mixed methods approach to explore the culture of the care environment, both the attitudes of nurses and their behaviour, the interaction between the nursing staff and service users and with the built environment. To explore care outcomes fully the methods included: observations of the care environment, case note review, trust informatics data, patient satisfaction questionnaires, and staff interviews. Such eclectic methodological approaches are a common feature of Praxis (O'Brien 1998). Fundamentally the results of this study will inform future care provision in the care setting involved in the research.

There are an insufficient number of studies that have looked comprehensively at the effect of the built environment on the care of older people with dementia in acute general hospital settings, and not all with sufficiently robust methodology with which to make generalisations (Fleming and Purandare 2010; Fleming et al 2014; Marquardt et al 2014). The absence of validated tools with which to evaluate the acute hospital ward environment is just one example of this (Brooke & Semlyen 2019). Authors such as Ballie (2012) have also highlighted that when looking at the hospital environment, the role of organisational culture and how staff engage with service users tends to be undervalued. Hence this study attempted to address current gaps in the available research in this area and to promote more appropriate care by offering an analysis of both the built environment and the interplay between the psycho-social therapeutic environment; to evaluate not only the physical environment of care but also the ideological perspective of staff and how both

the built environment and the cultural milieu within which they work influence the care that they provide (Davis et al 2009; Moos 1969; Moos 1974, 1997).

This study sought to answer the following research questions

- 1) Do dementia friendly physical environments improve service user outcomes?
- 2) Do dementia friendly physical environment influence the social environment of care or facilitate person-centred care practice?

It is useful to offer some definitions of the main terms and concepts under discussion: the main types of confusion encountered on an acute hospital medical ward, the built and social environment, organisational culture, and the concepts of person-centred or therapeutic care as opposed to custodial models of care.

Dementia and delirium

Dementia is a medical term for a range of chronic, progressive diseases of the brain in which there is a disturbance of multiple higher cortical functions, resulting in problems with memory, language, and functioning. (National Institute for Health and Clinical Excellence (NICE) 2019). In the Acute General Hospital setting the person with dementia will also have a physical co-morbidity and may additionally exhibit delirium if they are acutely ill; a syndrome describing transitory or acute confusional states (NICE 2010). So, they are more likely to exhibit confusion or a worsening of existing confusion when they are in an acute general ward setting. However, because of physiological

changes associated with ageing delirium can be a common experience for any older person who is ill and is not just confined to older people with dementia.

The built environment

The built environment is defined as the surroundings or conditions, created and built through human intervention, where a person, animal or plant lives, (Codinhote et al 2008).

The social environment

The social environment is defined as the social dynamics required for the construction of the social persona (Harre 1991). Morgan & Stewart (1997) identify 5 crucial elements of this:

- Stimulation and meaningful activity
- Human contact
- Safety and supervision
- Individualised care
- Flexibility

This is a complex phenomenon involving the overriding psycho-social culture of an environment, and the interplay of the actors within that setting to both the built environment and each other. These features have also been highlighted as a crucial element in confirming and maintaining, or negating, the selfhood of older people in institutional settings (Kelly 2007).

The organisational culture

The organisational culture is defined using Schein's (1990) conceptual model as a pattern of shared basic assumptions developed by a group and found to work as it adapts to problems and taught to new members as the correct way to

think and feel. Schein (1990) views the organisational culture as manifesting at three levels; visible artefacts; values, norms and attitudes, and assumptions. The visible artefacts are what can be seen, such as the physical environment, uniforms, or documented policies. The underlying values of the culture, such as ideologies and philosophies, may be revealed in how people describe their thoughts and feelings about the organisation. These values can become underlying assumptions. In this model group organisational culture is understood as a learned response to the tasks a group has to perform (Schein 1990).

Organisational culture is an important factor in ensuring that people have positive experiences of care (Senior & Fleming 2006). It is recognized as shaping the behaviour and attitudes of staff across health and social care settings and forms the informal sub-system of an organisation which is in constant dynamic interaction with the formal sub-system of the management strategy and goals (Senior & Fleming 2006).

The custodial approach

The 'custodial' approach to care is defined as; a routine dominated, task orientated type of nursing which effectively robs the person of dignity, independence, and feelings of self-worth (Kitson 1984). It is a 'production line' approach to care with the older person seen as an object or product to be 'processed' as quickly and efficiently as possible (Evers 1981). This concept has been associated with a biomedical approach to dementia which focuses upon illness and disease, and biological decline rather than potential (Bond et al 2004; Estes & Mahakian 2001).

Kitwood (1997) translates this approach into behavioural manifestations, he identifies 17 types of personal detractors, or aspects of care practice that inhibit person-centred care: treachery, disempowerment, infantilisation, intimidation,

labelling, stigmatization, outpacing, invalidation, banishment, objectification, ignoring, imposition, withholding, accusation, disruption, mockery, disparagement. These detractors would result in a loss of well-being or a disablement of the person (Kitwood 1997).

The patient-centred approach

The antithesis to this is the person-centred approach to care, which has at its core the maintenance of the person's integrity, dignity and function, (Kitwood 1997; Innes et al 2006), the concept of maintaining the person's identity or selfhood is a central component (Kitwood 1997). This is often classified as a 'therapeutic' approach to care in older literature (Kitson 1984), an historic reflection of the more holistic enabling approach of the 'geriatric model' (Tinetti 2017).

The seminal 'positive person work' approach was developed by Kitwood (1997) as a response to 'malignant social psychology', aspects of care practice that he viewed as undermining personhood and inhibiting person centred care. He advocated a dialectical understanding of dementia where the symptoms and behavioral changes associated with dementia can be seen as a dialectical interplay between the physical and the psycho-social environment (Kitwood 1997). Kitwood (1997) postulated that personhood could be upheld and reinforced by the positive interactions of others. He identifies ten elements to 'positive person work': recognition, negotiation, collaboration, play, stimulation, celebration, relaxation, validation, holding, facilitation, creation, giving (Kitwood 1997). Person-centred care can be seen as a recurring theme in the provision of quality dementia care (Brooker 2004; Edvardsson et al 2008; Scerrie et al 2019).

However, the definition of person-centred care is the subject of debate (Innes et al 2006), and there is a lack of consistency in how it is used (Brooker 2004;

McCormack 2004). Brooker and Latham (2011) propose four elements that constitute person centred care; valuing people with dementia and those that care for them, treating people as individuals, looking at the world from the perspective of the person with dementia, and a positive social environment to enable the person with dementia to experience relative well-being.

McCormack (2004) differs in his definition and argues that person-centred nursing has four alternative elements: being in relation (social relationships), being in a social world (biography and relationships), being in place (environmental conditions), and being in self (individual values). In contrast Edvardsson et al (2008) maintain that person centred care is exemplified by five other aspects; recognising that the personality of the person with dementia is concealed rather than lost, personalisation of the person's care environment, offering shared decision making, interpreting behaviours from the point of view of the person, and prioritising relationships as much as care tasks.

The lack of a standard definition may be one reason why person-centred care is not more strongly incorporated into organisational cultures (McCormack & McCance 2006; Kirkley et al 2010). Hence more recent focus has been on establishing the central characteristics of person-centred care and promoting these, and Edvardsson et al (2010) offer a useful distillation of the core categories as 'promoting a continuation of self and normality'. Ultimately this debate does not detract from the usefulness of the concept to inform research (Kontos 2005).

Background to the study

We live in an era marked by better standards of living, medical advances, and changes in lifestyle that have resulted in falling birth rates and greater longevity, causing an upward trend in the proportion of older people in the population (Goldberg et al 2012) Because they are fitter for longer, the oldest

and frailest elders are over represented in our typical hospital populations so that a large proportion of those within acute general hospital care will have some form of dementia or cognitive impairment (Sheehan et al 2016; Goldberg et al 2012; N.I.H.R. 2017).

It has been recognised that in addition to the effects of physical illness the unfamiliar surroundings, lack of support and anonymous physical environment of the hospital ward will exacerbate any confusion and sensory impairment (Waller 2012; Innes et al 2016). The combination of the busy setting and a lowered stress threshold can create experiences of haste, chaos and disorganisation for the older person which result in reactions such as anxiety, agitation and restlessness as a response to the sensory overload (Edvardsson et al 2010). This culminates not only in increased distress for the person but also a loss of independence in activities of daily living that make it less likely that they will return home upon discharge (Alzheimer's Society 2009; N.I.H.R. 2017). After a hospital admission 12% of people over 70 will experience a reduction in their ability to undertake activities of daily living, and older people who saw a deterioration in their balance and mobility in the first 48 hours of a hospital admission had a 17-fold increased risk of death within 14 days (N.I.H.R. 2017).

Consequently policy documents, such as, the N.I.C.E guidelines for Dementia (2019), the National Dementia Strategy for England, 'Living well with Dementia' (Department of Health (DoH) 2009), the revised Quality Outcomes for People with Dementia (DoH 2010), and the Scottish dementia strategies (Scottish Government 2010, 2013, 2017) all acknowledged the need for a better trained and educated workforce and ensuring that acute hospital care settings meet the needs of people with dementia. Despite these initiatives the care of older people in the acute general hospital setting has continued to be the subject of concerns about the quality of care delivered (Francis 2013). Two National Audits of Dementia in U.K. General Hospitals, (Young et al 2011; Young et al

2013), concluded that the lack of quality care in hospital settings was due to the inability of staff to meet the needs of patients with dementia in a person-centred way.

There is much evidence that nurses in acute care settings have negative views of caring for older people, that they are perceived of as dependent and cognitively diminished, (Dedeli et al 2013; Tadd et al 2011; Digby et al 2017), and more demanding and time consuming, (Oyetunde et al 2013; Clissett et al 2013), a reflection perhaps of the stigmatized views of older people within the wider society (Marshall 2010).

Some researchers argue that the older person with dementia may be subject to a 'double jeopardy', subject to discrimination based on their age and cognitive impairment, or even a 'triple jeopardy' or 'multiple jeopardies' related to age, cognitive impairment, social class and/or gender, sexual orientation or other variables (Dressler 1997; Innes 2009; Ferrira & Kalula 2010; Scott 2021). However, there is some criticism of the concept of 'jeopardies' in that it is seen as an overly simplistic concept which appears to view the person as a 'passive victim' (Blakemore & Boneham 1994; Minkler 1996). In response to this criticism Hulko (2009) offers the concept of 'intersectionality', which emphasises individual context and comparison to understand these interlocking oppressions.

Goffman (1961) in *Asylums* and *Stigma* (1963) hypothesised that the architecture of institutions reflected societal views on those they housed, so that the farm layouts reflected views of the incumbents as 'sub-normal' or animal like, the prison like structures aimed at confining the mentally 'immoral' or deviant from whom society must be protected. Innes (2009) describes the effects of stigma marginalising the needs of older people with dementia, which I would link to Goffman's analysis to explain not only our inherited settings but also the current lack of environmental provision for people with dementia in the

general hospital setting; the invisibility of specific resources to address their needs a product and reflection of their invisibility and lack of priority within the system (Tadd et al 2011).

The acute general hospital setting can be seen to have traditionally adopted a more biomedical approach, with individuals viewed as being the passive recipients of care rather than as active participants or partners in that process (Davis et al 2009). This philosophy is not only self-defeating in terms of achieving the therapeutic potentials for older people with dementia but its predominance influences the environment of that care, with Victorian hospitals designed for patients to have care interventions imposed upon them in mainly bed bound or chair bound conditions largely unchanged since the previous century, and Nightingale layouts with rows of beds in stifflingly close proximity to each other because patients were not encouraged to be independent. Hence, we are constricted by the architecture we have inherited that dictates a model of care that is no longer relevant or appropriate and inhibits therapeutic activity around the bed space (Marquarde 2011).

The Royal College of Psychiatrists (R.C.P.) 2011 state that appropriately designed environments for people with dementia have the potential to; promote independence, reduce the incidence of agitation, behaviours that challenge, and the prescription of ant-psychotic medication, improve nutrition and hydration, increase engagement in meaningful activities, encourage greater carer involvement, and improve staff morale, recruitment and retention. However, this can only be achieved if the design of the built environment reflects and augments the overarching ethos of a person-centered approach which respects and promotes the autonomy of the individual (Ballie 2012). As Davis et al (2009) observe, if staff caring for people with dementia have adopted a biomedical approach that views the individual as a 'victim' or 'sufferer' of dementia then it is more likely that they will be disabled rather than enabled by the activity, whatever its form.

The focus and format of this thesis

Although there is much anecdotal evidence that dementia friendly design can improve the patient experience in Acute General hospitals (Heath et al 2010), there is insufficient substantial research to evidence this (Day et al 2000; Fleming & Purandare 2010; Yates Bolton et al 2012; Fleming et al 2014; Marquardt et al 2014). Moos (1969) demonstrated that persons, settings, modes of response, and their interactions, each contributed statistically significant proportions of the total variance in behavior. Further, Moos & Smail (1974, 1997) identify that behavior cannot be understood in isolation from the environmental context in which it occurs. Consequently, physical and social environments must be studied together as neither can be understood alone (Moos & Smail 1974, 1997). Edvardsson et al (2011) too conclude that the ward environment goes beyond the physical aspects, with the actual characteristics of the staff acting as key catalysts for determining the psychosocial ward climate.

In the literature review the researcher attempts to offer a review of the literature examining the effect of the environment on people with dementia in acute general hospital settings within the United Kingdom (UK.). Because the environment encompasses both the built setting and the interplay of the psycho-social culture of care on the wards, (Moos 1969; Moos 1974, 1997), both these elements have been incorporated within the review which will include an overview of the background literature and both an integrative review of the international research regarding the built environment in care settings, and a systematic review of UK literature relating to nurses attitudes towards older people with dementia.

Within the methodology chapter I will attempt to show how these previous studies have informed the present research and my attempts to address both gaps in the literature and in the availability of validated tools to use for future

research in this area. In the results chapter I will explore how far the research questions have been addressed and how successful the methodology has been in achieving this.

How far the findings relate to the wider literature will be discussed further in the concluding chapter to this work. This section will further explore the themes emerging from the study in relation to the wider literature in this area and will include a discussion of issues that emerged during the research that resonate with previous work in this field. The discussion will encompass the complexities of undertaking research within the acute general hospital setting and an elaboration on the extent to which the research questions have been addressed. There will also be an attempt to delineate how this work contributes to the body of knowledge in the area, the methodological contribution, the theoretical contribution within the paradigm of Praxis, (Lather 1986), and the practical contribution/implications of the findings for clinical practice.

2) Literature review

Introduction

This section attempts to offer a review of the literature examining the effect of the environment on people with dementia in acute general hospital settings within the United Kingdom (UK.). Because the environment encompasses both the built setting and the interplay of the psycho-social culture of care on the wards, (Moos & Smail 1974, 1997), both these elements have been incorporated within this section, which will include both an integrative review of the international research regarding the built environment of care settings, and a systematic review of UK literature relating to nurses' attitudes towards older people with dementia or confusion. The findings will be utilised to both justify the present research and explain how they have influenced the methodology. The wider literature on therapeutic environments within which these reviews are positioned offers a useful background to these reviews and I will first attempt to give an overview of this literature.

Overview of the wider literature on therapeutic health care environments

The impact that treatment environments have on the patients and staff who inhabit them has been long recognised (Moos & Smail 1974, 1997). This is illustrated by early research such as Rappaport's (1960) study which was the first to evaluate the effectiveness of a therapeutic community programme, and Goffman (1961) who described the 'total institutions' of the asylums and the negative effects on their inhabitants of restricted social interchange and activity. The work of Moos (1969; 1974, 1997) identified that human behavior cannot be understood in isolation from the environmental context in which it takes place so that physical and social environments must be studied together, in what he describes as a social ecological approach.

The seminal work of Moos (1974, 1997) in developing frameworks to evaluate healthcare treatment environments made a considerable contribution to understanding the relationships between different variables of the physical and psycho-social environment. Moos (2002) also offered a guiding conceptual framework of 8 propositions about the environment and coping, and 8 enigmas from which to model processes. The role that the health environment has in the healing process continues to be an area of development across a range of health and architectural professionals (Ruga 1989; Martin et al 1990; Devlin 1992; Ulrich 1992; Devlin 1995; Ulrich 1995; Devlin & Arneill 2003).

Zeisal et al (1994) constructed an integrative environment-behaviour approach for people with dementia which combined a number of existing models (Lawton 1987; Calkins 1988; Cohen & Weisman 1991; Hiatt 1991). It compensated for the functional losses of dementia by linking environments and care giving actions to specific brain dysfunctions (Zeisel & Raia 2000). An alternative approach evolved from the social disability model which focused upon compensating for disability and maximizing independence (Fleming & Bowles 1987; Marshall 1998; Fleming et al 2008; Fleming & Purundare 2000). Davis et al (2009) however advocated a model which focused on 'experience' rather than 'condition' and creating 'friendly' environments with a focus of the person with dementia being an active participant in life not a passive recipient of care. This contrasted with the approach of Morgan & Stewart (1999) who offered a model based on Algase et al's (1996) Need-Driven dementia compromised behaviour model. They focused on the needs of the person with dementia within a person-environment interaction perspective, with recommendations intended to decrease disruptive behaviour by the person with dementia by meeting their needs.

With the rise of the disability movement and a shift towards a social model of disability, there was evidence of more awareness on the therapeutic potential of environmental design for people with dementia (Day et al 2000; Woodbridge

et al 2018). In the wider health and design fields it was also being recognised that adaptations to the physical and social environment could have a positive effect on patient outcomes (Ulrich 1984; Verderber & Reuman 1987; Davidson 1994; Lemprecht 1996).

The literature reflects a number of different construction themes related to health care buildings; optimal size, linear or compact layout, high rise or smaller scale (Verderber & Fine 2000; Devlin and Arneill 2003). The form of the buildings reflected this debate, ranging from; the 'matchbox and muffin' with a central tower surrounded by supporting services, the village model and the shopping mall building type (McLaughlan 1976; Nesmith 1995). In addition to a focus on specific building types (Trites et al 1970; McLaughlan 1976; Nesmith 1995; Verderber & Fine 2000), Devlin and Arneill (2003) identify three main themes to this research; patient involvement in their health care, a focus on aspects of the ambient environment, and an identification of the needs of special populations.

Patient involvement in their health care

In tandem with the development of rights-based approaches to dementia (Shakespeare et al 2019) and the emergence of a debate around citizenship (Bartlett & O'Connor 2010), there has been a parallel focus in the wider health and design field upon patient centred-care and increasing the patient's control over their environment (Proshansky et al 1970; Taylor 1979; Steptoe & Appels 1989; Birdsong & Leibrock 1990; Sherer 1993; Ulrich 1992; Weber 1996; Verderber & Fine 2000). In the U.S.A. in the early 1990's this manifested itself as a 'culture change' towards resident-centred care (Banaszak-Holl et al 2013).

Unfortunately, there is no clear universally applied definition of the patient-centred or resident-centred concept in terms of health care design (Sherer 1993), with some debate as to the goals of patient centred-care and services

(Cleary et al 1993). Cleary et al (1993) offer a definition of the patient-centred approach in health care design as a model of care and services designed from the perspective of the patient. The Planetree model which emphasises creating a homelike environment for patients who are encouraged to be partners in their care is an example of the application of this patient-centred approach (Martin et al 1990). Studies have demonstrated that Planetree units in the U.S. were evaluated more positively than standard units by patients, visitors, and staff in terms of the environment, communication and responsiveness (Devlin 1995; Martin et al 1998). Although the research demonstrates positive outcomes solely in terms of qualitative issues such as patient satisfaction, and there was a lack of comprehensive evaluation related to other forms of outcome (Devlin and Arneill 2003).

Ambient environments

Ambient environments have also been the subject of much interest in health care design (Devlin and Arneill 2003). In particular there has been a recognition of the negative effects of factors such as: noise, temperature, lighting and density (Topf 1984), leading to sensory overload (Baker 1984; Dracup 1988; Baker 1993). Noise is identified as stressful and confusing for patients (Hilton 1985; Cropp et al 1994) and also stressful for staff (Topf & Dillon 1988). In addition, it is seen as interfering with healing by disrupting sleep (Simpson et al 1996; Topf & Davis 1993; Topf et al 1996). In terms of positive noise, there were mixed results of using music as a therapeutic intervention (Davis-Rollans & Cunningham 1987; Zimmerman et al 1988; White 1992). Although there was some evidence of a reduction of perceived pain (Menegazzi et al 1991), and anxiety (Moss 1988).

The presence or absence of a window has also been the focus of research (Ulrich 1984; Verderber 1982; Verderber 1986; Verderber et al 1987; Rubin & Owens 1996). The presence of a window being found to shorten post-operative

hospital stays (Ulrich 1984) and a lesser incidence of developing delirium (Wilson 1972). This is postulated to be because they are a source of natural light (Heerwagen & Heerwagen 1986) and provide a view of nature (Kaplan et al 1972; Ulrich 1981; Ulrich et al 1990; Ulrich et al 1991).

Lighting is identified as an important element in health care design (Koch 1991), in particular bright indirect lighting (Kolanowski 1992), which reduces glare (Benya 1989), and can enhance cues (Kolanowski 1992). The use of colour in relation to providing cues is also examined, with links made to wayfinding in particular (Cooper et al 1989).

The needs of special populations

There has also been a proliferation of research regarding the types of units for specialised populations, such as older people (Verderber & Fine 2000) and in particular older people who have dementia (Devlin and Arneil 2003). These evaluate physical elements to the environment that improve functioning (Cohen & Wiseman 1991; Landefeld et al 1995).

These include, creating a homelike atmosphere that addresses sensory limitations (Cohen & Wiseman 1991; Landefeld et al 1995), and an open treatment area creating a complete view of the space, reduced numbers sharing bedrooms and better lighting (Liebowitz et al 1979; Kromm & Kromm 1985). Also: increasing cues by use of orientation boards, provision of clocks and calendars, personalising of spaces and colour coding (Benson et al 1987; Cohen & Wiseman 1991, Palmer et al 1998), and the use of passive restraints instead of more overt forms (Hussain & Brown 1987; Namazi et al 1989). Some facilities have extended this further to incorporate simulated community centres with shops and restaurants (Guynes 1990).

The users view

The wider design literature also reflects a debate on the importance of the user or occupants' views. Although there has been a move toward more post occupancy evaluations (Shumaker & Pequegnat 1989), Heylighen & Bianchin (2013) indicate that inclusivity in the design and planning process has traditionally been given a low priority in the architectural industry. It is argued that the lived experience of a built environment is a fundamental consideration (Van Steenwinkle et al 2012), and that there needs to be an acknowledgement of the service user as the expert in identifying their own needs (Heylighen et al 2013).

With regard to dementia in particular there has been a recognition that only by focusing upon the subjective experience of space and place can we attempt to understand the complex interaction of dementia and the environment. Brorsson et al (2011) call for a more transactional perspective that views the experience of the environment for the person with dementia not just in terms of the physical place but one that embodies the social, cultural, and political dimensions it characterises.

Discussion

The need for more research-based design is a running theme throughout the literature (Verderber & Refuerzo 1999; Devlin and Arneill 2003). This encompasses the requirement to provide evidence for the positive effects of patient-centred environments (Sherer 1993; Redman & Jones 1998; Devlin and Arneil 2003), and also in relation to some of the recommendations regarding environments for people with dementia (Devlin and Arneill 2003). The lack of robust research and in particular the dearth of nursing research on the relationship between the patient and the environment was a repeated subject of

concern in the literature (Lawton et al 1970; Kolanowski 1992; Sherer 1993; Devlin and Arneill 2003) and constitutes one element of the justification for the present study.

Literature review- the built environment

This section reviews the literature assessing the effects of the built environment on people with dementia or other types of confusion.

Research question

What are the effects of the built environment on people with dementia in acute hospital settings within the U.K.?

Method

This review takes the format of an integrative review of the literature relating to the effects of the physical environment on people over the age of 65 years who have dementia or some other form of confusion. An integrative review is one that summarises theoretical and experimental research and information to develop a broad understanding of the concepts and issues (Aveyard 2019). The rationale for this type of review was that it allowed for the incorporation of various approaches which was more suitable for the synthesis of a broad spectrum of information (Aveyard 2019). Because there were insufficient studies about acute general hospital settings the search was widened to in an extended array of settings. The resulting literature encompassed a variety of care environments, but this was considered to be appropriate as the findings related to these studies were transferable to the hospital milieu (Aveyard 2019).

The search terms included: older people, dementia, aged, physical environment, built environment, home, nursing home, assisted living, day care,

hospital, residential care, public places, resident room, privacy, security, safety, behavioural changes, behavioural modifications. The following databases were used for the electronic searches: CINAHL, MEDLINE, PubMed, psych.info, Google scholar, Cochrane. In addition, the reference lists of studies were hand searched for related research (see tables 1, 2 & 3).

Table 1. PEO model.

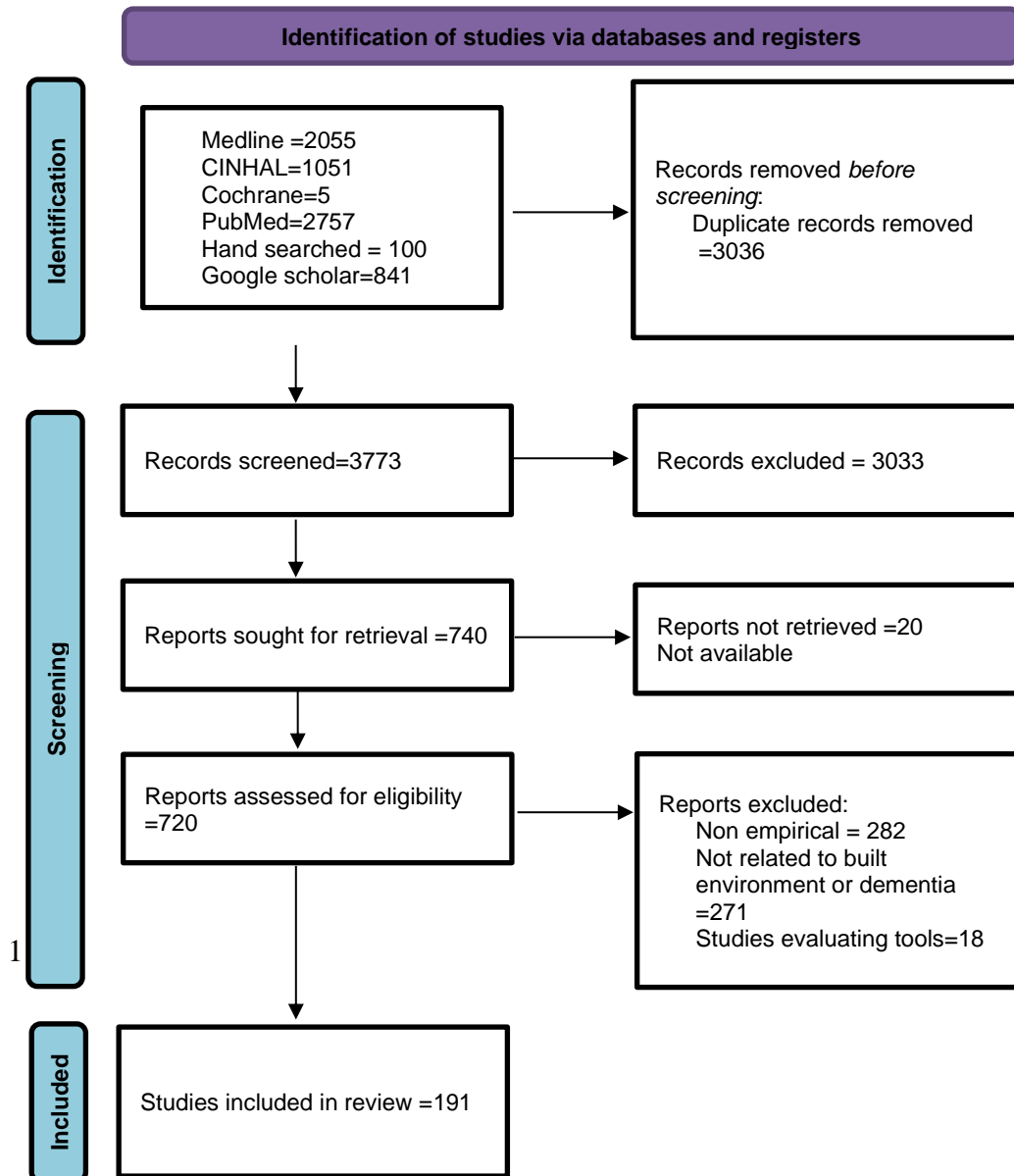
P (Population)	Over 65yrs, with dementia or cognitive impairment
E (Exposure)	In care environments
O (Outcome)	The influence of the physical environment effecting care, functioning or quality of life

As there were insufficient UK studies, the search was widened to international studies. It was considered that Westernised cultures were the most appropriately comparable to the U.K. population and hence studies from the United States, Canada, Australia, Western Europe and developed countries in Asia were included with studies outside these regions excluded, as they might not constitute homogenous populations (Aveyard 2019). Only articles published in English were included, and only studies concerned with people over the age of 65 years with dementia or some form of cognitive impairment were included. The study time focus was over the past 40 years, the longer time frame being used to maximise the available data (Aveyard 2019). From the initial search results of 3773 papers 720 were included for further examination and this figure further reduced to 211 possible papers for hand searching. Only research articles included in the final selection (see tables 1, 2 & 3).

Table 2. Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Qualitative, quantitative or mixed methods research studies	Commentaries, editorials, anecdotal studies
Published in the English language	Research published in other languages
Published in the last 40 years	Unpublished work
Primary research, reviews of primary research	Non empirical studies
Full text research articles/studies. Literature reviews, best practice guidelines	Letters, editorials, commentaries, non-peer reviewed sources
Including older patients/persons (65+)	People under 65yrs
Including people with cognitive impairment in care facilities	People living at home/ in non-residential care facilities
Research assessing effects of physical environment	Research assessing other factors
Research conducted in Westernised countries	Research conducted in emerging nations

Table 3. Search strategy



PRISMA (2020)

Quality appraisal

The Critical Appraisal Skills Programme (CASP) (2013) was utilised to appraise the quality of the studies. A range of question sets are available to cover the whole spectrum of qualitative and quantitative research, with questions related to the credibility, rigour, and relevance of the research (CASP 2018). I then used the CASP numerical framework to rate the studies as high, medium, or low quality, with 58 assessed as being of high, 125 of medium quality and 28 as being of low quality. These were applied to a thematic appraisal of 9 areas of focus: the effects of the immediate surroundings, safety features, light and stimuli, signage and visual cues, homeliness, outdoor spaces, special care units, a sense of community, and specific dementia friendly hospital settings. Using the Marquardt et al (2014) system, interventions were summarised into groups and arrayed by evidence level. The groups were:

- 1) Behaviour, e.g., agitation, eating behaviour, psychiatric symptoms, violence, wandering.
- 2) Cognition, e.g., attention, cognitive performance.
- 3) Function, e.g., activities of daily living, falls, mobility.
- 4) Well-being, e.g., depressive symptoms, mood, quality of life.
- 5) Social abilities, e.g., engagement, social interaction.
- 6) Orientation, e.g., wayfinding.
- 7) Care outcomes, e.g., medication, oral intake, physical restraint use, sleep.

The findings

The areas of focus in this review include: the effects of the immediate surroundings, safety features, light and stimuli, signage and visual cues, homeliness, outdoor spaces, special care units, a sense of community, and specific dementia friendly hospital settings.

The immediate surroundings

Total visual access as described by Van Hoof and Kort (2009), would assist the independence and wellbeing of the person with dementia; a simple open plan design with no institutional type corridors to increase restlessness and aggression (Fleming & Bowles 1987; Neeten 1989; Cohen-Mansfield et al 1990; Elmstahl, Annerstedt & Ahlund 1997; Passini et al 2000; Marquardt & Schmiege 2009; Hagglund & Hagglund 2010). And with a clearly visible toilet to promote continence, (Namazi & Johnson 1991), particularly if it is visible from the bed (Grealy et al 2005). Therefore, providing cues that orientate a person to their surroundings can reduce agitation and support wellbeing by assisting them to navigate the built environment appropriately.

A comfortable room temperature has been found to reduce agitated behaviours (Cohen-Mansfield & Werner 1995; Cohen-Mansfield & Parpura-Gill 1997), and positively affect quality of life (Leung et al 2019). Conversely an uncomfortable room temperature was said to affect well-being (Garre-Olmo et al 2012). However not all these findings have been supported in other research (Algase et al 2010) and indicate the need for further research in this area.

The provision of single personalised rooms and controlled sensory input can be associated with improved sleep patterns (Morgan & Stewart 1998) and lessened anxiety and aggression, (Morgan & Stewart 1998; 1989; Zeisel et al 2003), and improved quality of life (Leung et al 2020). Some studies noted that there was more engaged behaviour and less conflict amongst residents in double verses multi-occupancy bedrooms, (Cutler & Kane 2002; Hsieh 2010), with more violent behaviour in units with a higher number of residents (Isaksson et al 2009; Nelson 2005). However other studies found nil or conflicting impact of room size on behaviour and engagement (Bowie & Mountain 1997; Elmstahl et al 1997; Morgan & Stewart 1999; Zuidema et al 2010). Unfortunately, these descriptions of ideal settings are the antithesis of most acute general hospitals,

many of which remain in Victorian buildings which utilise Nightingale type ward layouts (Yates Bolton et al 2012).

The size of the care setting is also considered important in the literature, with larger facilities being more confusing for residents and more likely to increase agitation (Sloan et al 1998; Hagglund & Hagglund 2010). Also, smaller groups facilitate the provision of higher quality care, (Annerstedt 1993; Reimer et al 2004), and specialised approaches, (Sloan et al 1998). However, there are contradictory studies that found less social withdrawal in larger units (Zeisel et al 2003), or that found no connection between size of facility and neuropsychiatric symptoms, (Zuidema et al 2009).

Unfortunately, there is no agreed definition of what constitutes a 'small' unit (de Boer 2018). The provision of smaller units of care is also more problematic in general hospital settings and the lack of definitive research makes financial investment less likely in an era of budgetary restraint (Yates Bolton et al 2012). However, these studies would indicate benefits to sub-dividing large hospital ward layouts to make them more manageable and less alienating.

Safety features

Unobtrusive safety measures to provide a secure perimeter, such as electronic locks or camouflaged exits, have been described as giving residents a greater sense of control and empowerment and reducing experienced depression, (Cooper et al 1989; Zeisel et al 2003) Methods can include placing a horizontal grid of black tape in front of an exit, (Hewawasam 1996); or the presence of a mirror over the front of an exit, (Mayer and Darby 1991); and hiding the latch behind a cloth panel, (Dickinson and McLain-Kark 1998). Using such passive restraints can remove the impetus to use more active restraints, for example, sedation, in acute general hospital settings, although it must be stated that there are ethical issues connected to using any type of restraint (Charras et al

2016; Graham 2019), and in particular with the use of electronic entry systems and electronic surveillance (Graham 2019), or GPS sensors (Ray et al 2019).

The type of flooring can also have an impact on the incidence of falls and the severity of injuries (Warren & Hanger 2013; Latimer et al 2013; Drahota et al 2013; Mackey et al 2019). Avoiding the use of highly contrasting flooring can minimise instability and falls, (Passini et al 2000; Perrit et al 2005), as can avoiding reflected glare on glossy surfaces, (Bakker 2003), and the use of floor colour to highlight the transition from one area to another can assist in independent walking, (Gutman 2005). Also, the use of handrails or 'grab bars' can enhance safety and aid wayfinding (Sanford & Megrew 1995; Rousek & Hallbeck 2011). These features are of course of great significance in the hospital setting where supervision is often limited.

Light and stimuli

The use of light and stimuli offer potential for application within the general hospital setting, natural daylight in particular has been identified as being important for the health and well-being of patients in hospital settings (Heerwagen & Heerwagen 1986; Trochelman et al 2012; Browall et al 2013). Some studies (Satlin et al 1992; Kolanowski 1992; Koss & Gilmore 1998; Thorpe et al 2000; Brush et al 2002; Ancoli-israel et al 2003; La Garce 2004; Sloane et al 2007; Kyle 2017; Leung et al 2019; Leung et al 2020; Delf et al 2021) described benefits from light stimulation and intensity of lighting in terms of functioning and stimulation. The DSDC (2007; 2012) also recommend double the level of illumination to assist people with dementia in performing activities of daily living. The evidence is not completely unequivocal though with Algase et al (2010) finding that brighter lighting caused more 'wandering'.

Cleary et al (1988) explored the effects of reducing negative stimuli such as noise, and found that this reduced patients' weight loss, agitation, and the need

for physical restraint use. High noise levels have been associated with stress (Hilton 1985; Cropp et al 1994) and interfere with sleep (Simpson et al 1996; Topf & Davis 1993; Topf et al 1996). Noise was also found to increase aggressive or agitated behaviours, (Cohen-Mansfield & Werner 1995; Nelson 1995; Joosse 2009; Algase et al 2010; Garcia et al 2012).

There is also strong evidence of less verbal aggression where sensory input is more understandable and more controlled (Namazi et al 1989; Dickinson et al 1995; Zeisel et al 2003; Barrick et al 2010; Garcia et al 2012; Jensen & Padilla 2017). In addition, increasing positive stimuli, such as multisensory environments, were found to have benefits in terms of increased perceptions of pleasure and reducing agitated behaviour (Cohen-Mansfield & Werner 1995; Cox et al 2004; Yao & Algase 2006). Although there was a need to control the sensory stimulation in order not to cause overload and produce a negative effect (Ragneskog et al 1998; Algase et al 2010). These studies have huge implications for the general hospital setting where poor lighting, noisy and busy environments with poor levels of personal stimulation are the norm (Yates-Bolton et al 2012).

Signage and visual cues

There is much anecdotal evidence that signage and visual cues can be of benefit, (Brawley 1997; Stokes 2002; Davis et al 2007; Davis et al 2009). Although there is weak empirical evidence for their use, (Fleming and Purandare 2010; Marquardet et al 2014; Chaudhury et al 2017), some studies have suggested that the provision of signs and aids to way finding has been associated with a reduction in behavioural symptoms, (Bianchetti et al 1997). The placement and nature of signs is thought to be important in way finding; with the use of words in addition to pictograms and placed at lower heights to be most effective (Namazi & Johnson 1991; Wilkinson et al 1995; Rainville et al

2001). The display of personal memorabilia is also suggested as aiding way finding (Lawton et al 1984; Namazi et al 1991; Cohen & Wiseman 1991; Nolan et al 2001; van Hoof et al 2016). Colour contrasts in rooms can act as cues to wayfinding (Gibson et al 2004), although there is conflicting evidence for this (Cooper et al 1989; Cohen & Wiseman 1991; Wijk & Sivik 1996).

The scanty or conflicting research in this area does not detract from the usefulness of the findings in the hospital setting. As (Marshall 1999) puts it, the hospital setting can always be made more comprehensible and dementia friendly even if this is just in the use of pictorial toilet signs. The lack of visual cues is a significant factor in general hospitals, the long featureless corridors and identical beds compounding the disorientation of older people, (Smith 2001; Yates-Bolton et al 2012). Some acute general hospitals have incorporated environmental cues and have used different coloured bays and lino to help distinguish areas for confused patients, (NHS Confederation 2010). There are simple and low-cost measures that can help in hospital environments, for example, painting doors like toilets or bathrooms, in a dominant colour so that they are more easily distinguished from the surrounding walls. Whereas to discourage use by cognitively impaired people, (like the doors to the main concourse or fire doors), to paint them the same colour as the surrounding wall so that they are not easily distinguished.

Homeliness

Fleming and Purandare (2010) did not find definite evidence of the positive impact of homelike environments, although there are studies that support these as being of benefit (Cohen & Weisman 1991; Smith et al 2007; Access Economics 2009, Garcia et al 2012; van Hoof et al 2016; Marquardt et al 2014; Chaudhury et al 2017; Beck et al 2018; Farsana 2018). Some studies indicate that a homelike environment reduces aggression; improves social interaction, quality of life and eating behaviour (Melin & Gotestam 1981; Gotestam & Melin

1987; Negley & Maley 1990; Morgan & Stewart 1999; Zeisel et al 2003; Charras et al 2010; Smit et al 2014; Smit et al 2016; De Boer et al 2018; Beck et al 2018; Farsana et al 2018).

A more homelike environment can also reduce falling incidents and medication use (Reimer et al 2004; Verbeek et al 2010).

More homelike environments with corridors reduce agitation and pacing; and provision of homelike environments offer opportunities to engage with ordinary activities and individual routines (Cohen-Mansfield and Werner 1998; Morgan-Brown et al 2013). The time that residents spent in active behaviour has been shown to be associated with the provision of a variety of spaces, (Morgan-Brown et al 2013). The opportunity to increase the familiarity of surroundings by bringing in their own belongings has been associated with the maintenance of activities of daily living and reductions in aggression, anxiety, and depression (Annerstedt 1997; van Hoof et al 2016).

Fleming et al (2014) explored the environmental and physical characteristics that are associated with quality of life for people with dementia living in residential care. They concluded that higher quality of life is associated with buildings that facilitate engagement with a variety of activities both indoors and outside, are familiar; provide a variety of private and community spaces and the resources and opportunity to engage in domestic activities. Other studies supported this assertion (Gnaedinger et al 2007; Charras et al 2010; Garcia et al 2012). Although these were not unequivocal findings (Samus et al 2005), I would conclude that there is sufficient evidence to support adapting hospital ward environments to incorporate more homelike and familiar features that enhance engagement.

Outdoor spaces

Similarly, there was limited conclusive evidence for the benefits of access to outdoor spaces per se; but evidence of benefit when combined with staff interaction, (Namazi & Johnson 1992; Cox et al 2004); and benefits of physical exercise on fitness, cognitive function, and behaviour, (Heyn et al 2004; Jensen & Padilla 2017; Trueland 2017; Wu et al 2021); and sleep patterns, (Alessi et al 2005). The provision of a walking path has been associated with lower levels of agitation (Zeisel et al 2003; Jensen & Padilla 2017), and access to an outside area is associated with reduced sadness and increased pleasure and enhanced autonomy (Cox et al 2004; De Boer et al 2018).

However, the evidence is conflicting; Cox et al (2004) indicate that there is an increase in pleasure in being in a landscaped garden, and Mooney (1992) that the availability of a garden appeared to reduce agitation and falls; but, Wells & Jorm (1987) state that it is not possible to identify the contribution an outside area has made to beneficial effects, while Chafetz (1991) indicated that there was no difference in behavioural or cognitive decline associated with the use of a garden.

Not all the literature provides sufficient evidence, for example Zeisel et al (2003) refer to the presence of a garden but do not give any detail about actual access to a garden by residents. As De Boer et al (2018) indicate the availability of potentially beneficial physical environments did not automatically lead to the use of those facilities. Wood et al (2005) also indicate that lack of access is associated with staff practices and that the presence of an outside space had no effect that could not be seen as secondary to the impact of the carer/resident relationships. Again, there is much anecdotal and international best practice evidence to support their use despite weak empirical evidence, (Bakker 2003; Blackman et al 2007; DSDC 2007; Van Hoof and Kort 2009; DSDC 2012, Marquardt et al 2014; Chaudhury et al 2018). Although outdoor

spaces cannot be available in all hospital environments, one could assert that it is feasible to support their use even if that only means access to a view of the outdoor space if further access is limited.

A sense of community

The importance of community to the well-being of people with dementia is an emerging field of research (Tuckett et al 2017). The literature indicates that facilities should be located close to the community of origin to tap into the longer term memories of people with dementia, (Fleming & Bowles 1987; Ward et al 2018; Orth et al 2020; Wu et al 2018; Ellingsen- Dalskau et al 2021), but there is no empirical evidence to support this. The difficulty of separating the built from the social environment is highlighted in the social context and meaning ascribed to community landmarks (Brorsson et al 2011). This can have a negative connotation in the acute general hospital setting where many hospital buildings may have emerged from the original poor law workhouses and infirmaries and may be associated with feelings of dread and shame in the longer-term memories of older people who have cognitive impairment (Rowe 2003).

Special care units

Special care units (S.C.U.'s) are facilities within residential care that offer more tailored care for older people who have cognitive impairment. Some studies found that these units contributed to a reduction in agitated behaviour (Kovach & Stearns 1994; Bianchetti et al 1997; Bellelli et al 1998; Wilkes et al 2005). Although this was contradicted in other research (Wells & Jorm 1987; Mathew et al 1988; Holmes et al 1990; Chafetz 1991; Leon & Ory 1999). The units were also said to enhance socialising and social interaction (Swanson et al 1993; Kovach et al 1997; Weyerer et al 2010), and well-being (Abrahamson et al

2012) although there is disagreement regarding this latter point (Wells & Jorm 1987).

Conflicting evidence exists regarding enhanced function for those cared for in S.C.U.'s, with improved function identified in some studies (Benson et al 1987; Rovner et al 1990), but not in others (Mathew et al 1988; Holmes et al 1990; Webber et al 1995; Phillips et al 1997; Bianchetti et al 1997; Nobili et al 2008). Similarly there are mixed findings on whether such units have a positive effect on cognition (Webber et al 1995) or not (Wells & Jorm 1987; Holmes et al 1990; Chafetz 1991; Bianchetti 1997; Nobili et al 2008), and can foster feelings of personhood and autonomy (Donovan & Dupuis 2000). There are indications that there is lessened restraint use in S.C.U.'s (Webber et al 1995; Bellelli et al 1998; Nobili et al 2008; Weyerer et al 2010), and some studies reported less use of psychotropic medication (Bianchetti et al 1997; Bellelli et al 1998; Nobili et al 2008) while others found exactly the opposite (Mathew et al 1988).

It is difficult to discern how far S.C. U.'s relate to adapted dementia friendly ward environments and how relevant the research relating to them is to this study. The components and elements of S.C.U.'s are not standardised and size, number of residents, and layout either vary greatly or are not fully described (Marquardt et al 2014; Fleming et al 2008). For example, Leon & Ory (1999) describe a 'large' unit as over 150 beds, with the corollary that a 'small' unit can be up to 149 beds. There is also a lack of information about details such as training for staff, staffing ratios, ethos, therapeutic activities provided or patient/carer involvement in care (Marquardt et al 2014; Donovan & Dupuis 2000). It is not clear if the S.C.U.'s can be seen only in context of the built environment and how influential the psycho-social culture of these environments may be (McAllister & Silverman 1999). Also, some of the studies are methodological weak, not controlling for factors such as levels of dementia or different care practices, e.g., Torrington (2006), or lacking sufficient detail, e.g., Cox et al (2004), or statistical analysis, e.g., Annerstedt (1997).

This lack of clarity may have contributed to the conflicting research findings as the environments studied may have been far from homogenous (Fleming et al 2008; Marquardt et al 2014). The lack of robust empirical evidence in this area limits the transferability of the findings and indicates the need for further research (Marquardt et al 2014).

Hospital settings

Parke et al (2017) indicate that there are a dearth of studies that explore the effects of a more dementia friendly physical hospital environment for older people who have a cognitive impairment, but that this should be an imperative as once hospitalised they are currently likely to experience a loss of function that results in increased readmission, increased morbidity, earlier mortality, and high rates of long-term care placement (Parke et al 2017). Consequently, they advocate an environment that incorporates 3 elements: that it fosters confidence, autonomy, independence, and problem solving; that it promotes harm reduction by facilitating safe mobility, reduces stress and anxiety, supports cognition and sleep; that it facilitates family contact and family involvement in care (Parke et al 2017).

Their recommendations are supported by the work of Digby and Bloomer (2014) who interviewed people with dementia to explore their experiences of hospitalisation. The findings indicate that privacy and homeliness were rated as important in improving the overall experience, although the quality of care received was deemed more important than the built environment per se.

However, a dementia friendly built environment was identified as being of benefit to older people who have a cognitive impairment in research connected with The King's Fund project 'Enhancing the Healing Environments (EHE) (The King's Fund 2013). This project identified 5 design principles to increase

therapeutic activity and improve orientation; space for activities such as reading and reminiscence, indoor and outdoor spaces with handrails and resting points to facilitate walking, measures to improve orientation and wayfinding, removal of nursing stations to improve the visibility of staff, enhancing familiarity through use of personalised spaces and traditional crockery, etc. Evaluations of the project in different Trusts identified reductions in both violent episodes and in patient falls in corridors and lounges (Sprinks 2012, The King Fund 2013).

A reduction in falls was also identified in an evaluation of 'bay nursing' on a specialist ward for people with dementia or delirium at Addenbrookes Hospital in England (Bray et al 2015). In this study 'bay nursing' was described as providing designated nursing staff who are available to patients throughout their shift and who engaged in extended activities for patients and their families. The authors also indicated a reduction in hospital-acquired pressure ulcers and that patients reported feeling safer and more involved in their care (Bray et al 2015).

In addition, Brooke & Semlyen (2019) also identified that a dementia friendly ward environment, based on the recommendations of the Dementia Friendly Hospital Charter (Dementia Action Alliance 2018) and the Royal College of Nursing (R.C.N. 2013), was perceived by nurses to have resulted in a more available nurse presence and of being an environment that facilitated a more person-centred approach to care. However, they also found evidence of resistance to change amongst some of the nursing respondents and identified that these staff felt that change had been imposed upon them, they conclude that better change management processes should have been employed by the organisation. The study concentrated on nurse perceptions and attitudes but did not explore changes in nurse behaviour or actual care planning and care delivery on those wards.

Godfrey et al (2018) also cite organisational factors as being fundamental to improving care or acting as restraints to those improvements. This longitudinal study of 10 wards in 5 acute NHS Trusts evaluated the impact of using the Patient Interaction and Engagement (P.I.E.) programme in the care of people with dementia on acute wards. They noted that people with cognitive impairment contributed to at least half of the patient profile on the wards and that environmental improvements had already been introduced on most of the wards to incorporate some dementia friendly features. They concluded that where the P.I.E. programme had been adopted it had positively affected the experience of patients and caregivers but could not draw any conclusions about care outcomes due to poor data collection. They conclude that changing practice in such complex organisations requires a more in-depth understanding of the contextual factors that impact on the capacity to absorb and embed new practice.

Although the available evidence for dementia friendly hospital design would seem to indicate some benefits to older people with cognitive impairment (Digby and Bloomer 2014), there is a lack of research from which to make generalisations or assertions (Brooke & Semlyen 2019). Without further research we are hampered in terms of targeting resources and lobbying for those resources, and this constitutes the justification for the present study.

Summary

The literature regarding the built environment has demonstrated that there is a plethora of evidence regarding specific physical features of the environment that contribute toward; behaviour, cognition, functioning, well-being, social abilities, orientation, and care outcomes (see table 4). Of the studies 50 were assessed as being of high quality, 110 of medium quality and 31 as being of low quality (CASP 2013). Although the quality of the research appears to vary, with some authors failing to describe the methods or criteria in sufficient detail, e.g.,

Samus et al 2005, although a lack of reporting did not necessarily mean that it was poorly conducted research, just that it did not demonstrate this sufficiently (Sattar et al 2021). Some of the studies are methodological weak, not controlling for factors such as levels of dementia or different care practices, e.g., Torrington (2006), or lacking sufficient statistical analysis, e.g., Annerstedt (1997). However, they do provide sufficient information with which to make recommendations for good practice (Fleming et al 2008; Fleming and Purandare 2010; Marquardt et al 2014; Fleming et al 2014), which I shall discuss further later in this chapter.

There is less clarity on the impact that specialist units have in providing a more appropriate care environment, with a disappointing lack of detail about the components and elements of S.C.U.'s that inhibit the ability to generalise in any depth regarding the findings (Marquardt et al 2014) or discuss how transferable those findings are to acute general hospital wards. There are more considerable gaps in the available literature directly related to dementia friendly physical environments in acute general hospital wards (Parke et al 2017). Although there is some research indicating that a dementia friendly hospital design would seem to offer benefits to older people with a cognitive impairment (Sprinks 2012; The King Fund 2013; Digby and Bloomer 2014; Bray et al 2015; Godfrey et al 2018; Brooke & Semlyen 2019), there is a lack of evidence from which to make generalisations or assertions (Brooke & Semlyen 2019). The consequent need to add to the body of knowledge in this area is a justification of the present study.

Table 4) Impact of design

Theme	Stud ies	Behav iour	Cogni tion	Funct ion,	Wellb eing	Soci al abili ties	Orient ation	Care outco mes
Immedi ate surroun dings	30	27	0	2	3	9	5	1
Safety feature s	18	10	2	2	1	0	14	3
Light & stimuli	41	20	5	5	8	0	0	10
Signag e & visual cues	24	2	2	2	4	6	13	2
Homeli ness	30	21	6	9	23	25	2	7
Outdoo r spaces	16	16	6	6	5	4	1	1
S.C.U.	23	6	1	2	1	3	0	7
Sense of commu nity	5	2	3	0	3		4	0
Dement ia friendly hospital	5	1	2	2	0	1	1	3

Key: number in each group indicates the studies that established a relationship (positive or negative).

Literature review-the psycho-social environment of care

The built environment is also inextricably linked to the mores and attitudes of those that inhabit them in determining the culture of care on a ward (Moos 1997). Consequently, this next section will explore the psycho-social components of a care environment. This section aims to review the literature examining the attitudes of nurses toward the older people they care for in the United Kingdom (U.K.), and to establish the extent to which the research has made the link between the built environment and the psycho-social environment of care

Research question

What are nurses' attitudes towards older people with dementia in U.K. acute hospital settings?

Method

This literature review took the form of a systematic review, the justification for this being that it not only represented an appropriately analytical method to examine a range of research, but that it is also considered to constitute a high standard of academic rigour (Aveyard 2019). A systematic review enables qualitative research and information about care to be viewed within a particular context and compared with other similar qualitative research and information so that its impact can be evaluated systematically to inform evidence-based care (Aveyard 2019). Studies were included if they reported nurses' attitudes towards older people and older patients (defined as those aged 65 years and older) in the UK. The second selection criteria was primary research measuring attitudes. The following exclusion criteria were applied: focus of paper was not on nurses' attitudes to older people; different healthcare professionals were not sufficiently identified. Studies focusing upon student nurses were excluded as

they were considered to be transitory staff and as such not homogenous (Aveyard 2019) to the ward culture. Those nurses caring for people below the age of 65 years or in domiciliary settings were excluded, (see tables 1, 2 & 3).

Table 5. PEO model.

P (Population)	Nursing staff working with people over 65yrs, who have dementia or cognitive impairment
E (Exposure)	In hospitals or residential care environments
O (Outcome)	How attitudes and psycho-social culture influence care

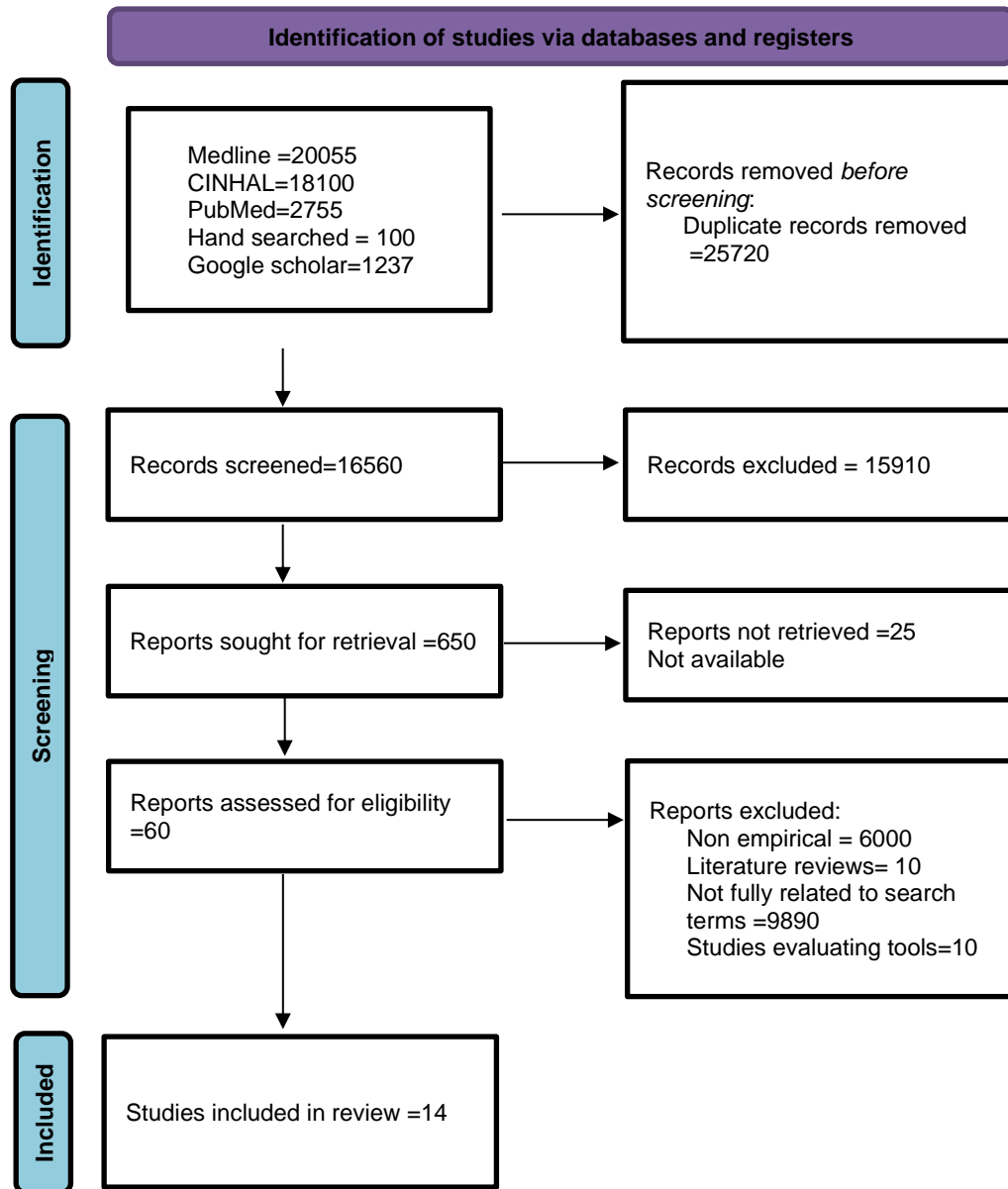
Much of the work in this area did not directly address the care of older people with dementia in acute general hospitals so the field was widened to include the care of older people in a variety of institutional settings, as it was considered that the findings were relevant and transferable to the present study (Aveyard 2019). Only UK studies, were included with studies outside these regions excluded, as they might not constitute homogenous populations (Aveyard 2019). Only primary research articles published in English were included, and only studies concerned with nursing staff who worked in care facilities with people over the age of 65 years with dementia or some form of cognitive impairment were included (see tables 1, 2 & 3). The study time focus was over the past 10 years, in line with best practice to reflect the current evidence base (Aveyard 2019).

Table 6. Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Qualitative, quantitative or mixed methods research studies	Commentaries, editorials, anecdotal studies
Published in the English language	Research published in other languages
Published in the last 10 years	Unpublished work
Primary research	Non empirical studies, reviews
Full text Research articles/studies	Letters, editorials, commentaries, non-peer reviewed sources, literature searches
Including older patients/persons (65+)	People under 65yrs
Nursing staff in hospital or residential care facilities	Other personnel Domiciliary care workers
Research assessing attitudes towards working with people over 65years who have a cognitive impairment	Research assessing other factors
Research conducted in U.K.	Research conducted in other nations

The following databases were used for the electronic searches: CINAHL, MEDLINE, PubMed, psych.info, Google scholar. Boolean operators combined the terms older people, aged, dementia, attitude, and health professional, health personnel, health facilities, residential facilities, hospitals, in-patients. In addition, the reference lists of studies were hand searched for related research. From the initial search results of 42,280, 16,560 papers were identified for further examination and this figure further reduced to 60 relating to the target population who were in care settings as possible papers for hand searching.

Table 7. Search strategy



PRISMA (2020)

Quality appraisal

The Critical Appraisal Skills Programme (CASP) (2013) was utilised to appraise the quality of the studies. A range of question sets are available to cover the spectrum of qualitative research, with questions related to the credibility, rigour, and relevance of the research (CASP 2018). I could then use the CASP numerical framework to rate the studies as high, medium, or low quality. Of the 14 studies, 9 were of high quality, 3 of medium quality, and 2 of lower quality. Although the quality of the research appears to vary, some authors may have failed to describe the methods in sufficient detail to determine whether the quality criteria had been met, lack of reporting did not necessarily mean that it was poorly conducted research and may still contribute some knowledge to the literature (Sattar et al 2021).

A meta-ethnographic approach was used to synthesise interpretations across studies (Noblit & Hare 1988). This is an inductive, interpretative approach upon which most interpretative qualitative synthesis methods are based (France et al 2016). It is the most commonly utilised qualitative synthesis approach in healthcare research (Hannes & Macailis 2012). Meta-ethnography is particularly suited to developing conceptual themes, models, and theories (France et al 2016).

The findings

Four overlapping themes were identified: the socialising medium of the care environment, the need for staff training, the organisational values, and the influence of both the physical and social environment.

Theme 1, the socialising medium of the care environment

Cowdell (2010) indicates the importance of the socialising influence of the ward culture in an ethnographic study on three wards providing specialist care for older people in England. Cowdell completed a mixture of observations and interviews with 11 patients and 58 members of nursing staff. The findings resonate with those of older research (Towell 1975; Evers 1981); with interactions dominated by the delivery of essential physical care despite the efforts of the older people to express their needs. This was seen to be due to the nurses' philosophies about dementia care being based on personal beliefs rather than specialised training. Staff appeared to have little empathy with people who had dementia and tended not to question the way care was delivered, they were socialised into accepting this as the norm. Cowdell (2010) concludes that the nurses had been influenced by the philosophies of the culture within which they worked that viewed the older people as being 'only social' and as such Cowdell infers, at the bottom of the hierarchy for care (Cowdell 2010, p.14).

The study demonstrates methodological rigour (Streubert Speziale 2007a) and was given a CASP score of high quality (CASP 2018). Although it can be critiqued in terms of being conducted by a sole researcher and in just one hospital unit which may be seen as limiting the ability to generalise the results to other settings. However, it provides a valuable insight into a task orientated delivery of care which resonate with those of older research on custodial approaches to care delivery (Towell 1975; Evers 1981). In a similar vein to Towell (1975) and Evers (1981), Cowdell too discerned that nurses were concentrating on physical care as a way of compensating for a lack of other expertise or knowledge.

Tadd et al (2011), and (Calnan et al 2013) mirror these findings in a study of four acute trusts in England and Wales. This ethnographic study of 14 wards

involved: 617 hours of non-participant observations, 40 semi-structured interviews with recently discharged patients and 25 of their carers, semi-structured interviews with 79 ward staff and 32 senior managers, and 4 focus groups with a total of 150 managers, staff, voluntary organisations, and policy makers. Although this study can be critiqued for using purposive rather than random sampling and so not completely excluding selection bias (Munro 2005), it was a methodologically rigorously conducted study by a team of researchers and had sufficiently large sample populations to be considered representative (Streubert Speziale 2007a) and was given a CASP score of high quality (CASP 2018).

They found an attitude that the older people with dementia should not be in the acute wards permeated the findings from staff interviews. They also concluded that the priorities of the trust were in conflict with the needs of the older people. The need for high bed occupancy rates meant that older people were continually being moved from ward to ward with a resulting lack of continuity in their care. The 'blame culture' and concentration on patient safety resulting in people being encouraged to remain in their chairs at the bedside in anonymous environments, effectively immobilising them, disorientating them, and affecting their dignity.

The researchers noted that although older people with dementia constituted the largest proportion of the client group, the physical environment was totally inappropriate to their care, and was both disempowering and contributed to their disorientation. They indicated that a culture that failed to recognise them as a legitimate client group resulted in a hostile physical environment and a lack of key skills and training in nursing staff to achieve person centred care.

Calnan et al (2013) in an identical study came to the same conclusions. This paper mirrors the location, sample, methodology and findings of the Tadd et al (2013) study exactly. It is not clear if this is a repeat/ replication of the previous

study or a reiteration of the same research. As it was identical in detail to the Tadd et al (2013) study it also was given a CASP score of high quality (CASP 2018).

Backhouse et al (2016) also found care dominated by staff perceptions in their research within 4 care homes. This ethnographic case study approach entailed 384 hours of participant observation and interviews with 40 care home staff. The use of the observer as participant in some of the social activities and using a sole researcher to collect all the data are sources of potential bias (Streubert Speziale 2007a)). However, another researcher was involved in the thematic analysis and coding of the data which does provide inter-rater reliability (Streubert Speziale 2007a) and was given a CASP score of high quality (CASP 2018).

They indicate that although non-pharmacological interventions were provided for residents, those with the most severe cognitive impairment or agitation were less likely to be offered these interventions due to a lack of recognition of their function as targeted interventions, and an exclusion of the more agitated residents as not being suitable to participate or as more likely to disrupt the events of what were seen as social activities.

They conclude that investing more in increased staff: patient ratios and activities, or improving the environment are unlikely to reduce residents' agitation or improve quality of life per se. The solution lay in a greater provision of resources for staff to understand, communicate and engage with residents to achieve more personalised approaches.

Yun et al (2014) explore similar issues in their evaluation of the attitudes of 579 registered nurses attending professional education courses at a London University. This cross-sectional survey utilised self-administered questionnaires which consisted of a mixture of validated scales. The methodology can be

critiqued for using a convenience sample rather than a random sample which more demonstrably reduces bias (Munro 2005a). Also, that all the nurses lived and worked in London so the results may not be transferable to other settings (Steubert Speziale a). However, the team of researchers used rigorous methodological approaches, which included demonstrated validity by use of logistic regression (Munro 2005a) and was given a CASP score of high quality (CASP 2018).

They found that senior nurses were more likely to express positive attitudes towards older people than staff nurses, as were those already working with older people. Those who evidenced more knowledge of the ageing process were less anxious and more positive about working with older people. They recommend continuing professional education related to the ageing process and gerontological nursing.

The researchers indicated that those nurses who expressed negative views towards working with older people appeared to have absorbed the negative attitudes towards older people in the wider society and the view that they were less entitled to care (Marshall 1999; Innes 2009). So, it can be surmised that the stigma with which older people are viewed by society still fundamentally affects their care, with these views being absorbed into the social culture of the ward. They recommend continuing professional education related to the ageing process and gerontological nursing.

Kadri et al (2018) added to this analysis in a secondary qualitative review of the same data set produced by the Rapaport et al (2018) study, both conducted as part of the Managing agitation and Raising Quality of Life (MARQUE) project. In this qualitative study they analyse a concept that was present in the first data set but not specifically addressed. They use a process of inductive thematic analysis to identify new themes around the topic of staff personhood.

The limitations of this method are that this a secondary analysis of interviews so that the original questions did not explicitly focus upon this theme (Streubert Speziale 2007a), also this is a small sample size from which to generalise and so may not be representative (Duffy & Jacobsen 2005). This study consequently was given a CASP score of low quality (CASP 2018). However, they do generate new insights.

They cite the lack of status of care workers as persons in their own right as an influencing factor in achieving person-centred care for care home residents. They found that many care staff do not feel acknowledged as persons in their own right by their employing institutions and that there is a lack of recognition of the emotional burden of their caring. This resulted in a reduction of the complex relationships of care work to a series of tasks, which not only affected the carers' self-worth and self-efficacy but impeded their efforts to deliver person centred care. They advocate enhancing staff personhood as a factor in improving care.

Cooper et al (2018) conduct another MARQUE project study connected with abuse and neglect by care home staff to residents who have dementia. 1544 care home staff in 92 English care homes participated in this anonymous cross-sectional survey. The limitations of the methodology centred on the validity of the abusive behaviour measure, the Modified Conflict Tactics Scale which had been developed by the group who had tested the internal validity but had yet to establish the external validity (Streubert Speziale 2007a). All the other measures used had been validated and the large sample size can be seen as enhancing the representativeness of the findings (Streubert Speziale 2007a). Tests of logistic regression were applied to the data (Munro 2005a). This study achieved a CASP score of high quality (CASP 2018).

They found that just over half the anonymous respondents reported that abusive or neglectful behaviour towards residents occurred at least sometimes.

They also noted that person centred care or tailored activities were happening only infrequently for residents with dementia and that person-centred care, and conversely the incidence of reported abuse, was not associated with staff: patient ratios. They too suggest that the cause relates more to staff burnout and depersonalisation of residents.

Theme 2, the need for staff training

Cowdell (2010), Tadd (2011), Calnan (2013), Yun et al (2014) and Backhouse et al (2016) had all also identified the training needs of staff as an influencing factor on the type and quality of care delivered. Clisset et al (2013) too, indicate that lack of specialised training for staff in acute general hospital wards resulted in them remaining detached from the emotional needs of the older people they were caring for.

This was an ethnographic study conducted in 12 acute medical wards in a large teaching hospital, incorporating 72 hours of non-participant observation and post discharge interviews with 35 family care givers of older people with a cognitive impairment who had been cared for on the wards. The study can be criticised for not directly investigating the attitudes or experiences of ward staff rather than just their behaviour, and for not making explicit the details of the observation periods to demonstrate that they achieved a representative picture of care (Streubert Speziale 2007a). However, this was a well conducted study by a team of researchers who were able to demonstrate methodological rigour (Streubert Speziale 2007a) and was given a CASP score of high quality (CASP 2018).

The researchers found that organisational structures prioritised the management of issues such as falls and discharge at the expense of experience and activity. Also, that because nurses did not have sufficient personal resources to meet the needs of the older people in their care, they

had a diminished ability to be effective in their role. This resulted not only in resentment towards the older people but in their seeking to gain a sense of control by minimising communication and moving away from the situation as quickly as possible. The researchers conclude that nursing staff need to be educated in how to make care more person-centred.

This finding is supported by Livingstone et al (2017) who also indicate that new approaches to developing staff skills are required. Their study was part of the Managing Agitation and Raising Quality of life in dementia (M.A.R.Q.U.E.) initiative (Beach & Thomas 2019) and explored the prevalence of and associations with agitation in residents living in 86 UK care homes. In addition to the completion of a validated environmental assessment tool they interviewed 1701 care home staff and completed proxy measures for 1489 residents. Although they used purposive cohort sampling not random sampling to demonstrably reduce bias (Munro 2005a), they do use validated tools to complete all the elements of data collection (Cormack 2000). This study was given a CASP score of high quality (CASP 2018).

The results of the study concluded that there was a high prevalence of dementia and agitation in care homes resulting in a lower quality of life, which was not mitigated by the provision of more staffing time and activities. They identified that new approaches were required to develop staff skills in understanding and responding to the underlying reasons for a resident's agitation. They conclude that improvements in the environment would not be successful if introduced in isolation to staff training on applying more personalised activities.

Charter & Hughes (2012) explored the views of ward staff regarding their training needs in a descriptive qualitative study of 4 Registered Nurses (R.N.) and 3 Health Care Assistants (H.C.A.) on an acute elderly care unit in England. They used focus groups to explore the experiences of staff in caring for their

views about learning. This study has limitations connected with the small sample size which might not be representative (Duffy & Jacobsen 2005), and its descriptive nature. This study consequently was given a CASP score of low quality (CASP 2018).

From the analysis of the transcripts 4 themes were identified; learning about dementia, learning about the person, learning from each other, and learning from specialists. The authors concluded that there was a need for improved staff preparedness through training, an improved communication of information about individuals, dementia specialist input for ward-based advice, and structured opportunities to reflect on practice.

Smythe et al (2014) attempted to provide such training in a project that offered a brief psych-social training intervention to staff on 3 wards in a large acute general hospital in England. The project comprised initial focus groups with ward staff to develop competency frameworks and develop training around their expressed needs connected with the care of people with dementia, these sessions were recorded, and the verbatim transcriptions coded using thematic analysis. Staff identified five themes; that everybody should be trained, understanding the disease and the person, dealing with challenges, and hands on training / making it practical. A total of 81 staff then completed a validated self-administered questionnaire before and after the training programme, 30 members of staff completed the training with the remainder acting as a control group, the selection process was not blinded for pragmatic reasons (Streubert Speziale 2007a). The data produced was analysed by an independent researcher (Streubert Speziale 2007a), and T tests were used to explore relationships across the variables in the questionnaires pre and post activity (Munro 2005a). This study was given a CASP score of medium quality (CASP 2018).

In response to staff feedback the training took the form of a formal 1 hour teaching session conducted in the ward area over a period of 5 weeks, the training was augmented by a training manual in addition to the trainer working alongside staff to act as a positive role model and provide reflective feedback. Following the training staff who had attended also completed an interview to evaluate their feelings about the value of the training. This was again subject to thematic analysis (Streubert Speziale 2007a). The team were prevented from involving people with dementia and their families in the project by the nature of the ethical approval.

The interview feedback was positive, with staff feeling that the training had benefitted their care delivery. However, the questionnaire results evinced no statistical differences between the control group and those who had completed the training. This may have been because the sample groups were too small to be representative (Duffy & Jacobsen 2005). Also, the attendance on the training was sporadic, which it was felt, may have diluted the impact. The researchers noted that the physical environment prohibited the opportunities that they had to work with staff in providing patient group activities and engagement, hence constricting the social interaction. Consequently, they conclude that skills training in the clinical areas can be restricted by organisational and environmental factors.

Rapaport et al (2018) also identified training needs and organisational constraints as factors which effected care home staff in their efforts to support residents who had dementia. This qualitative study of care home staff sought to describe how care home staff understood and responded to agitation in residents, and the factors that determine how it is managed. Semi-structured interviews were conducted with a purposive sample of 25 care home staff from 6 care homes in England. The purposive sampling in the study rather than random sampling, and the use of a sole researcher to conduct the interviews can be seen as source of potential bias (Streubert Speziale 2007a). However,

the interviewer employed a process of respondent verification prior to the thematic coding of the data by 4 researchers, all of which are sources of demonstrable methodological rigour (Streubert Speziale 2007a). Focus groups were also held throughout the research process with people affected by dementia, who informed the interview schedule and discussed the results. This study was given a CASP score of high quality (CASP 2018).

The researchers found that staff struggled to connect with the personhood of the residents while simultaneously trying to separate the person from their behaviours. Staff often felt powerless, frightened, or overwhelmed. They were seen to be constrained by care home structures and processes, and a fear of scrutiny. The researchers recommended that staff needed more support to look after residents' unmet needs and to look after themselves.

Theme 3, the organisational values

Tadd et al (2011), Calnan et al (2013), Clisset et al (2013), Smythe et al (2014), Rapaport et al (2018), Kadri et al (2018), and Cooper et al (2018) had all made identified organisational factors as barriers to the provision of more patient-centred care approaches. Killet et al (2014) develop this concept in their comparative analysis of 11 UK residential homes across England, Scotland and Wales. They stress the importance of the actual microcosm of the organisational culture within care settings and how that impacts on the quality-of-care people receive.

This study involved observations of care utilising the Person Interaction Environment Care Experience in Dementia framework, which was then used to focus the qualitative observations, documentary analysis and semi-structured interviews with staff, residents, relatives, and visitors.

Sampling was purposive rather than random which can introduce bias (Streubert Speziale a), and exact details of the number of interviews undertaken are not

given (Streubert Speziale a). However, the methodology demonstrates rigour (Morse 1991), with a process of within case analysis through systematic, iterative cycling (Eisenhardt 1989). Cross analysis between the researchers was performed using a common coding frame, and there was a process of comparison across the methods (Streubert Speziale 2007a). This was also an example of participatory research, with stakeholder meetings at key stages of the research to inform the content. This study achieved a CASP score of medium quality (CASP 2018).

The researchers identified 7 key elements that influenced the quality of care delivered:

That there is a shared purpose in providing best possible patient centred care, to achieve this there is consistent espousal of values at an organisational and individual level.

That management mediate external pressures so that they do not negatively impact care, as demonstrated in the attitude, skills and behaviour of managers.

That staff are empowered to take responsibility for resident wellbeing through management and leadership, through the values and attitudes of the organisation. That staff and managers are open to change for the benefit of residents, as shown in their attitudes and behaviours. That these attitudes and behaviours support a sense of community between all involved in the home.

That they also support person-centred activity and engagement as integral to care work, and that this is supported by consistent organisational policies and procedures. That the care home

Environment is used actively for the benefit of residents, through the knowledge and understanding of the staff.

They emphasise as crucial that at a very senior organisational level there is a commitment to the patient centred approach as integral to care and that this permeated throughout the strata of staff. They offer as an example the issues around the 'emotional labour' (Lee-Treweek 1997), of care staff, postulating

that if local managers do not find a solution for the pressures of caring then staff will tend to adopt their own solutions to the emotional stress, such as a lack of emotional engagement with residents.

Their organisational analysis expands previously accepted interpretations that the ward sister was the key element in the organization of care (Redfern 1979; Pembrey 1980; Kitson 1984). Killet et al (2014) emphasised that the particular culture of care cannot be achieved merely by importing a set of organisational values and the 'right' leader or staff (Hatch & Cunliffe 2013). The analysis of organisational culture is more complex, theorists such as Schein (1990) viewed organisational culture as a hierarchy of linked elements, with observable artefacts underlain with values, attitudes, and beliefs, and below these conscious or unconscious assumptions. These shared assumptions develop within groups develop as they problem solve together, so that the development of individual local groups is a key element. With the macrocosm of a care home group not just the sum of the total microcosms within each care home, but each a very individual organisational matrix which interacts with the overall organisation (Senior & Fleming 2006).

Laybourne et al (2021) also indicate that the organisational culture and how teams work is so varied that a more complex analysis is required. This qualitative study explores the impact of interventions aimed at training care home staff to reduce resident agitation and improve quality of life for care home residents with dementia. Again, this was another MARQUE project initiative to evaluate the effects of the interventions in 6 out of the 10 care homes involved in the initiative. Semi-structured interviews were conducted with 25 members of staff. The interviews were conducted by a sole researcher who had not delivered the training and was consequently considered to be more demonstrably objective (Streubert Speziale 2007a). However, the interviews were conducted with groups of staff so were not completed in an ideal setting for full disclosure, also the respondents were all more senior care staff so may

not have constituted a representative sample (Streubert Speziale 2007a). The thematic coding of the data was completed by two researchers to enhance demonstrable validity (Streubert Speziale 2007a). This study was given a CASP score of medium quality (CASP 2018).

The evaluation occurred 30 months after the initial training intervention. The results indicated that the training had fostered better communication and team working, with a greater respect for each other's roles. Staff felt more competent and able to try new things. They described more positive attitudes to residents rather than blame for agitation or avoidance tactics. The researchers conclude that long term change is sustainable in care homes, but that leadership support was important.

Theme 4, the influence of both the physical and the social environment

Within some of the studies the researchers have identified a direct connection between the social and the physical environment. Smythe et al (2014) comment on the restrictions of the physical environment to provide more appropriate and patient centred social activities that staff can engage in with patients. Whilst Cowdell (2010), Tadd et al (2011), and Calnan et al (2013), make the link between the inappropriate physical environment for older people who have a cognitive impairment and the status with which they are viewed within both the ward culture and in the wider organisation. Cowdell (2010) comments on the noisy, inappropriate environments and the views expressed by staff that the older people were 'only social' and as such Cowdell infers, at the bottom of the hierarchy for care (Cowdell 2010, p.14). Tadd et al (2011), and Calnan et al (2013) link the anonymous cue-less physical environment where older people are nursed in and around a bed, with the view which was being repeatedly expressed by ward staff and trust managers, that the acute wards were not the right place for older people.

Summary

Four overlapping themes were identified in the research literature. The socialising medium of the care environment (Cowdell 2010; Tadd et al 2011; Calnan et al 2013; Yun et al 2014 et al; Killet et al 2014; Backhouse et al 2016). The need for staff training (Cowdell 2010; Tadd et al 2011; Charter & Hughes 2012; Calnan et al 2013; Clissett et al 2013; Backhouse et al 2016; Livingstone et al 2017). The organisational values (Tadd et al 2011; Calnan et al 2013; Clissett et al 2013; Smythe et al 2014; Killet et al 2014; Rapaport et al 2018; Kadri et al 2018; Cooper et al 2018; Laybourne et al 2021). The influence of both the physical and social environment (Tadd et al 2011; Calnan et al 2013; Yun et al 2014 et al).

The findings reflect the complex and interlinked elements that constitute a care environment (Moos 1997) and offer valuable insights into the different elements that contribute towards it. However, the small number of studies in this literature review that focus upon the environment of care in acute general hospitals illustrate the need to add to that body of knowledge and is a justification for the present study.

Discussion

The literature reviews which have been discussed in this chapter have informed the present study. The literature review regarding the built environment concentrated mainly on specific physical features, and on the built environment of care homes. However, it offers examples of good practice that are equally useful in ward settings and eminently transferable to that milieu.

In the absence of robust empirical evidence, (Parke et al 2017), best practice guidelines indicate the use of; signage and cues which are applicable to hospital settings; large print, highly contrasting pictorial signage at a lower

height to accommodate the physiological effects of ageing, the use of large print name plates in personal spaces, creating points of reference or land-marking in walls and corridors, the use of colour and contrast in cueing to assist orientation,(DSDC 2007; NHS Confederation 2010; Design Council 2011;Yates-Bolton et al 2012; Royal College of Nursing (R.C.N. 2013); Dementia Friendly Hospital Charter (Dementia Action Alliance 2018).

There is also a raft of information connected with the design of floor surfaces to avoid falls and assist with safe mobilisation, and painting out danger areas and highlighting important areas, especially toilets, (DSDC 2007; NHS Confederation 2010; Design Council 2011; The Royal College of Nursing and the Department of Health 2011; Yates-Bolton et al 2012; R.C.N. 2013; Dementia Action Alliance 2018). Also;:the use of appropriate; lighting, aids to support orientation and visual stimulation, personalising the bed space, and resources to support activity and stimulation (The Royal College of Nursing and the Department of Health 2011; Royal College of Nursing (R.C.N. 2013); Dementia Action Alliance 2018).

Spaces and resources to support activity and stimulation are also recommended, (Fleming and Purandare 2010; R.C.N. 2013; Marquardt et al 2014; Fleming et al 2014; Dementia Action Alliance 2018). Also are measures such as the conversion of old day rooms to homelike facilities for activities or adapting them to mimic elements of 'community' such as 'social clubs, libraries or hair salons. In addition, the removal of remote nursing stations to incorporate an area within the ward space where patients can see nursing staff and engage with them has been identified as creating a feeling of safety and a safe environment by patients with dementia (Edvarsson et al 2011). Also, the use of designated dining areas with traditional cutlery and crockery to encourage eating and facilitate socialising, (R.C.N. 2013, Dementia Action Alliance 2014; Fleming et al 2014; and Marquardt et al 2019).

This information will provide benchmarks for good practice which will be used to evaluate the physical environments in the present study and is considered particularly useful in discerning the different aspects of the standard medical ward in comparison to the adapted environments of the dementia friendly wards. It will be utilised in the development of my own environmental audit tool, which will form part of the methods used in this research.

The literature review on the psycho-social care environment demonstrated care dominated by a task orientated or custodial approach (Cowdell 2010; Tadd et al 2011; Calnan et al 2013), with a lack of person-centred care or engagement (Clissett et al 2013; Backhouse et al 2016; Rapaport et al 2018; Cooper et al 2018). It was identified that the emotional burden of caring, (Lee-Treweek 1997), resulted in staff detaching themselves from the emotional needs of patients/ residents and providing minimal contact (Clissett et al 2013; Backhouse et al 2016; Kadri et al 2018).

Negative and dehumanising approaches to care such as the task orientated or custodial approach have been identified as one of the predisposing factors in the physical and mental abuse of older people by denying them their status as full human beings, thus legitimising ill treatment (Stannard 1971, Moore 2017). Hence, they represent not just poor practice but are inherently damaging. This was evidenced within the present literature review, Cooper et al (2018) identifying a lack of patient centred care and a high incidence of reported abuse or neglectful behaviour.

Yet the literature reflects a perpetuation of such inappropriate approaches throughout the decades, the findings of Cowdell's (2010) study resonating with those of Miller's (1978), Tadd et al (2011) with Clarke's (1978), and Clissett et al (2013) with Smith's (1986). Such inadequate care and lack of appropriate resources can be partly explained by the Inverse Care law espoused by Hart (1971) which postulates that the availability of good medical care tends to vary

inversely with the need for it in the population. Thus, the low status, frailty and relative poverty of older people in the UK is exacerbated by conditions such as dementia which not only impair their ability to demand resources but is itself the subject of negative stigmatised views, so that they are subject to multiple 'jeopardies' (Innes 2009).

A plethora of significant research has been conducted in this area over many decades, however the perpetuation of poor care practices would suggest that previous research has consistently failed to effect change. This may in part be due to the 'research/practice divide' (Oborn et al 2010; Pentland et al 2011), with research traditionally being conducted by academic experts in an isolated process that does not involve the clinicians as partners in that process. More recently there has been a focus upon the involvement of practitioners and patients at all stages of the research process (NIHR 2021).

The present work therefore incorporates a Praxis approach to directly inform current practice (Lather 1986). Hence the findings from the present study will be fed back to staff at Clinical governance and ward manager forums, they will then form the basis for action planning and implementation of change on the wards, and this will in turn generate a further evaluation cycle in a planned future research timetable. It is hoped that this process will promote ownership by clinicians of the identified issues (McCarron et al 2008). Focus groups with people affected by dementia have also been conducted at each stage of this study's research process (NIHR 2021).

There are few studies that have looked comprehensively at the effect of the built environment on the care of older people with dementia or confusion in acute general hospital settings, in the UK although there are some high-quality international studies (Innes et al 2016). Previous research has also highlighted that when looking at the hospital environment, the role of organisational culture (Godfrey et al 2018) and how staff engage with service users (Ballie et al 2012)

tends to be undervalued. Or there is a focus upon expressed staff attitudes or beliefs without an attempt to link these to staff behaviour (Brooke & Semlyen 2019).

Consequently this study attempted to address current gaps in the available research in this area and to promote more appropriate care by offering an analysis of both the built environment and the interplay between the psycho-social therapeutic environment.; to evaluate not only the physical environment of care but also the ideological perspective of staff and how both the built environment and the cultural milieu within which they work influence the care that they provide (Davis et al 2009; Moos 1969; Moos 1974, 1997).

3) Methodology and methods

Introduction

In this chapter I will attempt to show how existing evidence has informed the present research and my attempts to address both gaps in the evidence and in the availability of validated tools to use for future research in this area. This discussion will encompass; the aims of the research, the methodology and paradigm within which the research is based, the methods used and how they attempt to address the research questions, methods of data collection, the setting, the participants, methods of data analysis, ethical issues, limitations of the study, and the researcher's reflections on the ethical process and research issues encountered in conducting this study.

Aims

This was a comparative study of two specifically designed medical wards that had adapted the physical environment to better fit the needs of older people with dementia or other forms of cognitive impairment, and one other standard medical ward in the same acute general hospital in England, U.K. It was intended that the study would address issues of quality in the routine care of older people with dementia or other forms of cognitive impairment by providing a comprehensive examination of the effects of best practice in design for older people with dementia or confusion in the acute general hospital setting and, in this context, exploring the interaction between the social environment and the physical ward environment (Brooke & Semlyen 2019). By incorporating the views of both clinicians and service users it was hoped that the results would be more likely to be both person-centred, clinically relevant and adopted within practice (Oborn et al 2010; Pentland et al 2011). The use of tools that are widely available or that can be used without cost by clinicians is deliberate and is considered to enhance and enable both the repeatability of the study and

wider aims of achieving a high standard of care for older people in these settings at both a local and a national level.

The study investigates how specifically designed ward environments that incorporate the features recommended by best practice guidelines (DSDC 2007; NHS Confederation 2010; Design Council 2011; Yates-Bolton et al 2012; Royal College of Nursing (R.C.N.) 2013; Dementia Action Alliance 2018) affect care outcomes and quality of care for people over the age of 65 years with dementia or confusion in 3 acute general hospital wards in England. Care outcomes include: length of stay, returning to their own home following discharge, readmission rates, and fall rates (British Geriatric Society 2021; Halfon et al 2006; Agency for Healthcare Research and Quality 2013). The quality of care indicates the adherence of the observed care practices to both Trust and national standards of best practice, and the evidence of patient/carer involvement in care planning or decision making (Pantin et al 2006; NIHR 2017).

The definition of a dementia friendly built environment for the purposes of this study is one that conforms to best practice guidelines in seven or more of the following features; signage and cues which are applicable to hospital settings (large print, highly contrasting pictorial signage at a lower height to accommodate the physiological effects of ageing), the use of large print name plates in personal spaces, creating points of reference or land-marking, the use of colour and contrast in cueing to assist orientation, the design of floor surfaces to avoid falls and assist with safe mobilisation, and accessible shared dining facilities, high visibility of nursing staff in patient areas (DSDC 2007; NHS Confederation 2010; Design Council 2011; Yates-Bolton et al 2012; Royal College of Nursing (R.C.N.) 2013; Dementia Action Alliance 2018).

A dementia friendly environment has both social as well as physical attributes, consequently this study also addresses evidence of person-centred care

practices; those which promote dignity, independence, and the maintenance of self-hood (Kitwood 1997), such as staff/patient interaction and engagement. In addition, it will draw from the work of Killet et al (2014) who indicate the importance of the actual microcosm of the organisational culture and how that impacts on the quality of care people receive, so that the ethos of the management approach and components such as agreed staffing levels can fundamentally affect the care environment.

The methodology

This comparative study incorporates an action research perspective, part of a family of related investigative approaches under the umbrella of 'Action inquiry' (Lather 1986). This approach seeks to integrate theory and action with a goal of addressing important organisational, community and social issues together with those who experience them – the practitioners. It is one of a range of investigative approaches that were developed in response to the limitations of the traditional positivist/empiricist paradigm (Guba and Lincoln 1994). Action Inquiry is based on Kurt Lewin's iterative inquiry model (Lewin, 1946) which he describes as comparative research; the conditions and effects of various forms of social action and research leading to social action, incorporating a process of; planning, action, and fact finding about the results of the action.

Although Action Inquiry shares a number of perspectives with the interpretative paradigm and utilises related qualitative methodologies it is not a perfect fit with this epistemological structure (Lather 1986; Morley 1991), and indeed uses an eclectic range of methodologies. The approach can be seen to fit more aptly into the paradigm of Praxis, acting upon existing conditions to change them, with knowledge derived from practice and practice informed by knowledge in an on-going process (Lather 1986). Praxis links with aspects of Appreciative Inquiry (Cooperrider & Whitney 2005) an approach to change that builds on

positive practice, and which developed in response to what were perceived of as deficits in the focus of action inquiry.

This approach is not without inherent difficulties, as Walter (2009) indicates, it is time consuming, exhaustive, and complex. Also, because it is conducted in an organisational milieu it can leave the researcher vulnerable to power relations and differentials in that setting which can complicate the conduct of the research (Noffke 2009). It has also been criticised for potential subjectivity, with a tendency for the researcher to be over involved and therefore introduce bias (Kock 2004). It is essentially value laden, rejecting neutrality to situate itself in a setting where there are conflicting values (Craig 2009).

However, this reflective process of progressive problem solving (Riel & Lepori 2014) is an ideal methodology for a community of practice in a complex setting such as the hospital environment, where the blurring of distinctions between researchers and practitioners enhances the adoption of new practices (Craig 2009; Walter 2009). The process of reflexivity is also invaluable in interrogating proposals for change or improvement by analysing who benefits from the actions implemented (Craig 2009). The cyclical research process does not end with the determination of findings and formulation of conclusions but instigates a renewal of the research process (Riel & Lepori 2014; Walter 2009; Craig 2009) is a perfect fit with the constant striving for evidence-based care in a health setting. In addition, by using multiple measures that include quantitative and qualitative analysis, it is also easier to demonstrate the credibility of findings and overcome some of the criticisms regarding subjectivity (Craig 2009).

In the present study I have attempted to follow the key principles of action research identified by Winter (1989):

Reflexive critique-a reflection on the issues to make explicit interpretations and bias.

Dialectical critique-a shared language in which to conceptualise the meanings and relationship between phenomena.

Collaborative resource-the interpretative categories are negotiated among the participants.

Risk-that the process threatens the existing status quo

Plural structure-the report acts as a support for on-going discussion and is open to multiple possible actions and interpretations.

Theory, Practice, Transformation-theory informs practice and practice refines theory in a continuous transformation.

I have attempted to conform to the approach in all its elements, and in the discussion which follows I will attempt to illustrate the extent to which I have achieved compliance with these tenets. The present research however is not a complete model of this approach as the methodology had to be adapted to the requirements of a PhD in which I had to collect and analyse the main data independently and as the sole researcher, so restricting collaboration. Also, not all the latter elements of theory practice transformation would be completely fulfilled within the PhD time period but would constitute an on-going process. Hence the feedback of the results of the research and the refinements to practice and focus of consequent research remain in a process of discussion and negotiation rather than a completed final product/ change in practice, in accord with the nature of Praxis (Riel & Lepori 2014).

That reflective process can be seen as an important element of this approach to build upon positive practice, where there is no finite conclusion but a continuous cycle (Winter 1989). The on-going negotiated collaborative element of this approach which fosters ownership of the identified issues by clinicians has also been identified as a crucial factor in the change management process (Harvey and Kitson 2015), and of overcoming the research practice divide (Oborn et al 2010).

I have a long and extensive clinical background working as a registered nurse on acute general hospital medical wards. In addition to experience as a Ward Manager this has also encompassed the roles of Clinical Nurse Specialist, Clinical Nurse Manager, Senior Nurse for Older People and Lecturer/Practitioner within this field. Because much of my career has been spent working on older adult wards in acute general hospitals, I developed a particular interest in the quality of care received by the, often confused, older people on acute medical wards, this has of necessity resulted in acting as a change agent within clinical teams to address quality issues, challenge the status quo and improve standards of care that older people receive on these wards. Examples of this include the establishment of a psychiatric liaison service for older people with mental health problems within the acute hospital Trust, and a series of training and ward-based practice initiatives to improve the care of older people with cognitive problems that was replicated throughout the other acute hospitals in the city and was recognised in a short-listed nomination for the Nursing Times awards.

I was very aware of any inherent bias that might result from my personal history, experiences and value system and attempted to maintain researcher objectivity and research rigour within the framework of an inquiry approach (O'Brien 1998). I used Norman's (2003) process of 'situating the self' to ensure the authenticity and trustworthiness of the data collection and analysis. I examined and recorded my motivations and the life experiences that had the potential to impact on the data collection and analysis. I used a reflexive journal throughout the study as a process to acknowledge influences on the research, making explicit my own subjective ideas and feelings within my journal (Morse & Niehaus 2009). I reflected on these and attempted to 'bracket' them – the cognitive process of putting aside one's own beliefs and judgements and remaining open to the data (Ahern 1999).

Streubert Speziale (2007a) describes this as recognising the subjectivity inherent in the research process and embracing it. Although Carolan (2003) questions the meaningful application of reflexivity, such self-reflection by the researcher of their own interests and influences can enhance the research by extending our understanding of how our values and interests affect all stages of the research process (Primeau 2003). This reflexive critique also achieves the first element of the Action research principles identified by Winter (1989).

I am now a full time Senior Lecturer in Nursing at a local University but have maintained close links with the large NHS Trust where I was previously employed. During the past decade I have continued to work with clinicians and service users of that Trust in a collaborative process of identifying gaps in good practice, challenging the status quo, and evaluating the responses to these practice issues (Winter 1989).

Although I had developed and initiated the validation process for the case note audit and observational tool utilised in this work, that process has reached this point as part of an on-going dialectical and reflexive critique (Winter 1989) with both clinicians and service users. Equally the use of secondary data from the Trust's Person, Interaction and Environment tool (PIE) observations has been incorporated in response to clinicians' suggestions, and the modus operandi of PIE involves an overtly action research approach (R.C.P. 2011). Consequently, the present study conforms to Winter's (1989) principles in terms of the on-going dialectic and reflexive critique which identifies the challenges to the status quo and uses a collaborative process to identify and address these.

The introduction of specifically designed dementia friendly wards can be seen as a response to the findings of previous audits and the ensuing multi-disciplinary discussion when these were shared at clinical governance forums. This fulfils Winter's (1989) principles of a (previous) completed theory practice transformation. The focus of this work is firmly embedded in the practice arena

and the methodology used emanated from that practice, the findings of this study are seen as one more step in an on-going discussion to continually improve and transform that practice (Winter1989).

Replicable methods and accessible tools are used to facilitate knowledge transfer in other similar settings (Oborn et al 2010; Pentland et al 2011). Although it is intended to disseminate the results more widely, at the local level the results will be useful to the clinicians within the Trust and offer the potential of being used by them to enhance care and in negotiating for funding for dementia friendly ward design throughout the Trust. Hence it will fulfil the risk to the status quo and plural structure element of Winter's (1989) principles acting as a support for on-going discussion and open to multiple possible actions and interpretations.

The case note and observational tool being used was developed by myself in conjunction with service user groups such as local Rethink meetings and Alzheimer's Society meetings to involve them as fellow collaborators in the research (Dewing 2002). Although service users are not directly involved in the data collection and analysis of data, they helped define the focus of the study and the methods used. The progress of the research has also been shared with service user representatives and the results presented to them, and the comments of the service user representatives have influenced the research summary and contributed to the interpretation of the results. They have been consulted throughout the research process to respect their role as collaborators in the research. Again, fulfilling the principles of dialectical critique and collaborative resource (Winter 1989).

This has been achieved by a series of focus groups with service user representatives from the Trust's Patient Council Meetings and from the Birmingham City University Forum for Accessing Community Experience (F.A.C.E) group (<https://icity.bcu.ac.uk/hels/FACE/Index>) who commented on

the relevance and meaning of the research at each stage. Such a process attempts to adhere to the principles of dialectical critique, collaborative resource, and plural structure (Winter 1989). It also encompasses the role of action research in involving and empowering the more vulnerable and disenfranchised (Hall 2001).

Methods

The research questions were:

- 1, Do dementia friendly physical environments improve service user outcomes?
- 2, Do dementia friendly physical environments influence the social environment of care or facilitate person-centred care practice?

A mixed methods approach is a common element in an action research approach (O'Brien 1998) and was utilised in this study. The rationale for this was that combining an eclectic mix of both qualitative and quantitative methods would enable a more complete and comprehensive understanding of the context and complexity of this area of study, and the multi-faceted nature of the research questions, and to assist in the process of the instruments being developed (Creswell et al 2003; Bryman 2006).

This approach was also considered to off-set any inherent weaknesses in each method and draw on the strengths of each (Creswell et al 2003; Bryman 2006). For example, the quantitative methods that I used in the observational case note audit and analysis of informatics data produced large sample sizes which offered the potential to provide statistical proof of how far they represented the population being studied but were more useful in indicating trends and generalisations. Whereas the qualitative methods I used, such as interviews, had smaller sample sizes but produced more detailed, in-depth data (Creswell et al 2003; Bryman 2006). As in Bryman's (2006) analysis the mixed methods approach was also intended to enhance the credibility or integrity of the

findings, both in terms of completeness and in combining and comparing results between the methods to triangulate the findings so that they were mutually corroborated.

There are challenges in using a mixed methods approach, as I have previously commented the quantitative and qualitative data is collected for different purposes; with the quantitative data for more general purposes whereas the qualitative data can provide more detailed description (Creswell & Piano Clark 2017). Also, different sample sizes arise which can produce problems in merging the very different data sets and the results in a meaningful fashion (Creswell & Piano Clark 2017).

Although contradictions between the data sets may provide new insights into the topic, they may be difficult to resolve and may require the re-examining of existing data or collection of additional data, which is not always feasible with the consequent resource or ethical approval issues that may entail, and this was certainly my experience in the context of this study (Bryman 2006; Creswell & Piano Clark 2017)

A fixed mixed methods approach was attempted where the use of quantitative and qualitative methods was predetermined and planned at the start of the research (Creswell et al 2003). An independent level of interaction was planned between the 2 methods so that they comprised distinct strands of equal priority addressing different elements of the research questions with concurrent but separate data collection and analysis (Greene 2007). This constituted a convergent parallel design, with concurrent timing during the same phase of the research process, prioritising the methods equally, keeps the strands independent during analysis and mixing the results during the overall interpretation (Creswell et al 2003; Creswell & Piano Clark 2017).

The rationale for choosing this design was that; it was felt that there was equal value in collecting and analysing both quantitative and qualitative data to understand the problem and address the research questions. I had limited time for collecting data so needed to maximise each visit to the field by collecting more than one type of data on each visit. In addition, I had previous experience in both research methods, and I felt at the planning stage that the data collection and analysis would be manageable for a sole researcher given the original sample size (Morse & Niehaus 2009; Creswell et al 2003). The strict requirements of the NHS ethical approval protocol also necessitated that all methods were pre-specified and not modified during the study timeframe without a lengthy re-application process.

In order to enhance the credibility and reliability of the findings I planned a methodological triangulation between the different qualitative methods such as semi-structured interviews, patient satisfaction surveys, and patient comments in PIE summaries (Wilson & Hutchinson 1991; Morse 1991). With the same aim I also planned a triangulation between these qualitative approaches and the quantitative approaches related to the observational and case note audit and the falls and discharge data (Wilson & Hutchinson 1991; Morse 1991). Including data from different groups also offered the potential for corroboration in terms of person triangulation (Denzin 1989). Unfortunately, as I was the sole researcher it was not possible to attempt investigator triangulation where two or more investigators from different backgrounds work together on the same study (Kimchi et al 1991). The methods of data collection utilised to address the research questions will now be discussed.

Methods of data collection

Table 1) Methods of data collection

Question	Methods used	Analysis
1)	Secondary Trust informatics data; falls, length of stay, discharge destination, readmission rates.	R software-Poisson regression & SPSS- chi square test of association
2)	Case note & observational audit. Environmental audit tool, Environmental Assessment Tool (EHE) Semi-structured staff interview. Secondary Trust data; PIE, Patient experience survey	SPSS- chi square test of association Nvivo, coding by sole researcher R software-binomial regression

Case note & observational data

To answer the second research question a case note and observational tool was used to evaluate care practices on the wards (Appendix A) for all 180 service users in the study population. I developed the tool in an ongoing dialogue with colleagues and service users, which exemplifies the praxis process (Winter 1989). It has been used to conduct audits of multi-disciplinary standards of in-patient care at the host Trust over the past 7 years and has proved consistent in use with large sample sizes within the host Trust (Cormack 2000). It has also provided consistent results in another similarly sized acute Trust in the same geographical area that has previously acted as an audit

'buddy' with the host Trust, to facilitate comparison and on-going validation of the tool, and the sharing of good practice. (Cormack 2000).

The tool can be criticised for not being fully validated but it was designed as a response to the lack of relevant validated audit tools for use in acute hospital environments (Brooke & Semlyen 2019). Its use in this study will assist in that validation process and is also an element in the on-going cycle of action research generated by previous work in the Trust and as a result of a continuous process of negotiation with clinical colleagues (Winter 1989). Although conversely in light of the previously discussed criticisms of action research this could also be seen as a source of potential subjectivity, and evidence of a tendency for the researcher to be over involved (Kock 2004).

The tool incorporates a case note review and observational element which required me to search each patient's case notes/care plans and make observations around the bed space. Details were taken of:

- Age, gender, medical conditions, date of admission, and home circumstances (whether they were living at home or in residential care, etc.
- Care planning and patient involvement in care.
- Adherence to trust guidelines on assessment of mental state, tissue viability, nutrition, communication, and social circumstances.
- Adherence to national and local guidelines on use of equipment such as bedrails and low profiling beds, and on forms of restraint.
- Adherence to national and local guidelines on prescribing of sedation for older people and on local/national guidelines for managing agitation and confusion.
- Patient access to call bell and drinks.
- Therapeutic practices such as service users being dressed in their own clothes and wearing suitable footwear (which affects their ability to maintain their dignity and independence).

I followed a process of determining capacity, explanation and obtaining consent from the patient or representative, (which is detailed further later in this chapter). I would then greet the patient and re-introduce myself, to remind them of my purpose and in order to monitor on-going consent in people who might have fluctuating levels of cognitive ability (Dewing & McCormack 2015). I would position myself to one side at the foot of the bed to avoid a confrontational or threatening physical stance of directly standing over them or immediately in front of them (Dewing & McCormack 2015).

I then completed an individual printed version of the audit tool in pen, noting the relevant physical elements around the bed space and any pertinent documentation in the patient records at the end of the bed, such as care plans or risk assessments. This involved time periods around the bed space of between 20-30 minutes to obtain consent and provide information and then if this was successful approximately 20 minutes observation in the bed space. That was then immediately followed by a further approximately 30 minutes at the nursing station or ward office collecting other information from the patient's notes. Although that time period did not include the almost inevitable delays in accessing those notes if they were already being used by one of the clinical team on the ward. These individual observations were completed for all 180 patients in the study population.

Environmental data

In order to answer both research questions an environmental audit tool was used to compare the differences in terms of the built environment between the three wards and highlight the aspects of those environments that contribute to a dementia friendly built environment, or indeed are the antithesis of that. The environmental audit tool which I had developed (see appendix A), Incorporates questions on whether the built environment conforms to best practice guidelines, with a dementia friendly environment denoted as incorporating seven or more of the available recommendations previously discussed (DSDC

2007; NHS Confederation 2010; Design Council 2011; Yates-Bolton et al 2012; Royal College of Nursing (R.C.N.) 2013; Dementia Action Alliance 2018).

The environmental questions also focus upon the evidence there is on each ward to denote support for a person-centred approach; staffing ratios, displayed mission statements, overt display/use of patient centred policies and documents that promote patient centred care, such as the 'All about me' document.

As there were no validated environmental audit tools for use in acute hospital environments (Brooke & Semlyen 2019), I had to develop my own for this study but as this had not been previously used, I had not had the opportunity to validate it. This was considered to be a methodological weakness and in consequence I also used another widely used but un-validated tool, the EHE Environmental Assessment Tool, (The Kings Fund 2013), in order to test the consistency of the results between the two instruments.

The total sample size of 3 wards was considered to be too small for the use of inferential statistics, such as using Spearman rank correlation coefficient to estimate the correlation for non-parametric variables, (Harris & Taylor 2014), the numeric results were converted to percentages and compared. This revealed a high degree of consistency between the two sets of results, with very similar proportions derived from the two instruments. The researchers own tool obtaining scores of 5/15 (33%), 11/15 (73%), 11/15(73%) on the three wards, and the EHE scores of 76/225 (33.7%), 162/225 (72%), 162/225 (72%).

Staff interviews

To answer research question two a confidential semi-structured staff interview (Appendix A) was utilised to evaluate staff perceptions and attitudes. A semi-structured interview is one where the interviewer is guided, wholly or in part, by a set of questions (Barker 2000).

The interview sheet was comprised of a mixture of closed and open questions. The questions pertained to; their attitudes to care, the availability of staff training to care for people with cognitive problems and their perceptions of the challenges they faced within their work, their feelings about the standard of care on their wards and the support that they receive to achieve patient-centred approaches. The semi-structured interview guide had again been derived from my previous work within the Trust as part of the action research dynamic (Streubert Speziale 2007b).

I also included a question related to the therapeutic orientation of the ward staff which was taken from an instrument that I had previously validated in an MSc research study which assessed nurse attitudes towards older people in 3 hospital sites across England and Scotland (Keenan 1987). In answers to the question “How would you describe the nurse’s role in the care of older people?” short responses such as “looking after their needs” are not taken as exhibiting an attitude to care without asking the respondent to qualify it. Again, this is done by means of asking them to elaborate upon, explain, or give an example of what they were saying. In this way staff can define their own terms, and the different meanings attached to words can then be identified (Holloway and Wheeler 2002). This also obviates the problem of care assistants who do not know the correct terminology.

In this study the researcher was to some extent a known quantity, particularly to the ward managers. Not only had I sought their agreement in the methodology but had collaborated with some of them in previous action research cycles. As some of the staff participants were known to me it could be argued that they were subject to a social pressure to be involved or that I could influence them during the process (Riel and Lepori 2014). However, Miller and Glassner (2004) would argue that this element of familiarity would promote the intersubjective depth and mutual understanding that an interviewer requires to achieve social knowledge. Within the appreciative inquiry approach the

researcher's immersion in the 'lived experience' of the respondents' reality rather than being seen as a source of bias can be viewed as assisting her ability to ask the right questions and to make legitimate claims (Miller and Glassner 2004).

In practice I found that the ward staff, most of whom I had not previously met, were reluctant to agree to be interviewed, and most of the nurses I approached in the early stages of data collection refused stating that they were 'too busy'. My reflections in my research journal/field notes on this lack of success led me to an acknowledgement of their fears and distrust at this 'outsider' who was not obviously 'one of us', culturally and socially different and a potential threat (McDougall 2000).

Delays in the data gathering phase of the project, which are explored later in this chapter, actually assisted in overcoming these issues. Because the data collection period became extended from six to nearly eleven months I became a regular fixture in the ward environment, and consequently more accepted as part of the culture (McDougall 2000; Streubert Speziale 2007b). It allowed me to observe and absorb the social milieu and assisted me in what Sixsmith et al (2000) describe as 'being there'. My interventions to assist in patient care, described later in this chapter, also seemed to assist in my acceptance as 'one of us', a more trusted entity (McDougall 2000; Streubert Speziale 2007b). Gradually more staff were willing to be interviewed, and I believe that their positive feedback to their peers following the interviews encouraged other staff members to engage. My field notes describe this as a 'contagious' process, with ward staff visibly encouraged by witnessing the agreement to be interviewed of their peers on the ward.

I had intended to conduct these interviews in a private space away from the ward (McDougall 2000) but when I commenced the interviews I found that asking a member of staff to withdraw from the clinical setting for even a short

period was almost impossible so had employed a variant known as 'walking interviews', which has been advocated in the literature as a useful tool in exploring the working lives of professionals (Evans & Jones 2011).

Although this method addresses the pragmatic difficulties of reaching very busy practitioners it can be criticised for compromising the safe and confidential setting required for sensitive discussions (McDougall 2000; Rinaldi Carpenter 2007a). However, my experience was that once the respondents were engaged in conversation with me and became interested in the questions, many suggested relocating to a staff room, office, or more private location which they had initially deemed impossible. The interviews however were generally shorter than I had envisaged, although two of the trained nurses spent 30 or 40 minutes with me this was the exception and most of the participants only allowed me 10-15 minutes for each interview which limited to the depth of the conversations and the opportunities for elaboration and exploration of what was said (Creswell & Piano Clark 2017).

An attempt was made to tape record the staff interviews to enhance accuracy and demonstrate reliability (Lincoln & Guba 1985). However, this was subject to individual agreement, and it was found that only a minority of the trained nurses in the sample agreed to this, and none of the health care assistants. Consequently, most of the interviews were written contemporaneously as near to verbatim as the speed of notation allowed. The tapes that were recorded were transcribed immediately and then destroyed. The anonymised results were compared to the findings in the other areas of the study in order to evaluate the pervasiveness of the social culture of care and in attempt to understand the link between the physical and social aspects of the ward environment (Rinaldi Carpenter 2007b).

There are limitations associated with the semi-structured interview and with interviews more generally; it is not possible to guarantee that the participants

are being truthful or telling the 'whole' truth rather than concealing the more embarrassing or 'risky' versions, they may be attempting to give their interpretation of what they perceive that the interviewer wishes to hear (Guba & Lincoln 1994; Streubert Speziale 2007a). In addition, cause and effect cannot be inferred –so that expressed attitude may not translate into their actual behaviour in the practice area (Guba & Lincoln 1994; Streubert Speziale 2007a). It is also possible for the interviewer to introduce bias through leading questions or behaviour (Guba & Lincoln 1994; Streubert Speziale 2007a). Also, open ended questions are more difficult to analyse, and it may be more difficult to compare answers (Guba & Lincoln 1994; Streubert Speziale 2007a).

I considered that some at least of these difficulties could be overcome by academic rigour (Guba & Lincoln 1994). In particular by utilising methodological triangulation between the different qualitative methods such as semi-structured interviews, patient satisfaction surveys, and patient comments in PIE summaries (Wilson & Hutchinson 1991; Morse 1991). In addition, by triangulation between these qualitative approaches and the quantitative approaches related to the observational and case note audit and the falls and discharge data (Wilson & Hutchinson 1991; Morse 1991). I also felt that the disadvantages associated with interviews were outweighed by the potential this technique had for; offering perspective; generating large amounts of data, embodying a flexible and sensitive method, and having the potential to be reliable and offer accessible data to analyse (Streubert Speziale 2007b).

Secondary informatics data

To address research question two secondary data available within the Trust was accessed. This was used to compare care practices on the specifically designed ward environments with the other standard medical ward on the same geographical site. What was particularly pertinent to this issue was the data that is generated by use of the PIE tool, which was used in the Royal College of Psychiatrists (2011) Report of the National Audit of Dementia Care in General

Hospitals. This has been adopted nationally by many acute Trusts as a routine part of the clinical governance cycle, and consequently a database of PIE observations is collated routinely within the Trust (Godfrey et al 2018). Again, the inclusion of this tool in the study is part of the on-going dialogue between the researcher and the clinicians, and a result of their collaborative decision making as part of the action research process (Winter 1989).

The PIE is an observational method that aims to describe the social culture for person-centred care experienced by people with dementia or confusion in general hospital wards. Real time observations of 5-10 people with dementia or cognitive impairment take place for 2x2 hour periods, one in the morning and one during a mealtime. Background information about the people receiving care and the ward is recorded, as well as comments about their care made by service users or their significant others.

The levels of interaction are graded into 5 fields: positive social interaction, positive personal care, neutral care, negative protective/ controlling care, and negative restrictive care/subtle abuse (Dementia Care Matters Ltd 2013), Examples are given in the training manual regarding each category (Dementia Care Matters Ltd 2013). Positive social interaction comprises behaviour such as: talking about something positive you love/ notice about the person, asking someone how they are feeling, sharing something about yourself, noticing and commenting about the day, the weather, something funny. Positive personal care comprises behaviour such as: doing the task with real sensitivity, acknowledging the person, and ensuring it is done with attention to the person's dignity. Neutral care comprises behaviour such as: just doing the task and standing there without addressing or speaking to the person once you've started and walking away after finishing the task in silence. Negative protective/ controlling care comprises behaviour such as: telling the person that they're to do as they're told, to sit still, stop fidgeting, and that they know very well what is being done to them. Negative restrictive care/ subtle abuse comprises

behaviour such as: sighing, treating the person as a bother, saying “don’t you remember where you are” and “I’ve just told you this needs to be done to you”, and generally ignoring the persons reality.

The Trust staff routinely conduct the PIE observation, so that the data summaries related to the wards in the sample population was available to be analysed by myself to explore differences in social culture between the wards with a dementia friendly physical environment and the other ward in the sample population. I was not however involved directly in conducting the PIE observations and only had access to the summaries of this data, the raw data no longer being available.

This made for a much cruder, less specific analysis than I would have chosen. It also meant that I could not as I had envisaged gain access to the comments made by service users, only the summaries compiled by the Trust staff, which limited my ability to represent the service user’s view. Unfortunately, by utilising secondary data instead of conducting P.I.E. observations myself I was restricted from accessing this richer raw data. However, given the resource issues for the project this was not possible.

Nor were the particular patients in the sample necessarily included in these observations as they were for a single observation period within the study timeframe for each of the three wards. However, although they did not offer a direct comparison with my sample population, they did give a detailed picture of the levels of staff/patient engagement and interactions on the three wards, and as these were collected on a regular basis the findings could be compared to previous observations on the same wards to obtain a more accurate longitudinal comparison to establish the credibility of the results (Morse 1991). Additionally, by including the observations of other individuals I could incorporate an additional element of comparison and confirmation, to explore whether the research method of another investigator triangulated with another

qualitative method of my own (Denzin 1989; Kimchi et al 1991; Rinaldi Carpenter 2007).

To address research question one regarding patient outcomes I also utilised Trust informatics data that is routinely collected on length of stay, discharge destination, readmission rates, and rates of falls on the specific wards under investigation to compare differences in outcomes in the purpose-built environment. Although the rates of falls had to be extracted from the generalised statistics for that time period, advances in technology enabled the Senior nurse supervising the data collection to use the date of birth to track each patient involved in the study on the computerised system on site and give details regarding length of stay, discharge destination, and readmission rates for the specified patients, no patient identifiable information was removed from the Trust premises.

The rationale for collecting these particular elements is that they are recognised internationally as key indicators of the quality of care and discharge planning (Halfon et al 2006), and of safety (Agency for Healthcare Research and Quality 2013). Unfortunately, the falls data was more basic than I had envisaged and detailed only the number of falls per ward rather than the detailed circumstances of those falls, which limited my analysis. This was because 'rates of falls' had been specified in my NHS Ethics protocol rather than a range of falls data so that the informatics team were reluctant to provide wider information without formal NHS Ethics re-approval for modifications. This can be seen as an example of an identified issue with the complex action research process which can leave the researcher vulnerable to complications associated with conducting research in an organisational milieu (Noffke 2009).

Patient experience survey

In addition, the study also incorporated secondary data provided by The Trust user satisfaction questionnaires in the form of the Patient experience survey,

which is routinely collected by the Trusts, and was envisaged as being used to assist in denoting differences in levels of satisfaction between the specific wards under investigation. This information however did not relate specifically to the individuals in the study but is a generalised anonymous summary of the period during which the research was being undertaken.

The intention was to explore this data to identify relationships with the research findings, and to solely collate and analyse that data. Patients are admitted through the Accident and Emergency department and allocated randomly to the medical wards, but I was aware that more dependent older people were often transferred from the general wards to the dementia friendly wards following the initial admission to hospital, and this potential lack of homogeneity may have an influence on the findings of the Patient experience surveys (Munro 2005).

However, delays occurred in the process of obtaining this information. The patient experience team were worried that they were contravening ethics as they had told the people completing the satisfaction surveys that they would not share the forms or reveal actual comments. What followed was a protracted process of negotiation to convince them that I had been given NHS Ethics approval and Trust governance approval to have access to the surveys. Access was only given after completion of the study and very close to the date the thesis had to be submitted.

The data which was eventually released proved to be less substantial than I had anticipated, for example, for one ward only one survey had been completed in a six-month period. Also, I was given the survey synopsis with the actual service user comments obscured because of the perceived issues of maintaining confidentiality.

This effectively curtailed the planned methodological triangulation between the various methods and limited the corroboration intended to enhance the

credibility and reliability of the findings (Wilson & Hutchinson 1991; Morse 1991). Unfortunately at that point it was impossible to augment this element by using an alternative method due to the time constraints and the need to obtain ethics re-approval for modifications in the methods, so again the 'realpolitik' of the organisation influenced the conduct of the research (Noffke & Somekh 2009).

My field notes attest to the feelings of powerlessness, distress and panic caused by this intransigence, and that if I had not been working within a praxis framework in close collaboration with senior clinicians within the Trust, then I probably would not have received any information at all (Winter 1989). It was only the influence that they exerted that eventually resulted in the minimal information that I received being sent to me after six months of requests. Upon reflection had I worked more collaboratively with that particular department, both prior to the commencement of the study and during the research gathering period, I would have been able to forestall these difficulties and allay their concerns more successfully. The fault was mine in not establishing the full collaboration of all the colleagues involved in the process that is required of a complete praxis model (Winter 1989). However, it is not always easy to establish effective communication networks in such a large complex organisation, and this situation serves as an example of the practical difficulties involved in working within this paradigm (Walter 2009; Noffke 2009).

The setting

The environments in which the observations were being conducted were 3 medical wards at a large urban acute general hospital NHS Trust in England, U.K. All the medical wards have a mixture of side rooms and multiple bedded areas, but one is a standard medical ward and the others purposively adapted wards for people who are cognitively impaired. Observations were conducted utilising both the previously discussed environmental audit tools to give a

detailed description of each ward that would include details such as: use of baffle locks, zoning, signage, pictorial cues, flooring, handrails, use of colour coding in curtains and bed linen, personalising of bed spaces, use of white boards and clocks, use of music and lighting, access to outside spaces, etc. More detailed descriptions of the wards are included in the next chapter.

Participants

It was proposed that the sample population (n) would consist of a convenience sample (Cormack 2000), of 60 people who are classified as in-patients during a designated period on a specifically designed medical ward compared with a homogenous sample of 60 people on another medical ward in the same Acute Trust in England during the same time period. Although there are limitations to using convenience samples in terms of demonstrating random selection and exclusion of bias, it was necessitated by the constraints of the setting and study practicalities (Cormack 2000). This figure was estimated in line with the requirements of the power equation for the size requisite to provide statistically significant results (Cormack 2000). The power equation is as follows:

Effect size= 0.5

@ Prob= 0.5

Power= 0.80

Allocation ratio N2/N1= 102

Sample size gp1= 51

Sample size gp2= 51

Sample size = 102

Actual power = 0.8058986

Degrees of freedom= 100

However due to the disproportionate sizing between the dementia friendly (24 beds) and the standard medical ward (36 beds) in the study, the identified Trust Research lead had recommended that sampling would need to be conducted

on 2 of the smaller dementia friendly areas to achieve the full sample population so another dementia friendly ward (31 beds) was included in the sample.

I subsequently made the decision to collect a full sample of 60 patients from each of these areas in addition to the 60 patients on the standard medical ward, which constituted a sample of 180 in total. I considered that trying to combine the data from the dementia friendly wards may have led to misrepresentation within the results as they were not in effect one specific group subject to the culture and social milieu of a specific ward and would not represent a homogenous group to compare to other wards (Munro 2005a). The power calculation had also been estimated on the basis of comparing one ward against another, so that a compromise might alter the significance of any findings (Munro 2005a). Also, the staff interviews would have been compromised as amalgamating the staff as one unit would be misleading, might not reflect the culture of each individual ward and offer little in the way of meaningful results as they too would not represent a homogenous group (Munro 2005a).

The sample population now comprised 180 in-patients with an Abbreviated Mental test (Hodgkinson 1972) score of less than 7 or a formal diagnosis or identification in the case notes or nursing handover documents of delirium, dementia, cognitive impairment, or confusion –whether in hospital or a previously recognised issue in the community (for example, receipt of a licensed drug for the treatment of dementia). Exclusions included those whose predicted length of stay was less than 24 hours, those who required critical care, and those individuals who decline to participate or whose advocates decline permission to participate in the study.

Initially the exclusions also included individuals with a Charlson comorbidity Index, (an indicator of co-morbidity), score of 6 or more (Charlson et al 1987).

However, as I commenced data collection on the 'dementia friendly' wards I discovered that Charlson dependency ratings of the patients were higher than predicted and as the exclusion criteria dictated. To complete the research, it was necessary to compromise and collect a sample with a higher dependency on the dementia friendly wards and compare the similarity of dependency with the cohort on the standard medical ward.

In addition, a purposive cohort sample ward staff of all grades on each of the 3 wards within the sample group were recruited to participate in the semi-structured interviews. Purposive sampling was considered to be appropriate for the selection of participants for the purpose of describing a phenomenon that they have experienced (Lincoln & Guba 1995). In effect this comprised a purposive sample of the staff on duty during the data collection period who agreed to be interviewed. A sample of ten ward staff of all grades on each of the 3 wards within the sample group, (30 in total), were interviewed (Creswell & Piano Clark 2017)).

The views of service users and carers is fundamental to any study of this nature, and they should always be represented throughout the research process (Dewing & McCormack 2015). Unfortunately, with limited resources of time and researchers it was not feasible to conduct patient/carer interviews as part of the study. To complete the research within the study time, frame a compromise had to be made, and hence the views of service users and carers were represented using secondary data provided by the Trust.

This consisted of the Patient experience survey used within the Trust, and via the Person, Interaction and Environment tool (PIE) (Royal College of Psychiatrists 2011) data collected as part of the Trust audit process and which included service user comments. The problems encountered with that data have been discussed earlier in this chapter, and these limited the usefulness of

this data in representing the authentic voice of the service users (Dewing & McCormack 2015).

Methods of data analysis

The research team consisted of a lone researcher, the primary data was collected and coded solely by myself, and the figures from the secondary data extracted by the senior nurse but analysed solely by me. The qualitative data from the semi-structured interviews was catalogued using NVivo (2012) and coded by myself. The answers to the core interview question “How would you describe the nurse’s role in the care of older people?” are categorised as denoting either therapeutic or custodial attitudes to care.

To confirm the credibility of the findings an attempt was made to assess whether the participants recognised the interview records to be true to their expressed views of their experiences, a form of ‘member checking’ was utilised (Yonge & Stewin 1988; Creswell 2003). This respondent validation took the form of the notes being read back to them at the end of the interview for confirmation of accuracy of interpretation, to identify omissions and to garner any further elaborations (Haggman-Laitila 1999). This method is considered to be appropriate to the use of a semi-structured interview allowing the respondents to expand on or amplify their responses, which is particularly valuable in ascertaining the meanings and importance that the respondents ascribe to various circumstances rather than the researcher interpreting them from her own subjective perspective (Barker 2000).

Returning to do this at the report writing stage was considered to be impractical and presenting a burden to the ward-based participants who viewed the research as an interruption of their work (Richard & Swartz 2002).

The coding involved thematic content analysis of the anonymised transcribed data; a method of identifying, describing, and reporting patterns and themes

that is suited to detailed and complex accounts (Braun and Clarke 2006; Vaismoradi et al 2013). It involves the identification of common threads, overlap of ideas, and repetition of the views expressed that extend across entire sets of interviews (Rinaldi Carpenter 2007c; Vaismoradi et al 2013). With the assistance of another experienced researcher, we performed the initial analysis and coding employing a constant comparison method of coding and analysing data through three stages of: open coding, axial coding, and selective coding (Starks & Trinidad 2007). Open coding involves examining, comparing, conceptualising and categorising data (Starks & Trinidad 2007). Axial coding involves the process of data re-organisation into groupings according to relationships and patterns within categories (Starks & Trinidad 2007). Selective coding involves the identifying and describing of the core concepts and themes (Starks & Trinidad 2007).

Saturation was considered to be achieved when there was a sufficient commonality, overlap of ideas and repetition of views expressed (Rinaldi Carpenter 2007c). Although this is difficult to quantify and was not conducted with a specific figure to follow, a post analysis review indicates that this was considered to have been achieved when a minimum of 3 members of staff from all the wards (10% of the sample population) had expressed the same or similar views (Rinaldi Carpenter 2007c). This was mainly an inductive process although the question relating to attitudes was informed by my previous research into therapeutic and custodial attitudes. Descriptive statistics were used to explore the results of the interviews (Cormack 2000). The results are presented as numbers rather than percentages to aid clarity and avoids unintentional misrepresentation of smaller numbers where other types of representation would be misleading (Duffy & Jacobson 2005). The figures have been further expanded upon and illustrated with details of verbatim transcriptions from the interviews.

One of the University of Stirling research supervisors was involved in checking the themes and codes against the transcribed comments (see appendix C for coding sheet). Having a second researcher to review and verify the data and coding facilitated investigator triangulation and consequently enhanced the demonstrable objectivity and validity (Rinaldi Carpenter 2007b). Six themes arose from the interviews: Preparedness for care', 'How I care', 'Being able to care', 'Challenges I face in my work', 'Ward environment' and 'Length of employment on ward'. Related sub-themes were also identified: task orientated, involving the person/ family in care, dignity and respect, empathy, autonomy, enablement, understanding/ accepting the nature of dementia, appropriate environment, impact of behaviour, mix of patients, staffing, staffing linked to poor care, pressure for throughput, unprepared/need more support, aspirational, years of service, attendance on dementia training courses or provision of guidelines, positive or negative views regarding the ward environment (see tables 2 and 3 for details).

Table 2) Interview themes

	Themes
1)	Preparedness for care.
2)	How I care.
3)	Being able to care.
4)	Challenges I face in my work.
5)	Ward environment.
6)	Length of employment on ward.

Table 3) Interview sub-themes

Sub-themes	Sub-themes	Sub-themes
Understanding/accepting the nature of dementia.	Involving the person/family in care	Unprepared/need more support
Task orientated.	Enablement	Autonomy.
Dignity & respect.	Empathy.	Appropriate environment.
Impact of behaviour.	Staffing.	Staffing linked to poor care
Mix of patients.	Pressure for throughput.	Aspirational.
Years of service.	Attendance on dementia training/provided guidelines.	Positive or negative views regarding ward environment.

As part of the process of saturation in the research data a research journal/field notes were kept both as a process of self-reflection, to 'dwell' in the data, and to have a record of how the activities and thought processes led to the conclusions- hence providing an audit trail (Lincoln & Guba 1985; Streubert Speziale 2007b; Creswell & Piano Clark 2017). It was intended that this would achieve the objective of confirmability (Streubert Speziale 2007b). However, it could be argued that only the researcher who has collected the data and been immersed in that research can confirm the findings (Morse 1989; Sandelowski 1998).

For the quantitative data, because this is a cohort study the sample group does not constitute a normal distribution, and consequently non-parametric

measures were used (Munro 2005a). So that inferential statistics could be used all the data from the case note and observational instrument was categorised in the form of nominal scale data, with numeric values assigned as labels (Duffy & Jacobsen 2005; Macnee & McCabe 2008). This had the advantage over descriptive statistics in allowing the results to be allied to the body of probability theory to enable me to discern whether differences and relationships arose by chance, and the strength of the probability that they did not occur by chance (Macnee & McCabe 2008). It also allowed me to test the strength of relationships and associations between different variables (Macnee & McCabe 2008). To achieve this, I used contingency table analysis to obtain a chi-square test of association-where actual numbers in each group are compared with the expected number to test the association between different elements (Munro 2005a; Duffy & Jacobsen 2005; Macnee & McCabe 2008). Statistical Package for the Social Sciences (S.P.S.S.) version 24 was used for the inferential analysis (Cormack 2000; Pallant 2005). The readmission rates and length of stay were also transformed into nominal scale data so that they too could be allied to the body of probability theory using contingency table analysis to obtain a chi-square test of association, again using S.P.S.S. version 24 for the inferential analysis (Cormack 2000; Duffy & Jacobsen 2005; Pallant 2005).

There were 36 S.P.S.S. variables which were: ward, type of ward (whether dementia friendly or standard medical), age of patient, their Charlson score, whether a cognitive assessment had been completed, type of confusion or cognitive impairment noted, whether there was a care plan for cognitive impairment, whether there was a risk assessment for cognitive impairment, whether there was evidence of regular review by professionals, whether there was discussion of the care plan with the patient, whether there was a discussion of the care plan with the family/significant others, whether there was referral to specialist services, whether there was evidence of the patient having multi-disciplinary review and evidence of team contact weekly, whether there was evidence of a communication assessment being completed on admission,

whether there was evidence of a mobility assessment being completed upon admission, whether there was evidence of a social assessment being completed on admission, whether there was evidence of a nutritional assessment being completed on admission, whether there was evidence of a Waterlow tissue viability assessment being completed on admission, whether bedrails were in use, whether there was evidence of consent for this, whether there was evidence that this was a formal clinical decision, what mattress type was in use, what type of bed was in use, whether furniture was restricting movement, whether there was open access to the ward, whether equipment was hindering movement, whether day clothes were worn, what type of footwear was worn, if sedation was in use, whether there had been consultation with the patient or family regarding sedation, whether a call bell was accessible, whether a drink of water was accessible, whether there was readmission to the ward within 1 month, and discharge destination (whether back to own home or residential care, or specialist unit).

R software was also utilised to analyse some of the secondary data (R Core team 2013), facilitating the use inferential statistics (Macnee & McCabe 2008). This included the rates of falls which were analysed using Poisson regression which allows for the calculation of the frequency of events (Harris & Taylor 2014; Macnee & McCabe 2008). The variables for this were the number of falls per month on each ward in the time period of the study. The software was also used in connection with the analysis of the PIE data, using binomial regression to delineate the relationship between the type of ward and PIE scores (Harris & Taylor 2014; Macnee & McCabe 2008). Again, the justification for the use of inferential rather than descriptive statistics was in allowing the results to be allied to the body of probability theory to enable me to discern whether differences and relationships arose by chance, and the strength of the probability that they did not occur by chance (Macnee & McCabe 2008). Also, to enable me to test the strength of relationships and associations between different variables (Macnee & McCabe 2008).

The study sought to achieve a triangulation of the methods that would demonstrate the dependability of the findings (Morse 1991). This was intended to enhance the credibility or integrity of the findings, both in terms of completeness and in combining and comparing results between the methods so that they were mutually corroborated (Bryman 2006). This triangulation of the information from multiple data sources is a recommended process in action research (Stringer 1999).

In this study it took the form of methodological triangulation between the various quantitative and qualitative approaches and between the different qualitative methods to corroborate the findings (Wilson & Hutchinson 1991; Morse 1991). Additionally, by utilising the secondary data which included the observations of other individuals I could incorporate an additional element of comparison and confirmation, to explore whether the research method of another investigator triangulated with another qualitative method of my own (Denzin 1989; Kimchi et al 1991; Rinaldi Carpenter 2007).

However, there are few models for the use of triangulation protocols that identify specific processes and their outcomes (Briller et al 2008). There are also implications for combining methods that Morse (1999) states can result in methodological chaos and research resource misuse. Different paradigms have different philosophical assumptions that inform the method, so too do different approaches within the same paradigm (Lambert & Loiselle 2007). It can be challenging to determine a similarity of views when different sources of data are used or because different methods are implemented (Lambert & Loiselle 2007).

I had used triangulation between methods and across methods for completeness, to achieve a comprehensive account but Sandelowski (1995) challenges the notion that complementary views contribute to a more comprehensive understanding, or that there can be one fixed reality upon

which to converge when that is a concept that is challenged within the qualitative paradigm. She argues that triangulation with the aim of completeness defies the original metaphor of the triangle and that the term triangulation is more appropriately used for confirmation of findings (Sandelowski 1995).

In my own triangulation, I used a convergence matrix, a method which is recommended in the literature (Lambert & Loiselle 2007, Briller et al 2008). This was then used to track the degree of similarity or difference across the various elements (see table 4). I experienced the issues identified by Morse (1999) regarding the problems arising from combining methods and data sets. In particular, by attempting to use secondary data which had been designed collected and analysed for another purpose, and about which I no information regarding the methodological underpinnings or rigour (Barbour 1998). Although I could still discern patterns between the data sets, this inhibited my ability to demonstrate the credibility and confirmability of the findings (Lambert & Loiselle 2007; Streubert Speziale 2007c)

Table 4) Triangulation codes

Label	Definition
Full agreement.	The elements compared identify similar concepts/ the results accord completely
Partial agreement.	There are some similarities between the concepts/ the

	results accord to a limited extent.
No agreement.	There are no similarities in the concepts identified/ no accord between results.
Disparity	The concepts identified/results contradict or conflict with other findings.

Ethical issues

The ethical principles of beneficence, autonomy and justice guided the design of this study (Beauchamp & Childress 2001). They encompassed such issues as informed consent for both staff and patients, anonymity, and confidentiality, safeguarding from harm, participant-researcher relationships, and data generation, treatment, storage, and publication (Rinaldi Carpenter 2007a). I will discuss these elements in more detail within this section.

These issues are more complex when conducting research with participants who are cognitively impaired (Kelly 2007). There is an on-going debate regarding the over reliance on consent from next of kin rather than the participants themselves, and the erosion to the participants autonomy as a result of this (Dewing 2002; Vass et al 2003).

I chose a process that involved a mixture of seeking on-going consent from those participants who were deemed to have the capacity to understand and obtaining proxy consent from next of kin (Dewing 2002). This process was reliant on the discernment of the ward clinical staff to decide if access was appropriate, which can be problematic as it has been suggested that care staff do not always recognise the communication potential of people with cognitive impairments (Killick & Allan 2001; Sabat 2001; Vass et al 2003). However, these choices were limited within the strict requirements of both the NHS Ethics and HRA Ethics approval process and the Trust governance approval process which all had to be completed separately.

Access and ethical approval

I had been involved in regular collaborative audit and change management processes with the Trust clinical team for several years so encountered no difficulties in identifying provisional approval and agreement for the study at a local level. A Senior Nurse agreed to act as my research supervisor to provide regular management meetings and ensure the highest standard of research conduct by myself. In addition, she would facilitate access to ward areas and staff meetings to brief the teams about the study. The research required separate and sequential ethical approval from; the Stirling NICR Ethics Committee, NHS Ethics local committee approval, NHS HRA approval and the Trust Research Governance approval. I had to make modifications to achieve the initial University Ethics approval but from that stage I was granted approval upon the first application at every stage of the process. Despite this the whole process following University Ethics approval still took nearly eleven months to complete, much longer than the 6-month period that I had assumed.

Consent-patients

Access

The nursing and medical staff on the ward identified whether patients met the inclusion criteria and whether they had capacity to consent or if proxy consent was appropriate.

However, my field notes witness that the nursing staff were not always sure whether the older people in their care had the capacity to consent and were reluctant to seek confirmation of this, which contributed to delays in achieving the full sample. My experience accorded with that of previous researchers who found that care staff underestimate the ability of people with cognitive impairment to participate autonomously in research (Killick & Allan 2001; Sabat 2001; Vass et al 2003).

Informed consent

Written information regarding the study was distributed on the wards 24 hours in advance of formal written consent being sought (please see information leaflets and consent forms in appendix A). This information included telephone contact details for the researcher so that further verbal explanations could be given to ensure informed consent.

Refusal and withdrawal

It was made clear that refusal or withdrawal could be made at any time and that this would not affect their care. In practice, my field notes reflect that the patients and their relatives, who were often very elderly, proved reluctant to provide consent or they would provide verbal consent but were reluctant to sign anything. For every participant recruited in the first few months there had been 3 other refusals. My field notes conclude that with my lack of uniform they may have perceived me to be an 'outsider' of perhaps dubious intent. This situation improved as I gained confidence in my approach and changed the timing of my data collection. My field notes detail that collecting data in the evenings and at weekends proved much more successful as there were more relatives present,

which reassured nervous potential participants and was useful if proxy consent was required.

Confidentiality and anonymity

Participants were assured that they would remain anonymous and that their details would be managed to ensure confidentiality.

Storage and handling of data

Copies of the consent form were kept by the participant and in patient records, no copies were removed from the Trust in line with Trust Research Governance requirements. Patient identifiable information was minimised on the data collection instruments and no patient identifiable data removed from Trust premises, again to accord with Trust Research Governance requirements. I was supervised during the data collection by a senior nurse from the Trust.

On-going consent

I attempt to minimise disruption for the service users being observed and augmented the written information and consent form regarding the research with a verbal introduction of myself and a further verbal reiteration of details about the study on each occasion of observation in a process of on-going consent as capacity in this group of participants might fluctuate (Dewing 2002). I was very aware that this is a sample population that may not be able to give informed consent or be full partners in the research process (Dewing and McCormack 2015) and their autonomy inadvertently contravened, which would be against the whole ethos of the project. I am an experienced nurse who is well practiced in the practicalities of undertaking research in this area and strove to uphold the autonomy and choices of the older people in the sample population, deselecting them from the study after written consent if there was any equivocation about expressed or inferred consent at the time of data collection.

Safeguarding/avoiding harm

There was also always a danger that being observed might prove disturbing for an older person who is confused and could also result in increased agitation (Dewing and McCormack 2015). I was aware that demonstrating sensitivity and respect for the older person and for their choices effectively manages the disruptive aspects of the research, and there were no occasions where the data collection was observed to be disturbing for the older people in the sample.

I had a professional obligation as a nurse to ensure best practice so that if I had observed any poor or potentially harmful practices towards service users then I was obliged to intervene and suspend the observations, and report the incident to the senior nurse on the ward if necessary (Nursing and Midwifery Council (NMC) The Code 2019).

In my field notes I detail that I did have to intervene on one occasion where a single staff nurse on one of the dementia friendly wards was trying to restrain a confused patient who had wandered into the bed space of another confused patient and contributed to his falling over. One patient was on the floor bleeding from a head injury whilst she tried to stop the other patient walking over him, which resulted in him repeatedly hitting her. I approached him and persuaded him to walk back to his bed space with me, where I spent nearly an hour with him discussing the daughter that he had been anxiously trying to find and looking through some old football annuals that were available in the day room. This did require that I compromise my non-participant observer status, but it was considered necessary for safety reasons and in line with my professional responsibilities as a registered nurse (N.M.C. 2019).

Consent–staff

Access

I visited the monthly ward manager meetings to inform the senior staff on ward about the study so that they could then disseminate this information at the daily ward hand over meetings. Following this a purposive sample of nursing staff on each of the three wards was taken from the duty rosters of all those individuals available on the day of data collection who were willing to participate. The staff were selected to obtain a representative sample from all the grades of nursing staff.

Informed consent

Written information regarding the study was distributed on the wards 24 hours in advance of formal written consent being sought (please see information leaflets and consent forms in appendix A). This information included telephone contact details for the researcher so that further verbal explanations could be given to ensure informed consent.

Refusal and withdrawal

It was made clear that refusal or withdrawal could be made at any time and that this would not affect their employment. In the first 3 months of the study at least half the staff approached refused, my field notes indicating that if one member of the care staff refused this seemed to create a ‘domino’ effect where the other staff who witnessed the refusal also became ‘too busy’ to participate. Again, my field notes indicate that initially I seemed to be viewed with a certain amount of suspicion by staff who could fear negative professional consequences if their expressed views were identified. My regular presence on the ward helped to break down these perceptions and establish an atmosphere of mutual trust and respect (McDougall 2000). I gradually became part of the fabric of the ward, what Sixsmith et al (2003) describe as ‘being there’.

Confidentiality and anonymity

Participants were assured that they would remain anonymous and that their details would be managed to ensure confidentiality. The information also included my intention to publish the data in an anonymised form. Permission was asked to tape record the interviews, but this was optional, and it was made clear that all recorded material would be transcribed by myself and destroyed. Very few staff members agreed to be audio-taped and no care assistants agreed to this.

Participants were informed that the anonymised results would be shared with the Trust, but I clarified that no details that could identify individuals would be presented. For example, the grade of staff and attitude expressed could be easily identified to the grade 7 ward Managers as there is only one per ward, so the grade of staff was categorised as grade 6 or above.

Storage and handling of data

Copies of the consent form were kept by the participant and in research records, no staff identifiable data, recordings or information was removed from Trust premises, again to accord with Trust Research Governance requirements.

Safeguarding/avoiding harm

Confidential counselling services were available within the Trust if staff became distressed. Although the data collected would remain confidential as indicated, however, confidentiality would be breached in the event of a safeguarding issue or criminal activity becoming apparent. This was made clear in the participant information given prior to consent.

The ethical approval process and research issues

The following reflections are included to highlight some of the challenges I faced in conducting research in an NHS hospital setting, and which may in part explain why limited research appears to have been conducted in this area, as illustrated by the knowledge gaps identified in the literature review.

After extensive preparation and revisions ethical approval had been obtained from the NICR Ethics committee at the University of Stirling in September 2017, and IRAS NHS Ethics full approval was given in December 2017 by the Coventry and Warwickshire R.E.C. committee. The NHS Ethics approval process had progressed within the expected timeframe however, the Trust clinical governance process had taken an unexpectedly protracted period of 6 months due to a cumbersome bureaucratic process, the absence of key decision makers, and quandaries about costs associated with the research. Governance approval was finally given only after the direct intervention of senior nurses and medical staff within the Trust, and without which that process would have been even lengthier.

This approval was given on 21st June 2018, but a further 2-week delay ensued because the Principal Investigator was then on annual leave. I could not start without his approval and introductions to the Consultants before approaching the ward staff. Further delays were incurred to the study when the sample had to be revised because the designation/functions of almost all the medical wards had completely changed in the preceding two months due to a management reconfiguration for pragmatic/business rather than clinical reasons. Also, because one of the wards in the study had to be withdrawn due to a traumatic disruption of the ward team which will be discussed further later in this work.

Changes to the sample size, for reasons previously discussed, resulted in a total sample population that was a third bigger than had been envisaged, and

for which no additional resources were available. Data collection had also proved problematic, my research journal/field notes reflect that often the patient notes were unavailable as they were required for Consultant ward rounds or had been sent with people who required procedures or complex investigations. To overcome these issues, I had to conduct the research almost entirely in the evenings or at weekends and on bank holidays as there were no ward rounds and fewer procedures were in progress. It was another factor that contributed to a data collection period that over ran the envisaged 6-month period and the full data collection was eventually completed 11 months after a delayed commencement, as outlined in the Research timetable document (please see appendix D).

Limitations of the study

Time and resource constraints were a major limitation for this project. The ethical approval and clinical research approval had taken nearly 11 months instead of the anticipated 6, which put pressure on me regarding the completion dates for submitting this work to the University. Changes to the designation of the wards had also resulted in an increase in the sample size of an ambitious quantity. Consequently, the data collection period over-ran from the envisaged 6 months to nearly 11 months which severely restricted the collection of extra data which could have provided potentially insightful and valuable details. My experience resonated with Walter's (2009) comments on action research approaches as being time consuming, exhaustive, and complex.

A sole part-time researcher was available for the collection of the primary data and the extraction of the secondary data, for transcription of interview recordings and full analysis of all the data. This had the potential to introduce bias in the data collection, transcribing and analysis as it would limit inter-rater reliability (Rinaldi Carpenter 2007b). One of the University of Stirling

supervisors was able to provide verification regarding the transcribed interviews but the presence of a second researcher to be jointly involved in collecting, coding and analysing all the data would have facilitated investigator triangulation and consequently enhanced the demonstrable objectivity and validity (Rinaldi Carpenter 2007b).

However, I was constrained by the circumstances of meeting the requirements of the PhD regulations. Every effort was made to ensure that the methods and results were repeatable and replicable (Harris & Taylor 2014; Bryman 2006). It could be stated that any bias would at least be consistent (Harris & Taylor 2014). Additionally, it has also been argued that only the researcher who has collected and been immersed in that data can confirm the findings (Morse 1991; Sandelowski 1998).

Time and resource constraints also limited the scope and size of this research. Fundamentally the voice of service users is underrepresented in the research (Dewing & McCormack 2015). The study would have been strengthened by the inclusion of the direct views of service users, but unfortunately it was not feasible to conduct primary research, such as interviews, with patients and relatives within the limits of the resources available. I would also ideally have preferred to increase the sample size to include more ward areas on multiple sites, but again this was not possible given the resource constraints.

Secondary data such as the falls statistics were cruder than I would have expected, and a more discrete analysis would have been possible if I had more involvement in the collection, description, and analysis of this element. Again, the organisational restrictions regarding the data specified in the NHS Ethics approval affected the research process, and time restriction prevented further application and data collection (Noffke 2009). Some secondary data such as the results of the Patient experience survey was incomplete and limited in representing the views of service users. I was also only given access to the PIE

summaries for each ward so that I could not access the original comments of service users which not only impacted on the richness of the data but also restricted comparison across the range of qualitative data (Rinaldi Carpenter 2007b). Using secondary data which had been designed collected and analysed for another purpose, and about which I no information regarding the methodological underpinnings or rigour inhibited my ability to demonstrate the credibility and confirmability of the findings (Barbour 1998; Lambert & Loiselle 2007; Streubert Speziale 2007c). Unfortunately, again given the limitations of time and resources it was not possible to address this with further exploratory processes.

Upon reflection, and with the benefit of hindsight, the convergent design was probably too challenging for the circumstances that unfolded and might have been better suited to a project composed of a team of researchers who could concentrate expertise and time in every individual field so that each was addressed in equal depth (Creswell & Piano Clark 2017). The involvement of additional researchers would also have allowed for the collection of additional data where further exploration would have benefitted the research in terms of detail and depth. It would additionally have assisted with processes of inter-rater reliability, demonstrable credibility, and triangulation (Rinaldi Carpenter 2007b).

Had I been gifted unlimited time and resources a sequential design would have been chosen (Tashakkon & Teddlie 1998). In particular, an explanatory model in which the quantitative data is collected first and then a second qualitative phase is initiated to explain the initial results in more depth (Creswell & Piano Clark 2017). However, this model also makes the philosophical assumption that the quantitative aspects are of greater importance (Creswell & Piano Clark 2017). Fundamentally the research design must be made on a pragmatic basis and the convergent design seemed the best fit at the time of planning in view of all the circumstances and resources at that juncture (Creswell 2003).

Conclusion

This research attempted to address gaps in the literature in terms of comprehensive research in evaluating the effects of dementia friendly ward environments in acute general hospitals in the U.K. and to begin to address the lack of validated tools for use in that setting (Brooke & Semlyen 2019). Difficulties encountered in undertaking the research resulted in a dilution of this comprehensive approach and gives some insight into how complex the setting is and offer part of the reason for limited research in this area (Noffke 2009).

The mixture of quantitative and qualitative methods used in the research reflected the multi-faceted nature of the subject area and were required to fully address the research questions (Creswell & Piano Clark 2017). They also allowed for triangulation between the between the quantitative and qualitative methods, and some confirmability across the range of qualitative methods, to consolidate and strengthen the findings (Wilson & Hutchinson 1991; Morse 1991; Bryman 2006).

By using a methodology rooted within the paradigm of Praxis I aspired to findings that would be both person-centred, clinically relevant and adopted within practice (Lather 1986; Oborn et al 2010; Pentland et al 2011). Although the constraints to the research limited some of its scope and depth, this is ameliorated by the reflective process of problem solving inherent in praxis (Riel & Lepori 2014). The cyclical nature of the action research process does not end with the determination of findings and formulation of conclusions but instigates a renewal of the research process (Riel & Lepori 2014; Walter 2009; Craig 2009). Ultimately the action research method will be used to address any weaknesses in the methodology or quality of data in future cycles of consequent research (Lather 1986); Streubert Speziale 2007b).

The researcher's close collaboration with clinical colleagues in this action research approach allowed for access to informatics systems that provided a rich wealth of data regarding each individual patient's hospital 'journey' in addition to generalised secondary data that was pertinent to the study. The data generated by this research will be presented in the next chapter, and because there is such a multiplicity of data the researcher will attempt to sub-divide the presentation of the results in that section to aid coherency.

4) Results

Introduction

This chapter is divided into sections to make the variety of findings discussed more manageable for the reader. To contextualise the findings, the first qualitative section will incorporate a discussion of the setting and the findings of the environmental review. In the next section there will be an explanation of the roles of the various grades of staff and the findings of the semi-structured interviews will be presented, followed by the secondary data relating to the P.I.E and Patient experience survey. The primary quantitative results from the case note and observational audit will then be presented and discussed, and the secondary falls quantitative data. To enhance the coherency of such a large and various data set, null results will be discussed in the main section but without the quantitative analysis results sets which will be available in appendix B. In the discussion section to this chapter the results of the quantitative data will be further interpreted and cross referenced with the findings from the qualitative data, with an analysis of how far they confirm the research questions.

The setting

All 3 wards in study sample population are located on the same geographical site, in the grounds of a large acute district general hospital NHS Trust in England. The 36 bedded standard medical ward, (SMW), was located in a new portion of the hospital that had been built within the last decade and was situated on the 5th floor of high-rise block. Access was via lifts or stairs from a large ground floor atrium to a long concourse on the 5th floor which eventually leads to the entry doors into the ward area, which are then accessed by a secure locked electronic entry system. The ward comprises mainly six bedded bays with some additional single side rooms, all of which run from each

side of a long curving corridor area. All the nursing stations were positioned on the corridor area and there was no day space.

The other two ward areas were in an adjacent area on the same site in the original older part of the hospital built in the 1930's and had been adapted to make them more dementia friendly with money that staff had raised from charitable sources. Access to both wards was either via a long concourse in the original part of the hospital and then by lift or stairs to the 2nd and 3^d floor respectively of a short tower block, or via a circuitous connecting corridor on the 6th floor of the new hospital building. Entry to the dementia friendly wards was then by a secure locked electronic entry system.

Dementia friendly ward 1, (DF1), is a 24 bedded part Nightingale type area with long rows of beds, and a mixture of four bedded bays and single side rooms. The original day room had been retained and was available as a dining and activity area. Dementia friendly ward 2, (DF2), is a 31 bedded ward which also has a mixture of Nightingale ward area and six bedded bays and single side rooms. Again, the original day room had been retained and was available as a dining and activity area. Both these wards are constrained by the original layout which could not be substantially altered on a limited budget.

Qualitative results

The environment of care

The environmental review attempted to establish how far each ward's built environment incorporated the features recommended by best practice guidelines (DSDC 2007; NHS Confederation 2010; Design Council 2011; Yates-Bolton et al 2012; R.C.N 2013; Dementia Action Alliance 2018). For the purposes of the study it was stipulated that a dementia friendly built environment had to incorporate seven or more of these recommended features, e.g., use of zoning, signage, pictorial cues, flooring hand rails, use of colour

coding in curtains and bed linen, hand rails at the recommended height running the full length of corridors, personalising of bed spaces, use of white boards and clocks, use of music and lighting, access to outdoor spaces, more homelike surroundings, and provision of social dining facilities, unobtrusive safety measures, visible nursing staff in area, patient-centred documentation on display or being used.

Table 1) Results of environmental audit

<i>Ward</i>	<i>White boards</i>	<i>Clock</i>	<i>Handrail</i>	<i>Zoning</i>	<i>Dayroom</i>	<i>Dining area</i>	<i>Music therapy</i>	<i>Flooring</i>
<i>DF2</i>	X	X	X	X	X	X	X	X
<i>DF1</i>	X	X	X	X	X	X	X	X
<i>SMW</i>			X	X		X		X

<i>Ward</i>	<i>Social activities</i>	<i>Use of signage</i>	<i>Well lit</i>	<i>Home like</i>	<i>Safety features</i>	<i>Nursing staff visible</i>	<i>Documentation</i>
<i>DF2</i>	X					X	X
<i>DF1</i>	X					X	X
<i>SMW</i>							X

The environmental tool I had designed (appendix A) obtained scores of 5/15 (33%) SMW, 11/15 (73%) DF1, and 11/15 (73%) DF2. The EHE (the Kings Fund 2013) obtained similar scored of 76/225 (33.7%) SMW, 162/225 (72%) DF1 and 162/225 (72%) DF2.

The review, (see table 1), revealed a lack of dementia friendly features on the 36 bedded standard medical ward (SMW). Although it had been constructed within the last 10 years and was a clean and pleasant environment generally, the architects had not designed any specifically dementia friendly features other than an appropriately sited handrail in the long, curved ward corridor and neutral single coloured linoleum flooring (R.C.N 2013).

The ward comprised mainly six bedded bays with some additional single side rooms. There was no day space, although the ward staff attempted to create a communal dining area in the centre of the six bedded bays wherever there was room (Dementia Action Alliance 2018). The walls were the same neutral colour throughout with anonymous identical curtains and bed covers. Staff had attempted to position some posters and pictures to make a more home like environment, but this could not ameliorate the overall institutional and anonymous nature of the surroundings (Dementia Action Alliance 2018). However, because areas were so geographically distinct on the ward, the lay out could be said to lend itself to some zoning. Although no mission statements were displayed on the ward, the 'all about me' document was in use.

Although the space was well lit during the day, at night the lights were dimmed making it very difficult to navigate for those patients with cognitive impairment (Marquardt et al 2014). All the nursing stations were positioned on the winding corridor area, so that there was limited visibility of nursing staff and opportunity to engage with them, elements that have been identified as creating a feeling of safety for patients with dementia and a reinforcement of self-hood (Edvarsson et al 2011). An electronic entry system to the ward provided an unobtrusive safety mechanism (Marquardt et al 2014), but this was a standard security system throughout the hospital rather than a purposive design feature, and no other planned unobtrusive safety features were present.

In contrast both the other ward areas, which were in the original older part of the hospital built in the 1930's, exhibited seven or more dementia friendly features. Dementia friendly ward 1, (DF1,) was a 24 bedded part Nightingale type area with long rows of beds, and a mixture of four bedded bays and single side rooms. Handrails, visible clocks, and white boards with information to assist with orientation were used in all areas, and there was an attempt to distinguish different areas such as toilets (NHS Confederation 2010). Although the ward areas were not home like there was a social club like day room with jigsaws, games, and books (Dementia Action Alliance 2018). Dining areas were available both in the day room and in specific areas within the bays, and communal dining was encouraged (Dementia Action Alliance 2018).

Nursing stations and nursing staff were positioned to maximise visibility and engagement both in the Nightingale type area and in the corridor area where they could be seen from almost all areas (Edvarsson et al 2011). In addition, a barber shop had been created in a section off the dayroom to increase the social/community ambiance (R.C.N 2013; Dementia Action Alliance 2018). Patient-centred mission statements were displayed on the ward, and the 'all about me' document was in use.

The staff were also observed to be conducting music activity sessions and other activities to engage with patients and promote both stimulation and a reinforcement of self-hood (Fleming & Purandare 2010). Again, although the space was well lit during the day, at night the lights were dimmed making it very difficult to navigate for those patients with cognitive impairment (Marquardt et al 2014). The electronic entry system to the ward provided an unobtrusive safety mechanism (Marquardt et al 2014), but again this was a standard security system throughout the hospital rather than a purposive design feature, and no other planned unobtrusive safety features were present.

Dementia friendly ward 2, (DF2), is a 31bedded ward which also had a mixture of Nightingale ward area and six bedded bays and single side rooms. Again handrails, visible clocks and white boards with information to assist with orientation were used in all areas (NHS Confederation 2010). Colour coding had also been used to contrast different sections, and yellow doors with a blue frame were used to highlight key areas such as day rooms and bathrooms (NHS Confederation 2010; Dementia Action Alliance 2018).

The ward areas were not home like but there was a day room which contained a library and gym area, again emphasising a social/community ambiance which promoted orientation and familiarity (Dementia Action Alliance 2018). A photographic and mannequin display detailed the 'street party' that had been held on the ward on the occasion of the recent royal wedding with the mannequins attired in full wedding regalia, an example of staff engagement with the patients to promote self-hood and orientation (Fleming & Purandare 2010). Patient-centred mission statements were displayed on the ward, and the 'all about me' document was in use.

Dining areas were available in specific areas within the bays, and communal dining was encouraged (Dementia Action Alliance 2018). Nursing stations and nursing staff were positioned to maximise visibility and engagement in the Nightingale type area but less successfully in the corridor area where the original lay out did not lend itself to high visibility from the single side rooms. However, nursing staff did have a presence in all the bay areas (Edvarsson et al 2011). Once again although the space was well lit during the day, at night the lights were dimmed making it very difficult to navigate for those patients with cognitive impairment (Marquardt et al 2014). Again, the electronic entry system to the ward provided an unobtrusive safety mechanism (Marquardt et al 2014), but this was a standard security system throughout the hospital rather than a purposive design feature, and no other planned unobtrusive safety features were present.

The staffing of the three wards

The staff on the wards comprised a mixture of trained nurses and untrained health care assistants. The health care assistants (HCA's) were all graded at Band 2 and had the most daily interaction with individual patients and were more likely to be involved in fundamental care such as feeding, washing, assisting patients to get dressed, assisting with mobility and some routine observations of vital signs.

The trained nurses ranged from the basic band 5 staff nurse to the band 6 junior sisters and the band 7 ward manager. The trained nurses did interact with individual patients and were involved with fundamental care but were more likely to be performing procedures such as the more complex observations of vital signs, medication administration, wound care, documentation of care, discharge planning and ward management. As there was only one band 7 ward manager on each ward identification of individuals/confidentiality was an issue in the presentation of the results of the semi-structured staff interviews. In order to preserve their confidentiality, the more senior nursing staff on each ward are simply identified as band 6 or above.

Table 2) Total staffing per shift, actual & staff: patient ratios

Ward	Early actual	Early ratio	Late actual	Late ratio	Night actual	Night ratio
Dementia friendly ward 1(24 beds)	6	1:4	6	1:4	5	1:5
Standard medical ward (36 beds)	10	1:4	10	1:4	6	1:6
Dementia friendly ward 2 (31 beds)	8	1:4	8	1:4	6	1:5

Ratios rounded to a whole figure

Table 3) Trained nurses per shift

Ward	Early actual	Early ratio	Late actual	Late ratio	Night actual	Night ratio
Dementia friendly ward 1(24 beds)	4	1:6	4	1:6	3	1:8
Standard medical ward (36 beds)	6	1:6	6	1:6	4	1:9
Dementia friendly ward 2(31 beds)	3	1:10	3	1:10	3	1:10

Ratios rounded to a whole figure

Table 4) Untrained nurses per shift

Ward	Early actual	Early ratio	Late actual	Late ratio	Night actual	Night ratio
Dementia friendly ward 1(24 beds)	2	1:12	4	1:12	3	1:12
Standard medical ward (36 beds)	4	1:9	4	1:9	4	1:18
Dementia friendly ward 2(31 beds)	5	1:6	5	1:6	3	1:10

Ratios rounded to a whole figure

The overall staff: patient ratios on the three wards were very similar, (illustrated in table 2), which would imply an equivalence between the settings regarding care delivery, and an adherence to safe staffing guidelines (R.C.N. 2019).

However separate trained and untrained staff: patient ratios differed, with a more diluted skill mix on ward DF2, (illustrated in table 3 & table 4). The staff: patient ratios also do not reflect the practical impact of the actual numbers. Because the dementia friendly wards were smaller than the standard medical ward and contained less beds there were actually less nurses per se present to deal with difficult situations or any crisis that might arise. In addition, any staff shortages due to sickness or absence would have a proportionally greater impact on the smaller wards.

The semi-structured staff interviews

30 members of nursing staff participated in the semi structured interviews, 10 from each ward (interview guide in appendix A). All grades of nursing staff were represented in the sample (illustrated in table 5). The staff appeared to be a homogenous sample in terms of length of service, with the majority of staff interviewed having been employed there for over 2 years, and only 2 less than a year.

Table 5) The staff interview participants

Ward										
Dementia friendly ward 1(DF1)	Nurse 1 Band 6 >	Nurse 2 Band 5	Nurse 3 Band 5	HC A 4 Band 2	HC A 5 Band 2	HC A 6 Band 2	HC A 7 Band 2	HC A 8 Band 2	HC A 9 Band 2	HC A 10 Band 2
Standard medical ward (SMW)	Nurse 1 Band 6 >	Nurse 2 Band 5	Nurse 3 Band 5	HC A 4 Band 2	HC A 5 Band 2	HC A 6 Band 2	HC A 7 Band 2	HC A 8 Band 2	HC A 9 Band 2	HC A 10 Band 2
Dementia friendly ward 2(DF2)	Nurse 1 Band 6>	Nurse 2 Band 5	Nurse 3 Band 5	HC A 4 Band 2	HC A 5 Band 2	HC A 6 Band 2	HC A 7 Band 2	HC A 8 Band 2	HC A 9 Band 2	HC A 10 Band 2

The thematic analysis of the semi-structured interviews on the three wards offers an insight both into differences in expressed attitudes towards the care of older people with cognitive impairment and in their views on the way in which they perceived that the environment affected the care they were able to deliver. The results are presented as numbers rather than percentages to aid clarity and avoids unintentional misrepresentation of smaller numbers where other types of representation would be misleading (Duffy & Jacobson 2005).

These results will be illustrated with details of verbatim transcriptions from the interviews. Six themes arose from the interviews: 'Preparedness for care', 'How I care', 'Being able to care', 'Challenges I face in my work', 'Ward environment' and 'Length of employment on ward'. Related sub-themes were also identified; task orientated, involving the person/ family in care, dignity and respect, empathy, autonomy, enablement, understanding/ accepting the nature of dementia, appropriate environment, impact of behaviour, mix of patients, staffing, staffing linked to poor care, pressure for throughput, unprepared/need more support, aspirational, years of service, attendance on dementia training courses or provision of guidelines, positive or negative views regarding the ward environment.

The majority of staff, 8/10 on each of the wards, conveyed shared values of a positive person centred approach, in line with Kitwood's (1997) personhood theory. This was expressed using phrases such as:

"Vital you know that every patient is different and have different needs, you have to care for what those needs are, cannot generalise".

HCA 7 Dementia friendly ward 2

They expressed the need for dignity and respect, for example:

"Promoting dignity and independence, being the advocate".

Nurse 1 Dementia friendly ward 1

“Be patient and kind, listen to what they are saying”.

HCA 4 Standard medical ward

They also identified the need for empathy, using phrases such as:

“Very important I think the patient’s number 1...empathy for them”.

HCA 5 Dementia friendly ward 1

“Patience, I’m a very patient person.... compassion, empathy as well. Put yourself in somebody’s shoes and understand”.

HCA 6 Dementia friendly ward 1

Both registered nurses and health care assistants were able to show how they would promote patients’ autonomy, by allowing time for patients to process communication, listening to them, and providing choices. For example:

“Just being patient and kind, sympathetic covers a wide range depending on the patient. People with dementia can’t process quickly.... take the time”.

HCA 5 Dementia friendly ward 2

There were also statements that incorporated enablement, for example:

“Maintain their dignity and safety, try to promote as much independence as possible”.

Nurse 2 Dementia Friendly ward 2

While both groups (standard medical and dementia friendly ward staff) could explain how to communicate effectively with their patients who were living with dementia, those on the dementia friendly wards showed greater depth of understanding and awareness about dementia or cognitive impairment. For example:

“Care, understanding, compassion, patience... got to listen”.

HCA 5 (Band 2) Standard medical ward

“Challenging but rewarding. Be prepared for abuse, shouted at, scratched, spat at. Realise that that patient’s a person, put ourselves in their shoes, show empathy with them. They are living a different reality; we have to enter that reality.... don’t take anything personally”.

Nurse 3 Dementia friendly ward 2

Some nursing staff on the standard medical ward also demonstrated an awareness of the importance of involving the person or their family in care. For example:

“Ask any carers, the patient or the nursing home, what do they like”.

Nurse 3 Standard medical ward

However, a greater proportion of the nursing staff on the dementia friendly ward environments demonstrated an awareness of the importance of involving the person or their family in care. They used phrases such as;

“As well as basic nursing care, personal hygiene and clean glasses.... you need to involve the family a lot, especially if they are confused...a lot of social aspects, awaiting social care. Holistic approach, they get bored, have to think of their psychological well- being, dignity, comfort. We have a lot of end-of-life care here”.

Nurse 3 Dementia friendly ward 1

“... being patient, each individual has specific needs that you have to cater for. Dementia patients have complex needs...MDT (multidisciplinary team) working”.

HCA 7 Dementia friendly ward 2

The 6 members of staff, (2 on each ward), who expressed a more custodial or task orientated approach were all health care assistants. When asked to describe the nurse’s role in the care of older people the types of language they used to express custodial attitudes included:

“Washing, dressing, ADL’s (activities of daily living), giving all care”.

HCA 7 Standard medical ward

“Completing your tasks, ensuring that others are doing their jobs”.

HCA 9 Standard medical ward

” Catheter care, feeding, oral care”.

HCA 10 Dementia friendly ward 1

“Same as other wards, washing, dressing, all care”.

HCA 6 Dementia friendly ward 2

Staff on the dementia friendly wards were able to articulate how the values established in their environment, together with their own commitment supported more appropriate high-quality care. For example:

“One of patience and understanding. Understand the older people.... we have to have passion, or you can’t deal with it.... dementia’s a very big thing, you don’t know what’s going to happen at any moment. Good environment for them (here) is important.... which I think we score very well”.

Nurse 2 Dementia friendly ward 1

“Really caring, interaction like this (music activity), assisting according to their needs.... treating with dignity”.

HCA 9 (Band 2) Dementia friendly ward 1

Staff identified some common themes regarding the challenges they faced in their work in relation to staffing and support. Staff from all the wards noted the impact of staffing shortages. However, there were interesting differences in how the staff from the dementia friendly wards highlighted the opportunities for more engaging, creative care that better staffing would enable.

There were general comments regarding staffing shortages on all the wards, such as:

“Having more staff.... can get quite draining”.

HCA 6 Standard medical ward

Some staff made the link between staffing issues and limitations in care, for example:

“Extra staff everywhere is so short staffed. If we have a spare hour, we’ll do the ladies hair and put curlers in their hair and make them feel glam but of late there’s just no time”.

HCA 8 Dementia friendly ward 2

The above quotes illustrate how the focus of the issue was more often on the staff member’s experience in the standard medical ward, while on the dementia friendly wards the focus was on the patient’s experience.

Only staff on the standard medical ward identified the issue of pressure to discharge patients more quickly. Staff comments included:

“Being pressured to have early discharges but then they just get readmitted”.

Trained nurse 2 Standard medical ward

Most staff had received some sort of educational preparation based around dementia care, with 19 having attended the ‘Dignity in care’ day course run in the Trust and 5 just completing the mandatory on-line dementia training, 1 staff member had been shown written guidelines on dementia care, while the remaining 5 staff members had not received any training. Of the 5 staff members who had not received training 2 had been employed on the ward for less than a year so may not yet have had the opportunity. Staff on all the wards identified the need for more training and support in caring for people with confusion. Their comments include:

“...tell them about the dementia patients. Most people confuse dementia and confusion. If a patient has got dementia they try and avoid (them), it's become a stigma to that patient. They don't understand that this is a progressive disease, it won't go away. Understand what dementia is, if you understand the condition, you understand what type of care the patient needs”.

Nurse 1 Dementia friendly ward 2

“I think proper training, study days.... especially in older people, dementia, Alzheimer's”.

Nurse 2 Dementia friendly ward 1

Staff on all the wards indicated aspirations to deliver good quality care for older people with cognitive impairments, for example:

HCA 9 (Band 2) Dementia friendly ward 1

“Really caring, interaction like this (music activity), assisting according to their needs.... treating with dignity”

Discussion of interviews

There was a commonality between the groups of ward staff in terms of attitudes towards care. Most staff on all the wards, 8/10 on each of the wards, expressed a person-centred/therapeutic approach to care, in line with Kitwood's (1997) personhood theory, identifying concepts of dignity and respect, autonomy, and enablement. Although there is a wider debate as to the relevance of Kitwood's (1997) concept as a basis for current nursing frameworks or research, and an identification of the need for greater clarity on what is meant by person-centredness (O'Connor et al 2007; Dewing 2008; Dewing & McCormack 2015). However, staff on the dementia friendly wards articulated a greater depth of understanding regarding cognitive impairment, and a greater proportion of the staff on those wards showed an awareness of the need to involve the patient and/or family in care.

The 6 members of staff, (2 on each ward), who expressed a more custodial or task orientated approach were all health care assistants. This confirmed my previous research findings that therapeutic attitudes were more likely to be expressed by trained nurses (Keenan 1987). The health care assistants were more likely to express philosophies based on personal beliefs rather than specialised training, and which have been demonstrated in the literature to lead to patient interactions dominated by the delivery of essential care rather than as a response to the expressed needs of individuals (Cowdell 2009; Cooper et al 2018).

Staff from all the wards commented on the need for better staffing and support, these factors impinge upon each other as staffing shortages can affect the ability of staff to access opportunities for training and support (Smythe et al 2014). These issues have also been identified as essential organisational factors required to support a more appropriate environment of care for people with cognitive impairment (Tadd et al 2011; Clisset et al 2013; Godfrey et al 2018).

In addition, some staff from each ward identified the connection between staffing and the quality of care provided.

However, there can be seen to be distinct differences between the groups, with staff on the standard medically ward more likely to focus on the effects that the poor staffing had on them personally, whereas staff on the dementia friendly wards were more likely to be concerned with the effect on the patients' experience.

The effects of the environments within which they worked were also given a different emphasis, with staff on the standard medical ward expressing concerns for care regarding the pressure for early discharge, or 'through put' (Tadd et al (2011). Whereas staff on the dementia friendly wards were more

likely to indicate that the dementia friendly ward environments supported more appropriate care, echoing the findings of previous research (Brooke & Semlyen 2019). The differences noted were not influenced by different staffing levels, which were similar on all wards.

Secondary data

The P.I.E observations

The quality of interactions

The analysis of the P.I.E scores also indicates a greater quality of person-centred care on the dementia friendly wards (see table 6). On the standard medical ward 39% of the interactions were described as enriching or positively enriching while the remaining 61% were neutral. Whilst on the two dementia friendly wards these figures were 85% enriching or positively enriching with 15% neutral, and 75% enriching or positively enriching and 25% neutral on the two wards respectively. These results are supported by the findings of the staff interviews which indicated a greater awareness of a range of therapeutic approaches on the part of staff on the dementia friendly wards.

Table 6) P.I.E observation numbers in each category

<i>P.I.E. category</i>	<i>DF 1</i>	<i>DF2</i>	<i>SM W</i>
<i>Positively enriching</i>	12	7	4
<i>Enriching</i>	49	36	22
<i>Neutral</i>	11	14	40

The P.I.E. auditors commented that patients on the standard medical ward looked cared for and comfortable, that staff were friendly and called patients by their first name, and they described exhibited compassionate care. For example:

“Staff nurse in bay D showed constant compassionate care and answered patient’s questions to the extent that the patient hugged her which demonstrated she was content with the staff nurses answer.”

And

“Domestic went and found newspapers for the patient to read who appeared bored.”

However, they also cited examples during medical ward rounds of food being left to go cold on the red trays that denoted those at risk of malnourishment, in violation of the principles of ‘protected mealtimes’ (Age UK 2010). They concluded that although some neutral interactions were to be expected, many of those observed could easily have been made more enhancing if the staff had communicated ‘just that little but more’ with the patients.

This was in marked contrast to the two dementia friendly wards where auditors commented regarding Dementia Friendly ward 2 that the staff stood out for being ‘attentive’ and ‘tuned in’ to the patients need. Staff were said to make mealtimes an occasion with patients sitting at the table and staff announcing, “dinner is served”, and gentle persuasion used to help patients who had previously refused to eat their meals. Also, that particular attention had been given to ensuring that the patients were dressed, and they all looked well cared for; one lady had her hair styled with rollers and a number of ladies were offered a manicure. They also cited observed examples of staff interpreting patient behaviour and responding to their needs, for example, a member of staff telling them what might be the cause of a patient’s trying to stand up

continuously; “she might need the toilet when she tries to get up and walk around”.

As regards Dementia friendly ward 1 the auditors comment that the patients received a high standard of care, individualised and respectful, and with staff spending quality time with all patients while ensuring care needs were met and tasks undertaken. Staff were visible to the patients, in the main ward area there were always staff present and, in the bay, staff frequently came in and out to check on the patients. The majority of the interactions observed were of high quality, staff were attentive and fully engaged with patients, demonstrating strong communication skills. There were examples of staff interacting with patients with varying degrees of cognitive impairment in which these staff displayed skill and patience. For example, an auditor commented:

“One patient on becoming slightly agitated was approached by a staff member who whilst ensuring the patient was safe, skillfully demonstrated how good and appropriate communication can calm a patient and prevent escalation of the patient’s agitation”.

Type of ward and P.I.E. score

The P.I.E. results for the three wards were subject to a binomial regression analysis, to delineate the relationship between type of ward and P.I.E. (Harris & Taylor 2014).

The results indicated that there is a statistically significant difference between the type of ward and the P.I.E. score, accepted at the 0.005 level of probability (see appendix B for full details of the analysis). The patients on the dementia friendly wards were more likely to have interactions with staff that were described as enriching or positively enriching than those patients on the standard medical ward (see table 6). Which can be seen as representing more patient centred care provision and a recognition/confirmation of self-hood (Laing 1961; Kelly 2007; Cowdell 2009; Tadd et al 2011; Clisset et al 2013).

Although the P.I.E. data incorporates service user comments, these had not been included in the summary reports to which I was allowed access. Unfortunately, by utilising secondary data instead of conducting P.I.E. observations myself I was restricted from accessing this richer raw data but given the resource issues for the project this was not possible. This did also have some positive benefits, as including the observations of other individuals incorporated an additional element of comparison and confirmation, to explore whether the research method of another investigator triangulated with another qualitative method of my own (Denzin 1989; Kimchi et al 1991; Rinaldi Carpenter 2007). However, this does represent a limitation of the research.

The Patient experience surveys

The patient experience survey is a 28-question satisfaction survey in the form of a questionnaire which is given to patients at the point of discharge (appendix C). It includes a range of questions relating to; the patient's likelihood to recommend the ward to family and friends, comments to improve the service, the protection of their private information, communication between disciplines, if they felt well looked after, noise at night, whether they had confidence and trust in nurses, instances of miscommunication, their involvement in care and treatment, pain control, emotional support, availability of hospital staff to discuss worries and fears, ability to get attention in a reasonable time period, the quality of food, if help was given to eat if it was required, and if they were treated with dignity and respect.

Individual service user comments are also incorporated within the survey, and it was intended that I could use these to reflect the authentic voice of service users. However, this proved problematic as the Trust team that felt that the service users had not been sufficiently informed that their comments would be shared. After protracted negotiations I was eventually given access to the main

survey results, but all comments had been removed, which made the data much less rich than I had envisaged. The reason given for this was that there were confidentiality issues as the comments contained patient or staff identifiable details.

The results are presented by the informatics team either as weighted scores per month or percentages, where this has occurred there is a note at the bottom of the chart to detail that. As there were no respondents in some months the results will vary in terms of how the average or median score is calculated (see table 7). It is considered more meaningful in this analysis to obtain a mean of the scores for the months when responses were obtained rather the total months.

Table 7) Number of surveys completed

Ward	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 18	Apr 18	May 19
DF2	0	1	12	12	14	7	5	4	12	19	10
DF1	1	1	1	0	0	0	0	1	0	0	0
SMW	3	16	2	9	4	3	3	8	1	7	3

Actual numbers of surveys completed by all patients on wards

There were large variations in the number of respondents, with none or very few respondents for some months on all the wards, but particularly so on DF1 (see table 7). This makes the ability to generalise from these results much more difficult. It is also questionable that some of the results are presented as percentages, and how meaningful or representative that is when applied to very few respondents in a particular month, or in some instances a sole respondent (Cormack 2000).

Table 8) Sometimes a member of staff says one thing, and another says something quite different. Has this happened to you?

Ward	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 18	Apr 18	May 19
DF2			7.5	8.5	9.17	7.86	9	8.33	7.22	9.29	9.38
DF1	10	10	10					10			
SMW	6.67	6.25	10	5	8.75	10	5	4.29	5	6	6.67

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which would seem to indicate better standards of communication on the standard medical ward. However, this question was not completed by all the respondents, so it is not clear if that indicates negativity, apathy or just that the question was not understood. Also, in some instances the weighted scores represent only one respondent for some months on all the wards.

Table 9) Did you have confidence and trust in the nurses treating you?

Ward	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 18	Apr 18	May 19
DF2			10	8.64	9.62	10	10	10	9	9.29	9.38
DF1	5	10	10					10			
SMW		5	10	10	5	10	7.5	10	10	8.75	10

Results presented as average weighted scores. No response presented as a blank.

In response to this question there were again greater mean scores on the dementia friendly wards than on the standard medical ward. This might be inferred as indicating that the staff on the dementia friendly wards were

establishing better relationships with service users and their families, but it is difficult to generalise with confidence when in some instances the weighted scores represent only one respondent for certain months, and why there was such a poor response rate.

Table 10) If you needed attention were you able to get a member of staff to help you within a reasonable time?

Ward	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 18	Apr 18	May 19
DF2			8.33	7.27	9.58	10	10	10	9	9.29	9.38
DF1	10	10	10					10			
SMW	8.33	7.86	10	8.13	10	8.33	5	6.43	10	9	7.5

Results presented as average weighted scores. No response presented as a blank.

Once again there were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question. This might be inferred as indicating that the staff on the dementia friendly wards were more responsive to the needs of service users and their families. However as previously stated it is difficult to generalise with confidence when in some instances the weighted scores represent only one respondent for certain months. Again, the reason why this question was not completed by all the respondents is open to speculation.

Table 11) Do you think that hospital staff do all they can to help control your pain?

Ward	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 18	Apr 18	May 19
DF2			8.33	8	10	10	10	8.33	9.29	8.93	10
DF1	10	10	10								
SMW	8.33	8	10	8.33	10	10	6.67	9.29	5	8.75	5

Results presented as average weighted scores. No response presented as a blank.

In response to this question there were greater mean scores on the dementia friendly wards than on the standard medical ward. This might indicate a more responsive or empathetic approach by staff on those wards, but again it is difficult to interpret the significance of the uncompleted responses to the question. Once again, the low number of respondents for some months on all the wards is problematic.

Table 12) Did you feel well looked after by hospital staff?

Ward	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 18	Apr 18	May 19
DF2			8.33	8.64	9.23	9.29	9	10	9	9.67	10
DF1	5	10	5					10			
SMW	8.33	8.13	7.5	8.89	8.75	10	8.33	9.38	10	9.29	10

Results presented as average weighted scores. No response presented as a blank.

There were more variations between the wards in response to this question, with the standard medical ward scoring a lesser weighted score than DF2 but greater than DF1. However, it is unclear if the lack of responses is meaningful, and the low number of respondents on some of the wards may skew the results.

Table 13) Did you get enough help to eat your meals?

Ward	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 18	Apr 18	May 19
DF2			8.33	8.64	9.23	9.29	9	10	9	9.67	10
DF1											
SMW	10	10			5			7.5		10	10

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on ward DF2 than on the standard medical ward in response to this question which would seem to indicate more available help to eat. However, there were no responses at all for ward DF1 which is both puzzling and inhibits comparison. Also, in some instances the weighted scores represent only one respondent for some months so may not be representative.

Table 14) Did hospital staff ask who you were happy to share your information with?

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			8.57	10	8.75	10	10	5	10	8.57	5.71
<i>DF1</i>	10	10	10					10			
<i>SMW</i>	6.67	7.5	5	6.67	10	10	6.67	8.57	10	8.33	10

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which would seem to indicate better standards of communication and respect for confidentiality and autonomy on those wards. However, this question was not completed by all the respondents, so it is not clear if that indicates a polite negativity, apathy or just that the question was not understood. Also, in some instances the weighted scores represent only one respondent for some months on all the wards so may not be representative.

Table 15) Was this information reviewed regularly during your stay?

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			6	2.73	7.78	5.71	5	0	5.56	5.71	10
<i>DF1</i>	10	10	0					10			
<i>SMW</i>	5	4	0	5.56	7.5	10	3.33	2.86	10	5.71	10

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which would seem to indicate better standards of communication and care on those wards. However again there are the issues of non-completion of this question by respondents, and the small numbers of respondents. The introduction of 0 figures in the tables is also not sufficiently explained and could represent an anomaly.

Table 16) Have you been involved as much as you wanted to be in decisions about your care and treatment?

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			7.08	6.5	6.92	7.86	10	6.25	8.5	7.14	8.75
<i>DF1</i>	10	5	5					10			
<i>SMW</i>	6.67	6.88	5	7.78	8.75	10	6.67	6.43	10	9	6.67

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which would seem to indicate better standards of communication and care and respect for autonomy

on those wards. However again there are the issues of non-completion of this question by respondents, and the small numbers of respondents which may mean that the results are not representative.

Table 17) When you were treated at the hospital, did you feel that information about your care was shared clearly between Health and Social Care professionals?

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			7.5	2.73	10	7.5	5	0	7.22	7.86	10
<i>DF1</i>	10	10	5					10			
<i>SMW</i>	5	6	0	6.67	5	10	6.67	7.86	10	7.14	8.33

Results presented as average weighted scores. No response presented as a blank.

In response to this question there were again greater mean scores on the dementia friendly wards than on the standard medical ward which would seem to indicate better standards of communication and multi-disciplinary working on those wards. Again, there are the issues of non-completion of this question by respondents, and the small numbers of respondents which may mean that the results are not representative.

Table 18) Were you given enough privacy when discussing your care and treatment?

a) Single room

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			9.58	9.44	10	10	9	10	9.44	7.14	10
<i>DF1</i>	10	10	10					10			
<i>SMW</i>	7.5	8.89	10	10	10	10	10	10	10	7.5	10

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which would seem to indicate better opportunities for privacy or respect for privacy on those wards. However again there are the issues of non-completion of this question by respondents, and the small numbers of respondents which may mean that the results are not representative.

Table 19) Were you given enough privacy when discussing your care and treatment?

b) Shared bay

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			9.5	9.5	10	10	10	10	9.17	7.86	10
<i>DF1</i>	10	10	10					10			
<i>SMW</i>	10	8.33	5	6.67	8.33	10	6.67	10		10	10

Results presented as average weighted scores. No response presented as a blank.

Similarly, there were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which would seem to indicate better opportunities for privacy or respect for privacy on those wards. However again there are the issues of non-completion of this question by respondents, and the small numbers of respondents which may mean that the results are not representative. There were large variations in the number of surveys completed per ward, with none or very few respondents for some months on all the wards.

Table 20) Do you feel you got enough emotional support from hospital staff during your stay?

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			8.18	7.22	7.5	9.29	10	10	9.17	8.46	9.38
<i>DF1</i>	10	10	5				10				
<i>SMW</i>	6.67	8.64	10	7.86	7.5	10	2.5	10	10	8.75	8.33

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which would seem to indicate more supportive relationships between nursing staff and service users on those wards. Again, there are the issues of non-completion of this question by respondents, and the small numbers of respondents which limit the interpretation of the data and may mean that the results are not representative.

Table 21) Did you find someone on the hospital staff to talk to about your worries and fears?

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			8.33	6.43	7.22	9.17	6.25	8.75	8.13	7.73	7.5
<i>DF1</i>	10	10	10								
<i>SMW</i>	7.5	7.5		7.5	5	7.5	2.5	6.25	5	9	5

Results presented as average weighted scores. No response presented as a blank.

The responses to this question produced greater mean scores on the dementia friendly wards than on the standard medical ward which would seem to indicate more supportive and empathetic relationships between nursing staff and

service users on those wards. Again, there are the issues of non-completion of this question by respondents, and the small numbers of respondents which limit the interpretation of the data and may mean that the results are not representative.

Table 22) How would you rate the hospital food?

<i>Ward</i>	<i>Jul 18</i>	<i>Aug 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			7.5	5.77	6.98	6.19	7.32	7.53	6.29	6.07	7.64
<i>DF1</i>	10	10	6.7					10			
<i>SMW</i>	6.67	6.45	3.3	5	4.98	4.43	5.57	4.58	6.7	5.34	8.35

Results presented as average weighted scores. No response presented as a blank.

There were greater mean scores on the dementia friendly wards than on the standard medical ward in response to this question which is puzzling as the food supplied to all the wards is the same. However, this may indicate a more enjoyable meal experience on the dementia friendly wards. Again, there are the issues of non-completion of this question by respondents, and the small numbers of respondents limit the interpretation of the data and may mean that the results are not representative.

Table 23) Have you been bothered by noise at night? No

<i>Ward</i>	<i>Ju 18</i>	<i>Au 18</i>	<i>Sep 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Fe 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>		100	43.7	40	25	16.6	66.6	40	33.3	42.8	33.3
			5			7	7		3	6	3
<i>DF1</i>	50	100	100								
<i>SMW</i>	50	40		37.5	66.6	66.6	25	50	100	42.8	33.3
				0	7	7				6	3

Results presented as percentages. No response presented as a blank.

There were more variations in the responses to this question with greater mean percentage scores on DF1 and the standard medical ward. It would appear that greater noise is reported on DF2 at night than on the other wards. This may indicate that they have more admissions at night or even that they have more noise from agitated patients, but inference is limited without access to the actual comments. The results are complicated again by the issues of non-completion of this question by respondents, and the small numbers of respondents. So that the results may not be representative.

Table 24) Have you been bothered by noise at night? Yes, from other patients

<i>Ward</i>	<i>Ju l 18</i>	<i>Aug 18</i>	<i>Se p 18</i>	<i>Oct 18</i>	<i>Nov 18</i>	<i>Dec 18</i>	<i>Jan 19</i>	<i>Feb 19</i>	<i>Mar 18</i>	<i>Apr 18</i>	<i>May 19</i>
<i>DF2</i>			50	60	75	83.3 3	33.3 3	60	66.6 7	57.1 4	60
<i>DF1</i>								100			
<i>SM W</i>	25	33.3 3	50	62. 5	33.3 3	33.3 3	50	33.3 3		28.5 7	66.6 7

Results presented as average percentages. No response presented as a blank.

There were greater mean percentage scores on DF1 in the responses to this question than the other two wards, indicating that there was more disturbance at night from other patients. Although the results might indicate a greater level of service user agitation or dependence on that ward it is impossible to interpret this without access to the actual comments. The results for DF1 are also based on the comments of a sole service user for the entire period so the statistical analysis is skewed and unlikely to be representative.

Table 25) Have you been bothered by noise at night? Yes, from staff?

<i>Ward</i>	<i>Jul</i> <i>18</i>	<i>Aug</i> <i>18</i>	<i>Sep</i> <i>18</i>	<i>Oct</i> <i>18</i>	<i>Nov</i> <i>18</i>	<i>Dec</i> <i>18</i>	<i>Jan</i> <i>19</i>	<i>Feb</i> <i>19</i>	<i>Mar</i> <i>18</i>	<i>Apr</i> <i>18</i>	<i>May</i> <i>19</i>
<i>DF2</i>			6.25								6.67
<i>DF1</i>	50										
<i>SMW</i>	25	26.67	50				25	16.67		28.57	0

Results presented as percentages. No response presented as a blank.

There were greater mean percentage scores on the standard medical ward in the responses to this question than the other two wards, indicating that there was more disturbance at night from staff. This may indicate a greater level of staff activity at night on that ward but again inference is limited without access to the actual comments. These results are again affected by uneven response rates on the wards and non-completion of the question by respondents to the survey and may not be representative.

**Table 26) Would you recommend the ward to friends and family?
Recommended.**

<i>Ward</i>	<i>Jul</i> <i>18</i>	<i>Aug</i> <i>18</i>	<i>Sep</i> <i>18</i>	<i>Oct</i> <i>18</i>	<i>Nov</i> <i>18</i>	<i>Dec</i> <i>18</i>	<i>Jan</i> <i>19</i>	<i>Feb</i> <i>19</i>	<i>Mar</i> <i>18</i>	<i>Apr</i> <i>18</i>	<i>May</i> <i>19</i>
<i>DF2</i>	0	100	92.3	10	88.8	92.8	100	100	100	93.3	100
			1	0	9	6				3	
<i>DF1</i>	92.8	83.3	100	10	100	0	93.3	94.1	100	0	100
	6	3		0			3	2			
<i>SMW</i>	100	75	100	10	87.5	100	83.3	100	100	100	100
				0	0		3				

Results presented as percentages.

There were slightly larger mean percentage scores on the dementia friendly wards than on the standard medical ward in response to this question, but the figures themselves are questionable as they indicate 100% agreement in

months when there were no respondents on some wards or only one person responded. This undermines the representativeness of the results.

Null results

There were no responses to the questions “Were you kept informed of what was happening at all stages during your visit”. Similarly, there were no responses to the questions “Have you been given enough privacy during discussions about your care and treatment”, and “Have you been given enough privacy during examination or treatment?”. The reason for this lack of response is unclear and may be indicative of nothing more than that the questions were not understood or ignored because they were similar to previous questions.

Summary of Patient experience surveys

The patient experience surveys gave some indication that the dementia friendly wards were rated more highly by service users than the standard medical ward in terms of the standards of care and some aspects of communication on those wards. There was also some evidence that they were considered to have a more responsive or empathetic approach and exhibit more respect for confidentiality, privacy, and autonomy. Additionally, there was also some indication that the nursing staff on the dementia friendly wards were establishing more supportive and more empathetic relationships with service users and their families and were thought to be more responsive to their needs. The findings would also seem to indicate better standards of multi-disciplinary working and multi-disciplinary team working on the dementia friendly wards.

This would appear to triangulate with the findings of the semi-structured staff interviews (Rinaldi Carpenter 2007b). During these interviews staff on the dementia friendly wards appeared to have a greater depth of understanding and awareness of cognitive issues than those on the standard medical ward.

Also, that the staff on the dementia friendly wards were more likely to articulate the need to involve the patient or family in their care.

There were more variations between the wards in response to the more general question “Did you feel well looked after?”, with the standard medical ward scoring a lesser weighted score than DF2 but greater than DF1. However, service users were more likely to recommend the dementia friendly wards to family or friends than the standard medical ward.

The environment of the dementia friendly wards was considered to provide better opportunities for privacy, or that staff exhibited more respect for privacy than on the standard medical ward. The same hospital food was rated more highly on the dementia friendly wards than on the standard medical ward which, it is speculated, indicates a more enjoyable meal experience on the dementia friendly wards as staff attempt to provide a more social meal experience. Service users also rated ward DF2 more highly than the standard medical ward in providing more available help to eat, although there was no evidence for this on ward DF1 as there had been a total lack of response to this question.

This would appear to augment and confirm the findings of the environmental audit related to the dementia friendly features on DF1 and DF2, such as dining areas in day rooms. Consequently, it represents a triangulation between the two data sets (Rinaldi Carpenter 2007b). It also accords with the findings of the semi-structured staff interviews related to the view of staff that dementia friendly wards facilitated more patient centred care, thus triangulating with that data set also (Rinaldi Carpenter 2007b).

There were some contradictions in how the three wards were rated for noise at night. It would appear that greater noise is reported on DF2 at night than on the other wards, although there was more reported disturbance at night from other

patients on ward DF1 and more reported disturbance at night from staff on the standard medical ward. This may reflect different working practices between the areas with a greater level of staff activity at night on some wards, perhaps with more admissions at night on the standard medical ward, a practice which is discouraged on the dementia friendly wards. It may also reflect that the dementia friendly wards are subject to more noise from agitated patients. However, further inference is limited without access to the actual comments of the service users completing the surveys).

There were large variations in the number of surveys completed per ward, with none or very few respondents for some months on all the wards, and no explanation was given for this. In some instances, the weighted scores and percentages represent only one respondent for certain months, which casts doubt upon the representativeness of the findings and makes it difficult to generalise with any confidence. There are also anomalies that I have previously noted in the way the figures are presented which potentially skews any statistical analysis. The lack of access to the individual comments of service users also limits the interpretation of the data. However, the survey results do offer some evidence, however weak and flawed, that the dementia friendly wards are considered to differ from the standard medical ward in both the approach of the staff, the working practices and the environment of care.

Summary of secondary findings

Although the patient experience survey results were incomplete and did not contain the actual comments of service users, they do demonstrate that the dementia friendly wards were consistently rated more highly by service users in some key respects. They provide some evidence that the dementia friendly wards are considered to differ from the standard medical ward in both the approach of the staff, the working practices, and the environment of care.

The survey results would seem to accord with the analysis of the P.I.E. data which indicated that there was a statistically significant difference between type of ward and P.I.E score. The patients on the 'dementia friendly' wards were more likely to have interactions with staff that were described as enriching or positively enriching than those patients on the standard medical ward. This can be seen as representing more patient centred care provision and a recognition of self-hood (Laing 1961; Kelly 2007; Cowdell 2009; Tadd et al 2011; Clisset et al 2013). Hence there was an association between a dementia friendly built ward environment and the provision of patient centred care.

Further triangulation is provided by the results of the semi-structured staff interviews (Rinaldi Carpenter 2007b). Staff on the dementia friendly wards were able to express a greater depth of understanding and acceptance of cognitive impairment. In addition, more staff on those wards showed an awareness of the need to involve the patient and/or family in care and were also more likely to indicate that the dementia friendly ward environments supported more appropriate care.

Quantitative results

This section will present the results of the quantitative data, there will be further elaboration and exploration of these results within the discussion section.

Regarding the Chi square and regression analysis only those results which achieved a less than 0.05 level of probability are accepted as being statistically significant (Harris & Taylor 2014). To enhance clarity for the reader only these statistically significant results will be included in this section, with the remainder discussed immediately following the presentation of the Chi square results. The results will be illustrated by a mixture of bar charts and tables of actual numbers where this aids clarity and discussion or avoids unintentional misrepresentation of smaller numbers where other types of diagrammatic representation would be misleading (Duffy & Jacobson 2005).

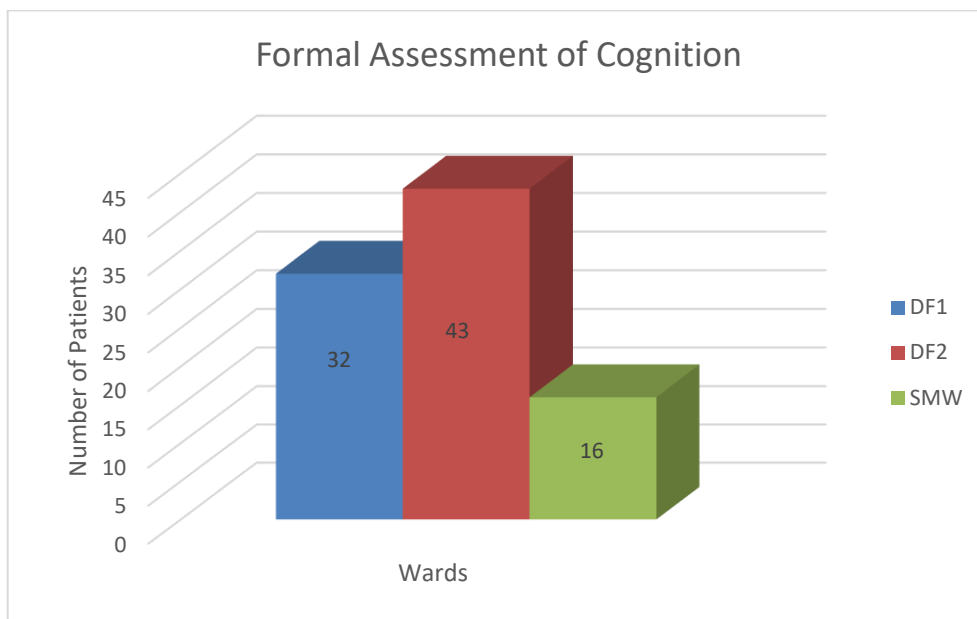
Primary quantitative results

Chi square results

1) Formal assessment of cognition and type of ward

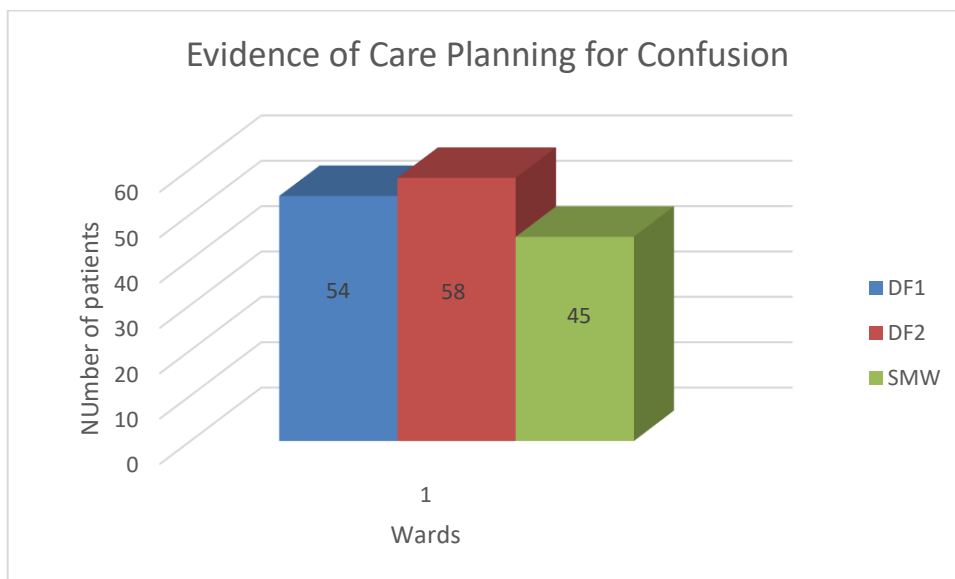
Patients on the dementia friendly wards were much more likely to have had a formal test of cognition completed than those on the standard medical ward (see table 27). 53% of the patients on dementia friendly ward 1 (DF1) had a formal assessment of cognition, 71% on dementia friendly ward 2 (DF2) and 26% on the standard medical ward (SMW). This finding would appear to accord with evidence of improved assessment and care planning for frail older people on wards using specialist comprehensive geriatric assessment and utilising a multi-disciplinary team approach in patient care (NIHR 2017). The finding was statistically significant, the Chi-square test of association produced a statistically significant association between the type of ward and formal assessment of cognition at the 0.010 level of probability. In accordance with the Phi and Cramer's V measurement this is a medium effect for size based on a normal distribution.

Table 27) Formal assessment of cognition



2) Type of ward and whether patients have a care plan regarding confusion

Table 28) evidence of care planning for confusion



Patients on the dementia friendly wards were also more likely to have a care plan regarding cognitive impairment (see table 28). 90% of patients on DF1 had a care plan regarding their cognitive impairment, 96% on DF2 and 75% on the SMW. This may relate to the previous finding of higher rates of formal assessment of cognition on the dementia friendly wards; if a health problem is not properly identified then it will not be properly addressed. The finding again mirrors evidence of improved assessment and care planning for frail older people on wards using specialist comprehensive geriatric assessment utilising a multi-disciplinary team approach in patient care (NIHR 2017). The finding was also statistically significant, the Chi-square test of association produced a statistically significant association between the type of ward and evidence of care planning at the 0.001 level of probability. In accordance with the Phi and Cramer's V measurement this is a small effect for size based on a normal distribution.

3) Type of ward and type of confusion

Table 29) Types of confusion

<i>Type of confusion</i>	<i>DF1</i>	<i>DF2</i>	<i>SMW</i>
<i>Delirium</i>	15	8	10
<i>Dementia</i>	16	24	7
<i>Mental Health issue</i>	4	3	9
<i>Unspecified</i>	25	25	34

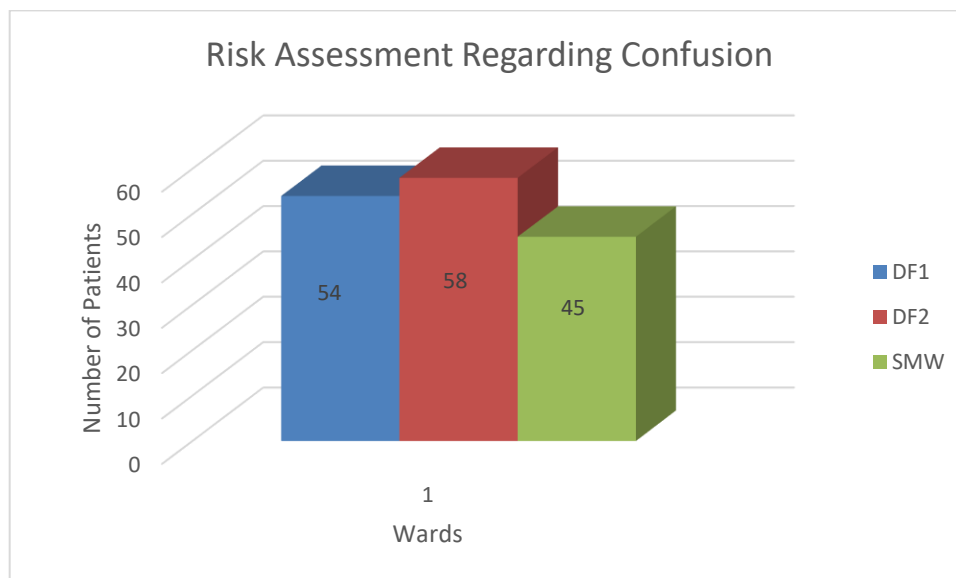
Patients on the dementia friendly wards were more likely to have a formal diagnosis of dementia than those on the standard medical ward (see table 29). 26% of the patient sample on DF1 had a formal diagnosis of dementia, 40% on DF2 and 12% on the SMW. This is an unsurprising finding as patients with dementia are routinely transferred from the standard medical wards to the dementia friendly wards as more ‘appropriate’ settings with the availability of specialised input from the older adult/geriatric multi-disciplinary team who are better able to manage complex discharges, a view that is supported in the literature (Cochrane 2017, NIHR 2017). It has already been demonstrated that the patients on the dementia friendly ward environments were more likely to have a formal assessment of cognition which may have contributed to a formal diagnosis of dementia on those wards. This lack of formal assessment may also be of relevance to the larger proportion of patients on the standard medical ward who had an unspecified form of confusion (see table 29). The finding was

statistically significant, the Chi-square test of association produced a statistically significant association between the type of ward and type of confusion at the 0.010 level of probability. In accordance with the Phi and Cramer's V measurement this is a small effect for size based on a normal distribution.

4) Type of ward and whether a formal risk assessment is completed for patients with confusion

The patients on the dementia friendly wards were more likely to have a formal risk assessment related to their cognitive impairment than those on the standard medical ward (see table 30). 90% of patients on DF1 had a risk assessment regarding their cognitive impairment, 96% on DF2 and 75% on the SMW. Again, this finding may reflect the higher rates of formal assessment and care planning on the dementia friendly wards and is supported by the wider literature on the effects of such best practice in this area (NIHR 2017). The process of care planning would prompt a suitable risk assessment, constituting not only more appropriate but inherently safer care (NIHR 2017). The finding was also statistically significant, the Chi-square test of association produced a statistically significant association between the type of ward and whether patients have a risk assessment regarding cognitive impairment, accepted at the 0.001 level of probability. In accordance with the Phi and Cramer's V measurement this is a small effect for size based on a normal distribution.

Table 30) Evidence of risk assessment of confusion

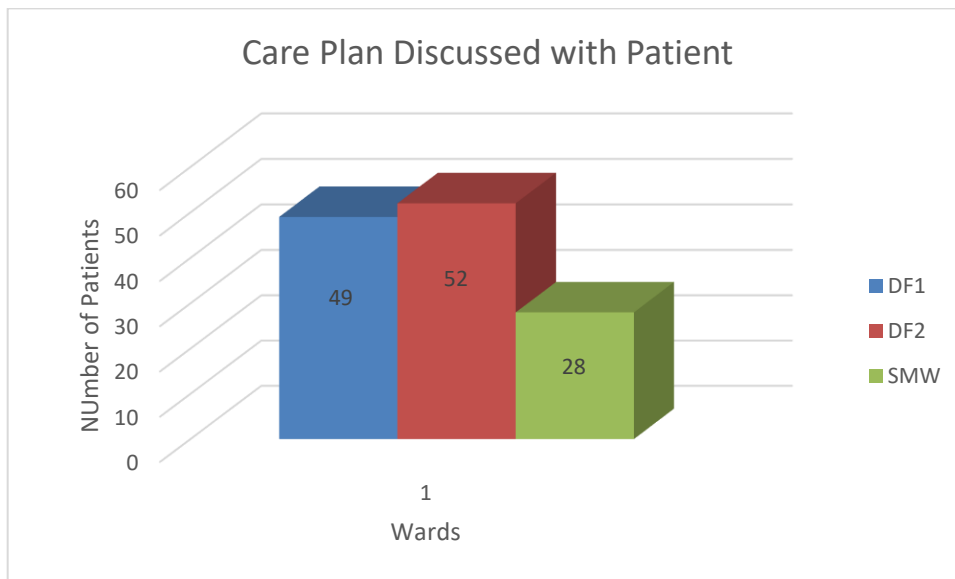


5) Type of ward and whether a formal risk assessment is completed for patients with confusion

The patients on the dementia friendly wards were much more likely to have their care plan regarding cognitive impairment discussed with them than those on the standard medical ward (see table 31). 81% of those on DF1 had their care plan discussed with them, 86% on DF2 and 46% on the SMW. This can be seen as some indication of a culture on those wards that is more patient-centred and recognises the autonomy of the service users. It can be linked to previous research that indicates that such interactions are a recognition of self-hood by staff (Kelly 2007). It is also an indication of better discharge preparation, that best practice would indicate starts with communication and joint planning from the point of admission (NIHR 2017). The finding was also statistically significant, the Chi-square test of association produced a statistically significant association between the type of ward and whether

patients have their care regarding cognitive impairment discussed with them, accepted at the 0.001 level of probability. In accordance with the Phi and Cramer's V measurement this is a medium effect for size based on a normal distribution.

Table 31) Evidence that care plan is discussed with patient

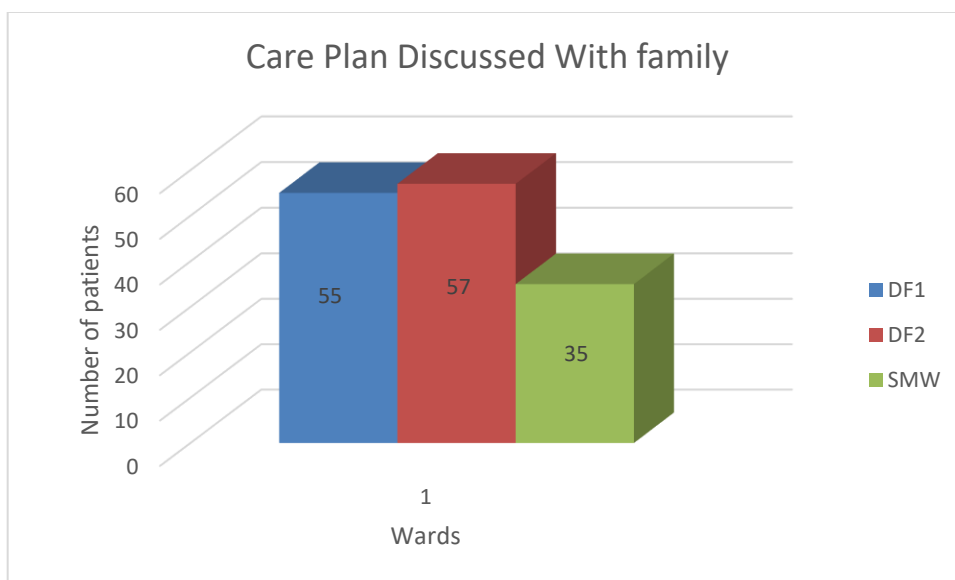


6) Type of ward and family involvement in discussion

The patients on the dementia friendly wards were, similarly, more likely to have their family consulted regarding their care plan than those on the standard medical ward (see table 32). On DF1 91% of families were consulted about the care plan, 95% on DF2 and 58% on the SMW. The larger proportion of family involvement on the dementia friendly wards would suggest that this was a much more routine aspect of care on those wards. This can again be seen as some indication of a workforce on those wards that is more aware of the role of

family as advocate in the care of a confused patient, and the need to involve family members in care and discharge planning to improve patient outcomes (NIHR 2017). Again, there was a statistically significant difference in the type of ward and whether patients had their care plan regarding cognitive impairment discussed with their family, accepted at the 0.001 level of probability. In accordance with the Phi and Cramer's V measurement this is a medium effect for size based on a normal distribution.

Table 32) Evidence that care plan is discussed with family

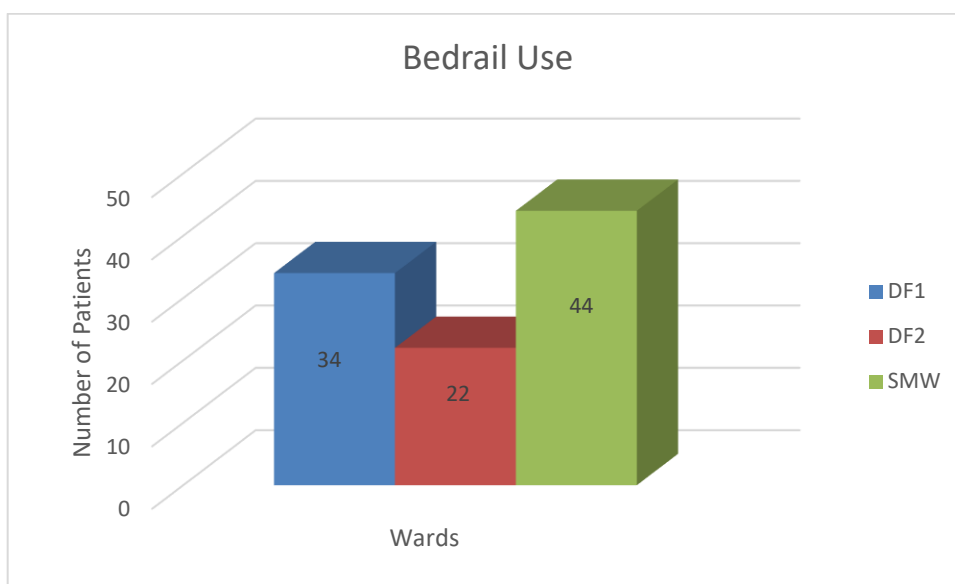


7)Type of ward and bedrail use

The patients on the dementia friendly wards were less likely to have bedrails in use than those on the standard medical ward (see table 33). On the SMW 73% of patients were found to have bedrails in use on their beds, whereas on DF1 and DF2 this figure was 56% and 36% respectively. This would seem to reflect an awareness on the part of staff on the dementia friendly wards that bedrails can increase the risk of harm for confused mobile patients (Parker & Miles

1997; NICE guideline CG161 2013; NHS England & Windsor 2015 Aranda-Gallardo et al 2017), and as such constitutes better practice on the dementia friendly wards. There was a statistically significant association between the type of ward and whether patients have a bedrail in use, accepted at the 0.010 level of probability. In accordance with the Phi and Cramer's V measurement this is a small effect for size based on a normal distribution.

Table 33) Type of ward and bedrail use



8) Type of ward and consent for bedrail use

Table 34) Type of ward and consent for bedrail use

<i>Evidence of Consent</i>	<i>DF</i>	<i>DF2</i>	<i>SMW</i>
<i>Consent</i>	25	28	20
<i>Unable</i>	25	29	15
<i>No consent</i>	10	3	25

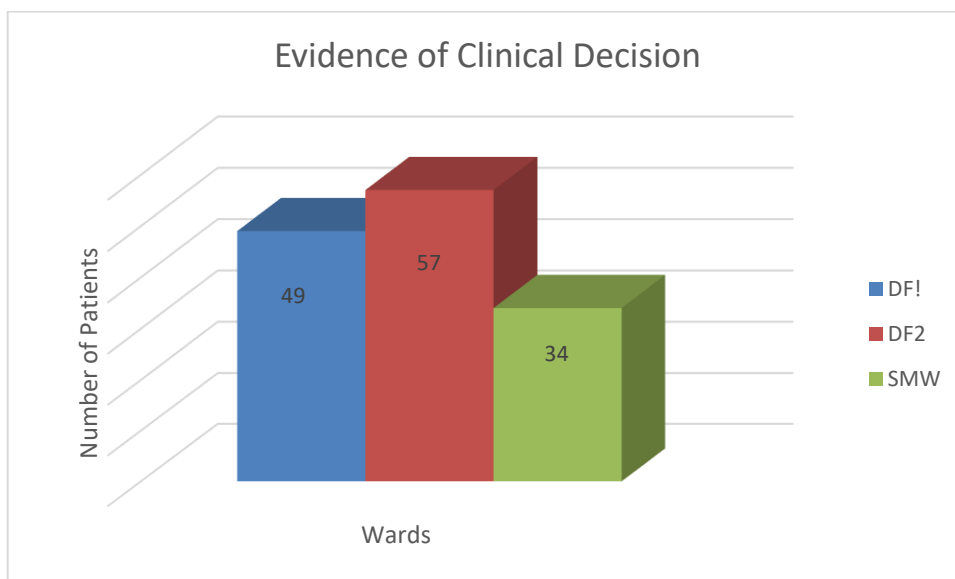
The patients and their families on the dementia friendly wards were more likely to have been asked for their consent for bedrail use than those on the standard medical ward (see table 34). On the SMW there was evidence of consent for bedrail use in 33% of patient records, on DF1 and DF2 this figure was 41% and 46% respectively. These figures also do not reflect the larger number of patients on the dementia friendly wards who were unable to give consent, for example, because the patients were unconscious, or they had no family to be consulted (see table 34). Consent had consequently been obtained from a larger proportion of the patients and families who were able to do so on the dementia friendly wards. This finding can be seen to reflect some evidence that staff on the dementia friendly wards work in a way that denotes respect for self-hood (Kelly 2007). Also, of a view of patients and their relatives as an integral part of the multi-disciplinary team that best practice would require to be involved in a decision regarding bedrail use (NICE guideline CG161 2013). There was a statistically significant association between the type of ward and whether consent was obtained for bedrail use, accepted at the 0.001 level of probability. In accordance with the Phi and Cramer's V measurement this is a medium effect for size based on a normal distribution.

9) Type of ward and evidence of a formal clinical decision for bedrail use

The patients on the dementia friendly wards were more likely to have bedrails in use following a formal clinical decision-making process than those on the standard medical ward (see table 35). There was evidence of a formal clinical decision for bedrail use in 56% of patient records on the SMW, and in 81% on DF1, and 95% on DF2. This would appear to suggest better and safer practice on the dementia friendly wards as, because bedrails can increase the risk of harm for confused mobile patients, best practice requires that they should only be used after a formal multi-disciplinary assessment (Parker & Miles 1997;

NICE guideline CG161 2013; NHS England & Windsor 2015 Aranda-Gallardo et al 2017). There was a statistically significant association between the type of ward and whether there was a formal clinical decision for bedrail use, accepted at the 0.001 level of probability. In accordance with the Phi and Cramer's V measurement this is a medium effect for size based on a normal distribution.

Table 35) Type of ward and evidence of clinical decision for bedrail use



11) Type of ward and whether patients are dressed in day clothes

Table 36) Patients dressed in day clothes

<i>Clothes</i>	<i>DF</i>	<i>DF2</i>	<i>SM</i>
	<i>1</i>		<i>W</i>
<i>Day wear</i>	9	15	2
<i>Night wear</i>	51	45	58

The patients on the dementia friendly wards were more likely to be dressed in day clothes than those on the standard medical ward (see table 36). The overall numbers are small, but a greater proportion of patients on the dementia friendly wards were wearing their own clothes than on the SMW (see table 36). Wearing one's own clothes is not only important in helping to maintain self-hood, but research would indicate that this also constitutes more therapeutic practice as it promotes independence (Tadd et al 2011; NIHR 2017). Staff are not always able to obtain their patient's daywear in a hospital setting but staff on the dementia friendly wards were clearly more successful in achieving this, which may indicate a more therapeutic impetus on those wards (see table 36). There was a statistically significant association between the type of ward whether patients were dressed in day clothes, accepted at the 0.010 level of probability. In accordance with the Phi and Cramer's V measurement this is a small effect for size based on a normal distribution.

12) Type of ward and whether patients are wearing shoes

Table 37) Footwear

<i>Footwear</i>	<i>DF</i>	<i>DF2</i>	<i>SM</i>
	<i>1</i>		<i>W</i>
<i>Shoes</i>	<i>5</i>	<i>11</i>	<i>1</i>
<i>Slippers</i>	<i>18</i>	<i>31</i>	<i>10</i>
<i>In bed</i>	<i>37</i>	<i>18</i>	<i>49</i>

The patients on the dementia friendly wards were more likely to be wearing shoes than those on the standard medical ward (see table 37). Once again, the researcher would indicate that this constitutes more therapeutic practice as it promotes independence and conforms to best practice on falls (NICE Guideline CG161 2013). Also, more patients on the dementia friendly wards were wearing

some type of footwear, and more patients were up and out of bed than on the standard medical ward. This would appear to resonate with the findings of Tadd et al (2011), that staff on standard medical wards tended to concentrate on patient safety resulting in people being encouraged to remain at the bedside, effectively immobilising them and affecting their dignity. Such practice can result in a loss of independence and mobility that can affect both the mortality of older frail patients and their ability to return to independent living (Cochrane 2017; NIHR 2017). There was a statistically significant association between the type of ward and whether patients were wearing shoes, accepted at the 0.001 level of probability. In accordance with the Phi and Cramer's V measurement this is a medium effect for size based on a normal distribution.

13) Type of ward and age of patient

Table 38) Age of patients

<i>Age</i>	<i>DF</i>	<i>DF2</i>	<i>SM</i>
	<i>1</i>		<i>W</i>
<i>65-69</i>	<i>1</i>	<i>1</i>	<i>9</i>
<i>70-79</i>	<i>17</i>	<i>17</i>	<i>15</i>
<i>80-89</i>	<i>33</i>	<i>30</i>	<i>20</i>
<i>90+</i>	<i>10</i>	<i>14</i>	<i>14</i>

There were more patients in the 65-69 age group on the standard medical ward and they appeared to have more of a mixed age group on the standard medical wards than the predominantly older population on the dementia-friendly wards (see table 38). There was a statistically significant association between the type of ward and the age of patients, accepted at the 0.05 level of probability. In accordance with the Phi and Cramer's V measurement this is a small effect for size based on a normal distribution.

Secondary quantitative results

14) Type of ward and readmission within 1 week of discharge

Table 39) Readmission to ward

<i>Readmission</i>	<i>DF</i>	<i>DF2</i>	<i>SM</i>
<i>on</i>	<i>1</i>		<i>W</i>
<i>Within 1 week</i>	<i>0</i>	<i>0</i>	<i>4</i>

The patients on the dementia friendly wards were less likely to be readmitted within one week of discharge than those on the standard medical ward (see table 39). No patients on the dementia friendly wards were readmitted during this period, whereas 4 patients, (6%) were readmitted to the standard medical ward within one week of discharge. This may relate to the previous findings regarding the greater likelihood of a formal assessment of cognition on the dementia friendly wards and higher rates of risk assessment and care planning regarding this, and of involving family in that care planning (Cochrane 2017; NIHR 2017). Also, the higher rates of practices that promoted independence on the dementia friendly wards, such as: wearing shoes and day clothes, and being encouraged to get out of bed (Cochrane 2017, NIHR 2017). There was a statistically significant association between the type of ward and whether patients were readmitted within 1 week following discharge, accepted at the 0.010 level of probability. In accordance with the Phi and Cramer's V measurement this is a small effect for size based on a normal distribution.

Null results

There were no statistically significant associations between the three wards in terms of Charlson scores, (please see appendix B for full details). This was not surprising as most of the patients were admitted as emergency admissions via the A&E department so were randomly placed where there were available beds and transferred to more specialist wards as beds gradually became available.

There were also no statistically significant results between the three wards in terms of length of stay, although this was slightly longer on the dementia friendly wards, (please see appendix B for full details). It is difficult to ascribe any meaningful inferences from this as it was common for patients to be transferred from standard medical wards to the dementia friendly wards if they had complex discharge needs, so it was almost inevitable that their length of stay would be slightly longer than the average.

There were also no statistically significant results between the three wards in terms of sedation practice or use of baffle locks or furniture to restrict movement, (please see appendix B for full details). In fact, all the wards had security locks on the main doors that restricted entry and exit for all but card holders (staff).

No statistically significant results between the three wards were found in weekly multi-disciplinary team contact or regular multi-disciplinary review of the patients, (please see appendix B for full details). Weekly ward rounds and multi-disciplinary case conferences were standard practice on all three wards. There were also no statistically significant results between the three wards in terms of weekly reviews of care plans, (please see appendix B for full details). This was unsurprising as this would be required to meet the professional's duty of care to the patients, and failure to do so could be deemed negligence. Also, in many instances this equated to signing a tick list.

There were no statistically significant results between the three wards in terms of referral to specialist services, (please see appendix B for full details). No patterns of referral occurred on any of the three wards. Nor were there statistically significant differences between the wards in terms of completing the mandatory assessments of; mobility, communication, social circumstances, mobility, nutritional status or Waterlow score, (please see appendix B for more detail). This again was unsurprising as these details had to be assessed within stipulated time frames to accord with insurance requirements for the Trust and failure to do so would result in a financial penalty, hence failure of staff to complete these in a timely fashion could incur disciplinary action.

There were also no statistically significant results between the three wards in terms of the type of mattress being used by the patients, (please see appendix B for full details). Again, this was unsurprising as this would be dictated mainly by the results of the Waterlow or mobility assessments. Nor were there any statistically significant differences in discharge destination between the three wards; in whether the patients returned to their own homes, rehabilitation facilities or residential care, (please see appendix B for full details).

Falls null result

Despite previous research findings that the incidence of falls was reduced in dementia friendly ward environments (Sprinks 2012; Bray et al 2015), in this study regression analysis of the Trust falls data for the three ward environments in the period of the study elicited no evidence of any significant differences between them in terms of the incidence of falls (please see appendix B for full details). However, the relationship between intervention and risk of falls is much more complex than has previously been acknowledged (Public Health England 2019), with a recent systematic review on interventions for preventing falls in older people in care facilities and hospitals, (Cameron et al 2018), suggesting

that there is less certainty as to the effectiveness of multifactorial interventions due to the quality of the available evidence.

It was not possible in this study to track the incidence of falls in the specific sample population due to the methods of Trust data gathering in this area. The falls data provided by the Trust was also limited to the number of falls per month on each ward rather than the circumstances of the fall and exact location within the ward area, which unfortunately led to a much cruder analysis. There were no details as to the circumstances of the fall, such as time of day or exact location on the ward, etc. So that issues such as lighting on wards or in toilet areas and how that might have contributed to falls could not be explored. The overall figures accessed for the number of falls on the wards may also not have reflected differences between the wards in the fall rates specifically of older people with cognitive impairment, and the effect that the different environments had on this, so were not a reliable source of data from which to generalise (Munro 2005a). There were also no details of how the data was collated which compromises the perceived reliability and integrity of the data set (Munro 2005a). This highlights the issues surrounding the use secondary Trust data over which I had no control or knowledge regarding the process of collection, coding or analysing. This had negative consequences for its use as a source of evidence for triangulation (Wilson & Hutchinson 1991; Morse 1991; Bryman 2006; Rinaldi Carpenter 2007b). For example, in cross referencing with the finding from the environmental audit that lighting on all the wards made nighttime navigation very difficult.

Discussion of quantitative findings

There was a statistically significant difference between the type of ward and the predominant types of confusion that the patients had, with more patients on the dementia friendly wards having a formal diagnosis of dementia. It seems

probable that the formal diagnosis of dementia may have been affected by the statistically significant difference between the wards in the formal assessment of cognition; with patients on the standard medical ward much less likely to have this completed by the admitting physician or at any time after admission.

It can be argued that much more pressure on junior doctors would exist on a ward where the Consultant Physician had a particular interest in the care of older people and where failure to complete such assessment might result in social and professional embarrassment during weekly ward rounds, but there is no evidence for this. It may also be that the more confused older people on other medical wards may have been transferred to the dementia friendly wards as these wards would be identified as being more 'suitable' for patients with issues such as dementia (NIHR 2017).

It was clear from the patient records that even though cognitive impairment had not always been formally assessed, the nursing staff were addressing issues of confusion in their care, and when I checked with them, they could identify which patients were confused and warranted inclusion in the study. However, there was a statistically significant lesser likelihood of patients on the standard medical ward having a nursing care plan or formal risk assessment relating to their cognitive impairment than those on the dementia friendly wards, so their needs were not being systematically or comprehensively addressed (NIHR 2017).

It was also significantly less likely that either patients or their family would have the care discussed with them on the standard medical wards, which can be seen as evidence of a more patient centred approach in the dementia friendly environments, one that recognised and addresses self-hood (Laing 1961; Kelly 2007). This conclusion is reinforced by the findings of the staff interviews which indicated a greater awareness on the part of staff on the dementia friendly wards of the need for autonomy and involving patients and their families in care

decisions. Patient and family involvement in care planning is also an important factor in successful discharge (NIHR 2017).

The analysis of the weaker evidence provided by the Patient experience survey responses supports this finding. The dementia friendly wards were more rated more highly by service users than the standard medical ward in terms of the standards of care and some aspects of communication on those wards, and that staff were considered to exhibit more respect for confidentiality, privacy, and autonomy. There was also some indication that the nursing staff on the dementia friendly wards were establishing more supportive and more empathetic relationships with service users and their families and were thought to be more responsive to their needs. Similarly, the P.I.E findings also evidenced a statistically significant association between a dementia friendly built ward environment and the provision of patient centred care.

The quantitative findings indicate that patients on the dementia friendly wards were more likely to be dressed in day clothes and shoes, which would also suggest a more therapeutic environment where independence is encouraged. Wearing shoes is also thought to contribute to a safer environment in terms of falls (NICE Guideline CG161 2013; Cameron et al 2018; Cochrane 2019). This assertion is supported by the findings of the semi-structured staff interviews. Staff on the dementia friendly wards were able to express a greater depth of understanding and awareness regarding the care of people with cognitive impairment. There is also further support for this finding in the weaker evidence provided by the Patient experience survey. They provide some evidence that the dementia friendly wards are considered to differ from the standard medical ward in both the approach of the staff, the working practices, and the environment of care.

The present study found no evidence of the use of furniture to restrain patients, (e.g., bed tables placed between the legs of chairs or beds pushed directly

against walls to entrap the patient), and no significant differences in the use of chemical sedation between the wards (please see appendix B for further details). However, there were statistically significant differences between the three wards regarding bedrail use; with the standard medical ward much more likely to be using bedrails, and much less likely to have obtained consent for this use or for having evidence of a formal clinical decision having been made for using this equipment despite the recommendations of best practice guidelines (NICE Guideline CG161 2013; NHS England & winter 2015). This finding appears again to concur with the finding of the semi-structured staff interviews that staff on the dementia friendly wards exhibiting a greater depth of understanding and awareness regarding the care of people with cognitive impairment than those on the standard medical ward.

Previous research has established the link between the use of restraints and falls, with restraint use likely to decrease the overall rate of falls but with inappropriate use of restraints more likely to increase the severity of injuries incurred during a fall (Aranda-Gallardo et al 2017). This finding is very concerning as bedrail use for confused mobile patients may result in an attempt to climb over them or lead to entrapment, thus incurring potentially serious or fatal injuries (Aranda-Gallardo et al 2017).

There were no statistically significant differences in discharge destination between the three wards; in whether the patients returned to their own homes, rehabilitation facilities or residential care. However, patients on the standard medical ward had a statistically significant greater likelihood of a 'failed discharge'; being readmitted within one week of discharge (Nuffield Trust 2018). Staff on the dementia friendly wards were more likely to formally assess cognition, assess the risks regarding this, provide a care plan care around this, and involve family in care –all of which contribute to successful discharge planning. This is again supported by the results of the semi-structured staff interviews (Rinaldi Carpenter 2007b). Staff on the dementia friendly wards were

able to articulate more understanding regarding cognitive impairment. In addition, a greater proportion of staff on those wards showed an awareness of the need to involve the patient and/or family in care.

This is also further supported by the weaker evidence provided by the Patient experience survey. The dementia friendly wards were rated more highly by service users than the standard medical ward in terms of the standards of care and some aspects of communication on those wards. There was also some indication in the surveys that the nursing staff on the dementia friendly wards were establishing more supportive and more empathetic relationships with service users and their families and were thought to be more responsive to their needs. The Patient experience survey findings would also seem to indicate better standards of multi-disciplinary team working on the dementia friendly wards.

This can be seen to mirror findings from other studies relating to improved discharge outcomes for frail older people in terms of remaining in their own homes a year after discharge, on wards which incorporate specialist comprehensive geriatric assessment utilising a multi-disciplinary team approach in patient care (Cochrane 2017; NIHR 2017) and involved patients and their families in discharge planning (NIHR 2017). Although there is less substantial evidence regarding differences in unexpected readmissions (Cochrane 2017; NIHR 2017; Keane et al 2018).

This quantitative finding regarding discharge is further supported by the findings of the staff interviews, with nursing staff on the standard medical ward commenting on the pressure to discharge patients before it was advisable to do so. Previous research has indicated that the priorities of Trusts were in conflict with the needs of older people, and an attitude that people with dementia 'should not be there' (Tadd et al 2011).

Limitations

There are limitations to the findings in terms of the anomalies I have previously identified in the Patient experience survey figures, and the lack of direct patient comments in both the Patient experience survey and the P.I.E. observations. Had it been practical the study would also have been strengthened by the inclusion of primary research to reflect the 'voice' of the service user (Dewing & McCormack 2015). Unfortunately, constraints of time and the resource implications of the sole researcher made this impossible. Also, some of the secondary data such as the falls data is potentially unreliable as there are no details given as to how it is collected, collated, and analysed. It is also too basic in nature, and a more detailed data set would have provided more meaningful information. Despite this the concordance in the results across a range of qualitative findings, and between the qualitative and quantitative findings, indicates that the results are to some extent consistent even though they may not meet the standard of being unequivocally credible and reliable (Lincoln & Guba 1985; Denzin 1989; Kimchi et al 1991; Rinaldi Carpenter 2007b).

This work is set within the paradigm of Praxis so that the cyclical nature of the action research process does not end with the determination of findings and formulation of conclusions but instigates a renewal of the research process (Riel & Lepori 2014; Walter 2009; Craig 2009). Consequently, I will use that continuous process to address any weaknesses in the methodology or quality of data in future cycles of consequent research (Lather 1986); Streubert Speziale 2007b).

Conclusion

The analysis of the quantitative findings suggests that patients on the dementia friendly wards were receiving enhanced levels of care and assessment than those on the standard medical ward. There were statistically significant

differences between the dementia friendly and standard medical ward across a range of issues connected to the comprehensive assessment and care of older people with dementia or other forms of confusion. These findings are to some extent supported by the weaker evidence provided in the Patient experience survey and further triangulation is provided by the results of the semi-structured staff interviews and the statistically significant findings of the P.I.E. observations (Morse 1991; Wilson & Hutchinson 1991; Bryman 2006; Rinaldi Carpenter 2007b).

These findings cannot be said to have been produced by adverse variations in staff: patient ratios on the standard medical ward, as the wards had similar total ratios, indeed the diluted skill mix on ward DF2 was more likely to have a negative impact upon care. The quantitative findings also demonstrate that there were more patients with a formal diagnosis of dementia on the dementia friendly wards than on the standard medical wards but that without having any more staff they were achieving better outcomes over a range of quality issues.

Previous studies have consistently identified a lack of patient-centred care provision and recognition of self-hood in health care settings (Kelly 2007; Cowdell 2010; Tadd et al 2011; Clisset et al 2013). The findings of this study build upon previous studies in indicating that purposively adapted dementia friendly hospital wards are viewed more positively by staff and are thought to help them provide patient centred care and support. In addition, they add to the body of knowledge in this field by suggesting that a purposively adapted dementia friendly environment may not only contribute towards the quality of care that confused older patients receive in terms of staff engagement and interaction, but may also contribute to care planning, patient/family involvement in care and decision making, and unexpected readmission rates. I will consider further in the discussion chapter the reasons why they are having better outcomes.

5)Discussion

Introduction

This section will discuss the new knowledge about the effects of the environment on the care of older people with dementia or cognitive impairment in acute general hospital settings that this study contributes to the existing body of knowledge. It will further explore the themes emerging from the study in relation to the wider literature in this area and will include an elaboration upon issues that emerged during the research that resonate with previous work in this field. The discussion will encompass the complexities of undertaking research within the acute general hospital setting, the research questions and how they have been addressed. There will also be an attempt to delineate how this work contributes to the body of knowledge in the area, the methodological contribution, the theoretical contribution within the paradigm of Praxis, (Lather 1986), and the practical contribution/implications of the findings for clinical practice.

The concept of a dementia friendly ward environment

It has been recognised that in addition to the effects of physical illness the unfamiliar surroundings, lack of support and anonymous physical environment of the hospital ward will exacerbate any confusion and sensory impairment (Waller 2012; Innes et al 2016). The combination of the busy setting and a lowered stress threshold can create experiences of haste, chaos and disorganisation for the older person which result in reactions such as anxiety, agitation and restlessness as a response to the sensory overload (Edvardsson et al 2010).

This culminates not only in increased distress for the person but also a loss of independence in activities of daily living that make it less likely that they will return home upon discharge (Alzheimer's Society 2009; N.I.H.R. 2017). After a hospital admission 12% of people over 70 will experience a reduction in their ability to undertake activities of daily living, and older people who saw a deterioration in their balance and mobility in the first 48 hours of a hospital admission had a 17-fold increased risk of death within 14 days (N.I.H.R. 2017). The findings of the present study regarding less active involvement in care and early readmission to hospital on the standard medical ward explore some of the factors involved in this loss of function and would seem to confirm the earlier findings about the repercussions of this on the continued ability of the older person to return to independent living following a hospital admission.

The current inappropriate acute hospital provision of environments for older confused patients, examples of which I observed during this research, can be seen as reflecting Buffel et al (2013) theories regarding the ways in which space can contribute to social exclusion in old age, as part of the 'malignant social psychology' to which Kitwood (1997) referred. Buffel et al (2013) view the social environment as a dynamic, multi-dimensional and spatially contextualised process that both affects and is affected by the experiences and practices of older people. Buffel et al (2013) construct is applicable when considering the provision of care for older people in acute hospitals that are not designed for their needs. In many instances, they are housed in the Victorian Nightingale wards in what were previously workhouse buildings- whose original design incorporated a view of old age as a social problem to be contained and 'dealt with'. Consequently, such environments are both inherently ageist (Laws 1993, 1995; Lui et al 2009), disempowering (Clarke et al 2011, Shakespeare et al 2019), and disabling (Parke et al 2017). In this study the standard medical ward was situated in the newly built part of the hospital whereas the dementia friendly wards were located in the old 1930's building where the built environment had been designed for a very different type of care.

The dementia friendly wards in the present study had been adapted from just such a Nightingale ward layout and although improved were still constrained by the same basic layout of the building, attesting to Maquardedt's (2011) observation that modifications cannot compensate for adverse architectural design. Despite these architectural disadvantages the findings from the present study indicated that patients on the dementia friendly wards were receiving a better quality of care and assessment. There were statistically significant differences between the dementia friendly and standard medical ward across a range of issues connected to the comprehensive assessment and care of older people with dementia or other forms of confusion. These findings are supported to a certain extent by the weaker findings of the Patient experience survey and further triangulation is provided by the results of the semi-structured staff interviews and the statistically significant findings of the P.I.E. observations (Denzin 1989; Kimchi et al 1991; Rinaldi Carpenter 2007b).

Marshall (1999) describes a dementia friendly environment as one that should compensate for disability, maximise independence, enhance self-esteem and confidence, and reinforce personal identity. However, many new environments are created without reference to the need for the person with dementia to be an active rather than a passive recipient of care (Davis et al 2009), or a recognition of them as experts in their own care (McCormack & McCance 2010). This is illustrated within the present research in the findings of the environmental audits relating to the standard medical ward; long anonymous and busy corridors, remote nursing stations, a bland uniformity of colour that failed to distinguish toilets from the surrounding areas, ultra- modern taps, lack of zoning and aids to orientation, lack of familiar objects and a home like setting. It was the clinical staff who lobbied for additional funds from the Birmingham Hospitals Charity Funds to adapt some of the older wards to incorporate some best practice features (R.C.N. 2013; Dementia Action Alliance 2014), and as the literature indicates this is not an uncommon phenomenon (Spink 2012).

The setting for the present study reflects Heylighen et al (2013) view that the focus of architectural design is often on aesthetic considerations rather than the lived experience of the building. In this instance although lip service was paid to gaining the views of staff and service users on the design of the wards in this new building, the finished product had clearly ignored all the requests for specific dementia friendly features and instead followed a design vision that could not have been less familiar or provided less cues to confused older people. This is particularly important in the light of the present research which has indicated a link between the dementia friendly environment and the delivery of more patient-centred care.

The dementia friendly ward environment is of course more than a physical construct, the provision of a suitable built environment does not ensure that it will be used to promote a patient centred approach (Chaudhury et al 2017). Not only does it have a social and cultural component, but it can be viewed as more than the sum of its parts in terms of a transactional perspective where different dimensions of the environment are internalised by staff and patients but that they modify the way they inhabit that environment (Brorsson et al 2011). Changes to their attitudes and behaviour may then affect reciprocal processes of recognition/confirmation of self that is a manifestation of selfhood for the person with dementia (Laing 1961, Kitson 1997), and this co-construction internalised by them (Laing 1961, Goffman 1963).

The present study has suggested a link between the dementia friendly environment and greater awareness and empathy expressed by the nursing staff on the dementia friendly wards, which again contribute to supporting and confirming self-hood (Laing 1961). This is supported by the statistically significant differences in P.I.E. findings regarding greater levels of staff/patient interaction and engagement on these wards, the statistically significant evidence from the case note audit of more involvement of the older people in

their care planning and decision making, and to some extent in the weaker data obtained from the Patient experience surveys.

The present research has attempted to explore the complexity of the care setting, not only to evaluate staff attitudes and their feelings about how the environment affected care on the ward but also fundamentally how the different environments influenced their actual care delivery. In this instance the findings of the staff interviews suggest that although the majority of staff had a patient centred /therapeutic approach there was some evidence of a greater awareness on the part of staff on the dementia friendly wards of the need for autonomy and involving patients and their families in care, which again the researcher would postulate is an affirmation of their self-hood (Laing 1961; Kelly 2007). In the interviews they articulated a better understanding and range of strategies to care for people with dementia or confusion, and this translated into an enhanced level of interaction and engagement in their practice as demonstrated in the weaker evidence provided by the Patient experience survey results, and both the statistically significant differences in the PIE data and the statistically significant differences in documented care in the Case note audit.

The research questions

This work attempted to address the following research questions:

- 1) Do dementia friendly physical environments improve service user outcomes?
- 2) Do dementia friendly physical environments influence the social environment of care or facilitate person-centred care practice?

The researcher considers that there is some evidence to answer positively to both questions. A dementia friendly ward physical environment can improve service user outcomes in terms of readmission rates. In addition, a dementia friendly ward physical environment can influence the social environment of care

and facilitate dementia friendly care practices both in terms of assessment and care planning, and patient interactions and engagement by ward staff. These questions will now be considered in more detail, highlighting key findings that contribute new suggestions about the relationship between the physical environment and 1) service user outcomes, 2) and care practices by staff.

1) Do dementia friendly physical environments improve service user outcomes?

The ward environment and the link to successful discharge

In this section the findings regarding discharge issues will be discussed as this represented the only outcome issue that was clearly linked to ward environment in terms of statistically significant differences in the results. There will be a further exploration of these findings and a discussion of how they link to staff attitudes and care practices on the three wards.

Recent advances in electronic record keeping had enabled the researcher to track the care journey of the individual patients in the sample in relation to discharge destination and readmission rates. Although there were no statistically significant differences in discharge destination between the three wards, patients on the standard medical ward had a statistically significant greater likelihood of a 'failed discharge'; being readmitted within one week of discharge (Nuffield Trust 2018).

The more successful discharge planning on the dementia friendly wards may be linked to the statistically significant differences between the wards in comprehensive assessment and care planning for confused patients and patient/family involvement in care (Cochrane 2017; NIHR 2017). This is also supported by comments from the staff interviews that showed a greater

awareness of patient autonomy and involving family on the dementia friendly wards, and the weaker findings of the patient experience survey.

The finding regarding differences in unexpected readmissions may with further exploration constitute a potentially important contribution to the body of knowledge in this area, where an insubstantial evidence base has previously been highlighted (Cochrane 2017; NIHR 2017; Keane et al 2018). The research also contributes to previous indications of improved discharge outcomes for frail older people in terms of remaining in their own homes a year after discharge, on wards which incorporate specialist comprehensive geriatric assessment utilising a multi-disciplinary team approach in patient care (Cochrane 2017; NIHR 2017) and involved patients and their families in discharge planning (NIHR 2017). This research may suggest a specific link between the type of ward environment and the unexpected readmission rates of older people with cognitive impairment in the acute general medical setting.

Tadd et al (2011) indicated that the pressure for high bed occupancy rates and 'throughput' resulted both in pressure for older people to vacate beds and a lack of continuity in their care. During the staff interviews nurses working on the standard medical ward had voiced the realities of that pressure and the concerns it gave them regarding premature discharges, whereas these issues were not aired during the staff interviews on the dementia friendly wards. The issues surrounding unexpected readmission are considered to be of such importance to future care provision that the researcher strongly recommends further studies to explore this issue and is herself currently planning a future study on multiple hospital sites.

Brorsson et al (2011) argue that the environment is not just a physical entity but embraces the social cultural and wider political aspects of everyday life. In terms of the wider political framework the differences regarding readmission rates are important because of the inherent financial implications. There is an

estimated financial cost per unit of £1603 for each non-elective admission (NHS Improvement 2018), and following changes to DoH Performance fines, NHS Trusts are no longer reimbursed for all readmissions above locally agreed thresholds (Nuffield Trust 2018). Consequently, the potential costs to such a large Trust with numerous standard medical wards may be onerous and provide a financial incentive for more research into the effects of dementia friendly ward environments. Hence these research findings regarding early readmission, with further exploration may add a potentially important contribution to exploring the benefits of a dementia friendly ward both for the individual in terms of the likelihood of a disruptive readmission, and to the organisation in terms of reduced costs to the Trust.

2) Do dementia friendly physical environments influence the social environment of care or facilitate dementia friendly care practice?

The quality of care

This research indicated differences in the quality of care between the dementia friendly wards and the standard medical ward in the study. The results identified that there was a statistically lesser likelihood of patients on the standard medical ward having a nursing care plan or formal risk assessment related to their cognitive impairment than those on the dementia friendly wards, so that their needs were not being systematically or comprehensively addressed. It was also significantly less likely that either patients or their family would have the care discussed with them on the standard medical wards, which can be viewed as suggesting a more patient centred approach in the dementia friendly environments.

Previous studies have indicated that nursing staff do not always fully recognise and therefore cannot support self-hood and patient centred care (Kitwood

1997; Kelly 2007; NIHR 2017), and that discharge planning is compromised if patients and relatives are not involved in discharge planning (NIHR 2017). This research explores the link between those issues to the presence or absence of a dementia friendly environment.

This inference is supported by the findings of the staff interviews which indicated that although the majority of staff had a patient-centred approach there was a greater awareness on the part of staff on the dementia friendly wards of the need for autonomy and involving patients and their families in care. To a lesser extent this is also supported by the weaker findings of the Patient experience survey, which indicated that the nursing staff on the dementia friendly wards were establishing more supportive and more empathetic relationships with service users and their families and were thought to be more responsive to their needs. Patients on the dementia friendly wards were also more likely to be dressed in day clothes and shoes, again suggesting a more therapeutic environment that supported self-hood and dignity (NIHR 2017), maintaining function and contributing to a safer environment in terms of falls (NIHR 2017, Cochrane2018, Cochrane 2019).

The analysis of the P.I.E scores had indicated a greater quality of interaction and engagement on the dementia friendly wards. On the standard medical ward 39% of the interactions were described as enriching or positively enriching while the remaining 61% were neutral. Whilst on the two dementia friendly wards these figures were 85% enriching or positively enriching with 15% neutral, and 94% enriching or positively enriching and 6% neutral on the two wards respectively.

The weaker evidence of the Patient experience survey had also suggested enhanced standards of care and of interaction with patients and family on the dementia friendly wards. The staff interviews too indicated a greater awareness of a range of therapeutic approaches on the part of nursing staff on the

dementia friendly wards. This research is important because it suggests that the dementia friendly ward environment may be linked to more appropriate and patient-centred care.

Contribution to body of knowledge

There are a dearth of studies that have looked comprehensively at the effect of the built environment on the care of older people with dementia or other types of confusion in the UK acute general hospital setting (Parke et al 2017; Brooke & Semlyen 2019). Previous work has also highlighted that when looking at the care environment there is a tendency to separate the physical from the social aspects (Davis et al 2009), whereas in this work they have been integrated into the focus of the study.

In the hospital environment the role of organisational culture (Godfrey et al 2018) and how staff engage with service users (Ballie et al 2012) tends to be undervalued. In addition, the complexities of the care environment are often not fully addressed so that crucial elements are omitted, for example, a focus upon the link of built environment to staff attitudes but not on issues of staff behaviour (Brooke & Semlyen 2019).

This study attempted to explore that complexity, the research investigated both the built and social environment of care, achieved by the mixed methods approach that incorporated an environmental review, a case note audit, staff interviews and an analysis of secondary data from the Patient experience survey, informatics data, staffing rotas, and the PIE data. There was a focus not only upon staff attitudes expressed in the staff interviews but also upon staff behaviour in the evidence of the PIE data and the documented care investigated in the case note audit. In addition, the study attempted to evaluate how the built environment in which staff were providing care for patients,

influenced their attitudes to that care, and what differences that care had in terms of clinical outcomes for those patients.

The mixture of quantitative and qualitative methods used in the research reflected the multi-faceted nature of the subject area and were required to fully address the research questions (Creswell & Piano Clark 2017). They also allowed for triangulation between the between the quantitative and qualitative methods, and confirmability across the range of qualitative methods, in order to consolidate and strengthen the findings (Wilson & Hutchinson 1991; Morse 1991; Bryman 2006).

The research suggests that there may be a link between a dementia friendly physical ward environment and better care for older people with dementia or confusion, that the dementia friendly physical ward environment can potentially facilitate more appropriate care practices. For example, those elements which were highlighted by staff on the dementia friendly wards in the staff interviews; familiar environments, the opportunity for and importance of interaction, and areas that incorporated therapeutic activities (like music activity), which were viewed by staff as being particularly conducive to supporting the delivery of person-centred care. Staff on those wards also demonstrated a greater knowledge and understanding of strategies regarding the care of older people with cognitive impairment, a further suggestion of a possible link between the built environment and better care practice.

This study provides new detail in the exploration of a relationship between the built ward environment and the quality of care delivered, with some evidence of enhanced patient interaction and engagement on the dementia friendly wards. In addition, an indication of more formal assessment and care planning on those wards, and engagement of patients and relatives in that process.

This involved better communication with patients and family which may have resulted in a lesser rate of unexpected readmissions (failed discharges). The findings of the present study need to be explored more fully in future research as they have potentially important implications for the future organisation and provision of care for confused older people within acute general hospital environments. That the provision of more appropriate built environments may not only contribute to the quality of care on those wards but could be more cost-effective in avoiding early readmissions.

Methodological issues

This section will review some of the issues met in undertaking research in the distinct and almost idiosyncratic milieu of the health care environment, particularly that of the acute general hospital setting. Some of the problems encountered and issues addressed have implications not only for this research but for future research in this field and as such are considered to be worthy of more detailed discussion.

The complexities of undertaking research in the hospital milieu

Undertaking research and attempting to change practice in the NHS hospital environment requires a fundamental awareness of the culture and the sometimes-quixotic nature of that setting. Difficulties encountered by the researcher echo that of other recent research in NHS hospitals, for example, Godfrey et al (2018) emphasise the instability and turbulence of the acute hospital environment. Their longitudinal study of 10 wards in 5 acute NHS Trusts used a comparative study design to evaluate the impact of using the Patient Interaction and Engagement (P.I.E.) programme in the care of people with dementia on acute wards. However, 4 of the 10 wards in the study were closed at short notice for organisational reasons and the P.I.E. process adopted in only 2 of the remaining 4 wards, so that they lost 80% of their total

sample population. They cite organisational factors as being fundamental to improving care or acting as restraints to those improvements and conclude that changing practice in such complex organisations requires a more in-depth understanding of the contextual factors that impact on the capacity to absorb and embed new practice. I sought to address these organisational factors in my approach to the present study by utilising the inherently collaborative and pragmatic working of the Praxis framework (Lather 1986).

The complexity and instability in health care settings is not of course exclusive to hospital environments and there are further examples from residential care settings. Towers et al (2016) also encountered difficulties in their project to inform practice in care homes using the Adult Social Care Outcomes Toolkit (A.S.C.O.T.). The original sample population consisted of four care homes but during the course of the project one of the nursing homes in the study experienced a complete change in senior management and then unexpectedly transferred its ownership to another provider and had to withdraw from the project completely.

Some of the issues I encountered in conducting this study also highlight the complexities of this process. For example, my field notes detail that although the NHS ethical approval process had progressed within the expected timeframe, the Trust clinical governance process had taken an unexpectedly protracted period of 6 months due to a cumbersome bureaucratic process, the absence of key decision makers, and quandaries about costs associated with the research. Governance approval was finally given only after the direct intervention of senior nurses and medical staff within the Trust, and without which that process would have been even lengthier, rendering the study unfeasible. Had I not been working in close collaboration with clinical colleagues over an extensive period I would not have been able to access the support I was given, and I doubt that this situation would have been resolved in time to complete the study.

Upon discussing this with nursing colleagues I discovered that this type of delay was a not uncommon experience and would seem to proffer at least part of the reason that nurses are not more involved in research (Pentland et al 2011). In the light of this experience, it could be concluded that the clinical governance research process currently inhibits the potential of nurses to conduct high quality relevant research that relates to practice. To address these deficiencies the I would suggest that the process needs to be simpler, more transparent, and quicker to negotiate.

My field notes highlight my frustration and powerlessness in another instance, when at the point of data collection on the standard medical ward I discovered that the functions of almost all the medical wards had completely changed in the preceding two months due to a management reconfiguration for pragmatic/business rather than clinical reasons. Thus, in one example, staff who had a genuine interest in dementia and who had consequently attended all the courses that they could access were no longer caring for this type of patient but were now caring for a younger cohort of working age patients who had been adversely affected by the new range of so called 'zombie' drugs.

Consequently the previously designated ward in my sample had to be abandoned as inappropriate to the study and a new one selected carefully to ensure that the patient population was both appropriate and was homogenous in terms of the population in the preceding 12 months as this would have impinged upon the study both in terms of staff ideology/attitudes and also in the significance of retrospective data, as the data might not be comparing like with like on the same ward. This situation may not have been salvageable for the study had I not been working within a Praxis paradigm of close collaboration and cooperation with clinical colleagues who 'rescued' me from such situations of organisational impasse on many occasions. The state of flux within which the environment of care is set also has important implications for staff training, fundamentally training in caring for people with confusion must be more global

in nature rather than targeted at specific wards geared for that purpose at any one time.

The data collection on the first dementia friendly ward in the sample had also proved problematic. My field notes detail that I encountered an apparent reluctance on the part of ward staff to let me approach any of the patients or even consider that people with early dementia or mild cognitive impairment could be considered for the study, they seemed to be overly suspicious of my presence and very averse to cooperating in the study. When this was explored with the Senior Nurse who was supervising the researcher the 'real politick' of the situation became apparent. It emerged that the ward staff had very recently been through a very harrowing period; failing an annual review by the CQC because of poor cleanliness and failing to have made improvements on a subsequent visit. The internal investigation following this resulted in the ward manager leaving and her deputy stepping in at short notice and in an atmosphere of upset and fear.

The traumatised trained nursing staff on the ward were understandably very fraught and almost paranoid about making any mistakes, and my presence was merely adding to their unease. It was agreed that this was not the most propitious choice for inclusion in the study and another more suitable venue selected. Upon reflection it would have been difficult for me to have foreseen this situation and must be seen as part of the constantly evolving state of flux that constitutes the acute general hospital and accepted as part of understanding the nature of that setting. Once again, the close collaboration and cooperation of clinical colleagues that is an essential element of the Praxis process, facilitated alterations to the sampling at very short notice.

Reflection on methodological issues

Understanding the complexities of the care environment is also a crucial element in interpreting the results of the research, for example, the issue of staffing on the three wards. Unlike Scotland there is currently no legislation to ensure safe staffing levels in England despite the evidence of significant negative patient outcomes associated with lower registered nursing numbers (Royal College of Nursing (R.C.N.) 2019). These include issues surrounding; mortality, care quality, missed care, and adverse events such as falls and the development of pressure ulcers (Royal College of Nursing (R.C.N.) 2019).

In this study the staff/patient ratios did not vary greatly between the three wards which would imply an equivalence between the settings regarding care delivery, and an adherence to safe staffing guidelines (R.C.N. 2019). However separate trained and untrained staff: patient ratios differed, with a more diluted skill mix on ward DF2. The staff: patient ratios also do not reflect the practical impact of the actual numbers. Because the dementia friendly wards were smaller than the standard medical ward and contained less beds there were less nurses 'per se' present to deal with difficult situations or any crisis that might arise. In addition, any staff shortages due to sickness or absence would have a proportionally greater impact on the smaller wards. So, although the Trust guidelines for staffing levels per patient had been met the nature of safe staffing proved to be far more complex than the formulaic strategy would suggest.

Another example of the complexity of the methodological issues relates to the findings on rates of falls on the three wards. Despite previous research findings that the incidence of falls was reduced in dementia friendly ward environments (Sprinks 2012; Bray et al 2015), in this study regression analysis of the Trust falls data for the three ward environments in the period during the study elicited no evidence of any significant differences between them in terms of the

incidence of falls. However, the relationship between intervention and risk of falls is much more complex than has previously been acknowledged (Public Health England 2019), with a recent systematic review on interventions for preventing falls in older people in care facilities and hospitals, (Cameron et al 2018), suggesting that there is less certainty as to the effectiveness of multifactorial interventions due to the quality of the available evidence.

It was not possible in this study to track the incidence of falls in the specific sample population due to the methods of Trust data gathering in this area. The overall figures accessed for the number of falls on the wards may not have reflected differences between the wards in the fall rates specifically of older people with cognitive impairment, and the effect that the different environments had on this, so were not a reliable source of data from which to generalise. Also, only information on the total number of falls per ward was provided, with no detail as to the circumstances of the fall, such as time of day or exact location on the ward, etc. So that issues such as lighting on wards or in toilet areas and how that might have contributed to falls could not be explored. To capture such data a further contemporaneous longitudinal study would have been required but this was not a practical option in view of resource and ethical approval restrictions. This highlights the issues surrounding the use secondary Trust data over which I had no control or knowledge regarding the process of collection, coding or analysing. This had negative consequences for its use as a source of evidence for triangulation (Wilson & Hutchinson 1991; Morse 1991; Bryman 2006; Rinaldi Carpenter 2007b).

Similar issues were encountered with other secondary data such as the results of Patient experience survey, standard questionnaires which were incomplete and limited in representing the views of service users. I was also only given access to the PIE summaries for each ward so that I could not access the original comments of service users which not only impacted on the richness of the data but also restricted comparison across the range of qualitative data

(Rinaldi Carpenter 2007b). Unfortunately, again given the limitations of time and resources it was not possible to address this with further exploratory

Time and resource constraints limited the scope and size of this research. Fundamentally the voice of service users is underrepresented in the research (Dewing & McCormack 2015). The study would have been strengthened by the inclusion of the direct views of service users, but unfortunately it was not feasible to conduct primary research, such as interviews, with patients and relatives within the limits of the resources available. I would also ideally have preferred to increase the sample size to include more ward areas on multiple sites, but again this was not possible given the resource constraints.

Generally, the secondary data, such as the falls statistics, were cruder than I would have expected, and a more discrete analysis would have been possible if I had more involvement in the collection, description, and analysis of this element. Again, the organisational restrictions regarding the data specified in the NHS Ethics approval affected the research process, and time restriction prevented further application and data collection (Noffke 2009). The problems I encountered resonate strongly with the issues identified by Walter (2009) as being connected with the action research approach, that; it is time consuming, exhaustive, and complex. Also, because it is conducted in an organisational milieu it can leave the researcher vulnerable to power relations and differentials in that setting which can complicate the conduct of the research (Noffke 2009).

Methodological contribution

In a previous collaboration with clinicians and service users, as part of the praxis process, I had developed a range of tools to evaluate both standards of patient centred care and the physical environment of that care. This work has offered an opportunity to both utilise and share these tools, and to complete one phase in a process to ultimately establish their external validity. These

previously designed tools have the potential to function as relatively simple methods that can be disseminated more widely to assist in improving the quality of care for older people with dementia or confusion in the acute general hospital setting. In addition, I have demonstrated how some secondary data, such as the P.I.E. observations, that are already collected and accessible to clinicians within the Trusts can potentially be exploited to evaluate care and care outcomes and can be used as evidence in negotiating for additional resources.

The tools used in this research were developed in a collaboration with both clinicians and service users, and their feedback has been sought at every stage of the research process in accordance both with the praxis process and best practice in this field (Staley 2015; Dewing 2002). This is not just an ideological stance but has pragmatic relevance as by involving the views of both clinicians and service users it is considered that the results will be more person/patient focused, clinically relevant and more likely to be adopted within practice (Dewing 2002; Rolfe 1993).

The new knowledge generated by this research was achieved with the support of an unusually close and collaborative relationship with the senior nurses and medical staff within the Trust who facilitated both the clinical governance approval process and the ability to exploit the advanced data collection systems of the Trust. The minor adaptations to the methodology suggested by the Clinical Research lead and Clinical supervisor enabled me to access not only generalised data on readmission rates and discharge destination but to track these details for the individual patients in the sample population. This allowed for an almost unique insight into a range of factors influenced by the type of care that an individual patient received.

The mixture of quantitative and qualitative methods used in the research reflected the multi-faceted nature of the subject area and were required to fully

address the research questions (Creswell & Piano Clark 2017). They also allowed for some triangulation between the between the quantitative and qualitative methods, and some confirmability across the range of qualitative methods, in order to consolidate and strengthen the findings, although this was limited by the weaknesses and flaws of some of the secondary data (Wilson & Hutchinson 1991; Morse 1991; Bryman 2006). It is hoped that the multi-faceted focus of this methodology will offer a replicable model in evaluating complex organisations such as health care environments (Moos 1997).

The paradigm

This research incorporated a Praxis approach, acting upon existing conditions to change them, with knowledge derived from practice and practice informed by knowledge in an on-going process (Lather 1986). Praxis has been identified as a particularly appropriate construct for use in care environments, with theorist such as Rolfe (1993, 2002, 2014) describing it as an essential element to closing the theory-practice gap in health care settings. Indeed, it conforms well to models of sustainable change in practice (Lewin 1947, Manley & McCormack 2003), and is particularly suited to what Harvey & Kitson (2016) describe as the multi-dimensional and complex nature of change management in the health care context.

The present work attempts to conform to this model, I have worked for many years in collaboration with clinicians and service users at University Hospital Birmingham NHS Foundation Trust in a collaborative process of identifying gaps in good practice and evaluating responses to these. Although I developed the case note audit and observational tool utilised in this work, that process has been achieved as part of an on-going dialogue. Equally the use of secondary data from the Person, Interaction and Environment tool (PIE) observations has been incorporated in response to clinicians' suggestions, and the modus

operandi of PIE involves an overtly action research approach (Royal College of Psychiatrists 2011).

The eclectic mix of qualitative and quantitative methods used in this study is also common in an action research approach, so too is the notion of maintaining researcher objectivity and research rigour within the framework of an inquiry approach (O'Brien 1998). The minor changes to the methodology during the research emanated from suggestions by the practice colleagues involved in over-seeing the research and have enhanced the quality and pertinence of the findings.

The introduction of a specifically designed dementia friendly ward can be seen as a response to the findings of previous audits and the ensuing multi-disciplinary discussion when these were fed back at clinical governance forums. This was part of a range of interventions that included the provision of in-house training and an activities coordinator (Wryko 2010), and for which the Trust staff received a Nursing Times award (Wryko 2010). The focus of the present work is firmly embedded in the practice arena and the methodology used emanated from that practice, the findings of this study are seen as one more step in continually improving that practice. The findings from this study after presentation to the Clinical Governance and ward manager forums are then be used in an action planning process which will be implemented and subsequently reassessed. Hence the cycle is never fully completed, it just moves on to the next stage. The research has been conducted with a deliberate focus upon improving the care of older people with confusion in the acute general hospital setting, and of using the results to directly affect care in the immediate clinical areas of the Trust and wider.

Although the constraints to the research limited some of its scope and depth, this is ameliorated by the cyclical nature of the action research process (Riel & Lepori 2014; Walter 2009; Craig 2009). Ultimately the action research cycle will

be used to address any weaknesses in the methodology or quality of data in future cycles of consequent research (Lather 1986); Streubert Speziale 2007b).

This research has exemplified the suitability of Praxis (Lather 1986, Winter 1989) in health care research and further supported the congruence of this paradigm with practice development (Smith 2016), and as a suitable mechanism for addressing the research practice divide (Rolfe 1993, 2002, 2014, Oborn et al 2010). It reflects Rolfe's (1993, 2002, 2014) view that to be relevant health service research should emanate from clinicians and address their concerns. His vision of Praxis is as a radical critique that is based on a premise that the knowledge generated by practitioners and the critical reflections on their experience are of equal value to academic and empirical research (Rolfe 1993, 2002, 2014). This study has supported and developed that view of the primacy and relevance of the clinicians' role in research, and their ability to advocate for patients and facilitate the voice of service users in health-related research.

Practical contribution/implications for clinical practice

The analysis of the quantitative data indicates that patients on the dementia friendly wards were receiving enhanced levels of care and assessment than those on the standard medical ward. There were statistically significant differences between the dementia friendly and standard medical ward across a range of issues connected to the comprehensive assessment and care of older people with dementia or other forms of confusion. These findings are corroborated by the results of the statistically significant findings of the P.I.E. observations and further triangulation is provided by the results of the semi-structured staff interviews and to a limited extent by the weaker findings of the Patient experience survey (Denzin 1989; Kimchi et al 1991; Rinaldi Carpenter 2007b).

The findings of this study augment the findings of previous studies in indicating that purposively adapted dementia friendly hospital wards are viewed more positively by staff and are thought to help them provide patient centred care and support. However, the present research makes a further theoretical contribution in suggesting that they may also be associated with more positive staff behaviour and care practices. The findings add to the body of knowledge in this field by indicating that a purposively adapted dementia friendly environment may not only contribute towards the quality of care that confused older patients receive in terms of staff engagement and interaction, but also in; care planning, patient/family involvement in care and decision making, and unexpected readmission rates. Hence the study contributes new detail into understanding the effects of the environment on the care of older people with dementia in the exploration of the complex relationship between environment, attitude and behaviour.

The evidence regarding differences in unexpected readmissions requires further exploration in a larger multi-site study but may potentially offer a contribution to the body of knowledge in this area, where an insubstantial evidence base has previously been highlighted (Cochrane 2017; NIHR 2017; Keane et al 2018). This also has direct practice implications as it is important not only for developing appropriate standards of care in the acute hospital setting but represents a financial imperative for adapted ward environments and more patient-centred and collaborative ways of working.

Conclusion

The findings of this study build upon previous studies in this field by suggesting that purposively adapted dementia friendly physical environments are not only thought by staff to help them provide more patient centred care and support but may be linked to more patient-centred and supportive behaviours and care practices. This research also suggests that purposively adapted built

environments may contribute to more effective and 'safer' discharge by enhancing care planning, patient/family involvement in care and decision making. In the demonstration of a potential link between a dementia friendly physical environment and the enhanced delivery of person-centred care the study contributes new detail into understanding the effects of the environment on the care of older people with dementia and the complex relationship between the physical and psycho-social environment, attitudes, and behaviour. These findings have implications for practice and offer the potential to improve the quality of care for older people with dementia or confusion in acute general hospitals if the insights are further shared and explored.

6)Reference list

Aarden-van, D., Peeters, M., Liselore, S. (2021) Biodynamic Lighting and Functional Disability: a Single-Case Experimental Design in Three Community Dwelling People with Dementia. *Applied Sciences*, 11 (20), 9433. Available: [applsci-11-09433-v2.pdf](#)

[Accessed: 2 September 2022]

Abrahamson., Clark, D., Perkins, A., Arling, G. (2012) Does cognitive impairment influence quality of life among nursing home residents? *The gerontologist*, 52 (5), pp. 632-640.

Access Economics (2009). *Nurses in residential aged care*. Report by Access Economics Pty Ltd for the Australian Nursing Federation. Available: [Report - Nurses in residential aged care - November 2009.pdf \(nsw.gov.au\)](#)

[Accessed: 2 September 2022]

AgeUk, Age Concern (2010) *Still Hungry to Be Heard: The scandal of people in later life becoming hungry in hospital*. Available: https://www.ageuk.org.uk/documents/en-gb/for-professionals/health-and-wellbeing/id9489_still_hungry_to_be_heard_report_28ppa4.pdf?dtrk=true

[Accessed: 2 September 2022]

Agency for Healthcare Research and Quality (2013) *Preventing falls in hospitals*.

Available:

[Preventing Falls in Hospitals: A Toolkit for Improving Quality of Care \(ahrq.gov\)](#)

[Accessed: 2 September 2022]

Ahern, K.J. (1999) Ten tips for reflexive bracketing. *Qualitative Health Research*, 9 (3), pp.407-412.

Algase, D.L., Beattie, E.R.A., Antonakas, C., Beel-Bates, C. A., Yao, L. (2010) Wandering and the physical environment. *American Journal of Alzheimer' Disease and Other Dementias*, 25 (4), pp.340-346.

Algase, D. L., Beck, C., Kolanowski, A., Richards, K., Beattie, E. (1996) Need-driven dementia-compromised behaviour: An alternative view of disruptive behaviour. *American Journal of Alzheimer's Disease*, 11 (6), pp.10-19.

Allan, K, Henderson B. (1997) Maintaining contact with carers. In: Allan, K. ed. *Managing Behaviour in Care for People with Dementia in Acute Ward Settings*. Dementia Services Development Centre, Department of Applied Social Science, Faculty of Human sciences, University of Stirling: DSDC., pp.32-38.

Alzheimer's Society (2009) *Counting the cost. Caring for persons with dementia on hospital wards*. London, England. Available: [https://www.alzheimers.org.uk/counting the cost](https://www.alzheimers.org.uk/counting-the-cost) [Accessed: 2 September 2022]

Alzheimer's Disease International (2015) *World Alzheimer Report 2015; The Global Impact of Dementia. AN ANALYSIS OF PREVALENCE, INCIDENCE, COST AND TRENDS*
Available:
<https://www.alz.co.uk/research/world-report-2015>
[Accessed: 2 September 2022]

Ancoli-Israel S, Gehrman, P., Martin, J.L. (2003) Increased light exposure consolidates sleep and strengthens circadian rhythms in severe Alzheimer's disease patients. *Behavioural Sleep Medicine*, 1, pp.22-36.

Annerstedt, L. (1993) Development and consequences of group living in Sweden: A new mode of care for the demented elderly. *Social Science and Medicine*, 37, pp.1529-1538.

Annerstedt, L. (1997) Group living care: An alternative for the demented elderly. *Dementia and Geriatric Cognitive Disorders*, 8 (2), pp.136-142.

Aranda-Gallardo, M., Morales-Asencio, J.M., Enriquez de Luna-Rodriguez, M., Vazquez-Blanco, M.J., Morilla-Herrera, J C., Rivas-Ruiz, F., Toribio-Montero, J.C., Canca-Sanchez, J C. (2017) Characteristic, consequences and prevention of falls in institutionalised older adults in the province of Malaga (Spain): a prospective, cohort, multicentre study. *BMJ Open*, 8 (2) Available: <https://bmjopen.bmj.com/content/8/2/e020039>
[Accessed: 2 September 2022]

Armstrong-Esther, C A., Browne, K D. (1986) The Influence of Elderly Patients' Mental Impairment on Nurse-Patient Interaction. *Journal of Advanced Nursing*, Jul 11 (4), pp.379-387.

Atkinson, F.I. (2000) Survey Design and Sampling. In: Cormack, D. ed. *The Research Process in Nursing*. Fourth Edition. Oxford: Blackwell., pp.263-274

Aveyard, H. (2019) Why do a literature review in health and social care. In: Aveyard, H. *Doing a literature review in Health and Social Care. A practical guide*. Open University Press, McGraw Hill Education., pp. 1-17.

Backhouse, T., Killett, A., Penal, B., Gray, R. (2016) The use of non-pharmacological interventions for dementia behaviours in care homes: findings from four in-depth, ethnographic case studies. *Age and Ageing*, 45, pp.856-863.

Baker, D F. (1978) *Attitudes of Nurses to the care of the Elderly*. Unpublished Ph.D. Thesis. University of Manchester.

Baker, C. F. (1984) Sensory overload and noise in the ICU: Sources of environmental stress. *Critical Care quarterly*, 6, pp. 66-80.

Bailie, L. (2012) Caring for older people with dementia in hospital. Part 1: challenges. *Nursing Older People*, 24 (8), pp. 33-37.

Bakker R. (2003) Sensory loss. Dementia and Environments. *Generations*, Spring, pp.46-51.

Banaszak-Holl, J., Castle, N.G., Lin, M., Spreitzer, G. (2013) An assessment of cultural values and resident-centred culture change in U.S. nursing facilities. *Health Care Management Review*, 34 (4), pp.295-305.

Banerjee, S. (2010) *The use of antipsychotic medication for people with dementia; a call for action*. London: Department of Health.

Barbour, R.S. (1998) Mixing qualitative methods: quality assurance or qualitative quagmire? *Qualitative Health Research*, 8 (3), pp. 352-361.

Barrick, A.L., Sloane, P.D., Williams, C.S., Mitchell, C.M., Connell, B.R., Wood, W., Zimmerman, S. (2010) Impact of ambient bright light on agitation in dementia. *International Journal of Geriatric Psychiatry*, 25 (10), pp.1013-1021.

Bartlett, R., O'Connor, D. (2010) *Broadening the dementia debate: towards social citizenship*. Bristol: Policy Press.

Baumann M, Evan S, Perkins M et al. (2007) Organisation and features of hospital intermediate care & social services in English sites with low rates of delayed discharge. *Health & Social Care in the Community*, 15 (4), pp.295-305.

Baumbusch, J.L., Kirkham, S.R., Khan, K.B., et al. (2008) Pursuing common agendas: a collaborative model for knowledge translation between research and practice in clinical settings. *Research in Nursing & Health*, 31, pp.130-140.

Beach, B., Thomas, L. (2019) *Exploring dementia and agitation- How public policy needs to respond*. Available:
<https://ilcuk.org.uk/wp-content/uploads/2019/02/ILC-MARQUE-Final-Report.pdf>
[Accessed: 2 September 2022]

Beauchamp, T.L., Childress, J.F. (2001) *Principles of biomedical ethics*. 5th Edition. Oxford: Oxford University Press.

Beck, M., Poulsen, I., Martinsen, B., Birkelund, R. (2018) Longing for homeliness: exploring mealtime experiences of patients suffering from a neurological disease. *Scandinavian Journal of Caring Services*, 32 (1), pp. 317-325.

Bellelli, G., Frisoni, G.B., Bianchetti, A., Boffelli, S. Guerrini, G.B., Scotuzzi, A., Trabucchi, M. (1998) Special care units for demented patients: A multicentre study. *The Gerontologist*, 38 (4), pp. 319-323.

Benson, D.M., Cameron, D., Humbach, E., Servino, L., Gambert, S.R. (1987) Establishment and impact of a dementia unit within a nursing home. *Journal of the American Geriatrics Society*, 35 (4), pp.319-323.

Benson, S. (2010) Telecare: bridging the gap. *Journal of Dementia Care*, 18 (2), pp. 12.

Benton, T., Craib, I. (2001) *Philosophy of Social Science. The Philosophical Foundations of Social Thought*. Basingstoke:Palgrave.

Benton, J, Spalding, N. (2008) Intermediate care: what are service user's experiences of rehabilitation. *Quality in Ageing*, 9 (3), pp.4-14.

Benya, J. (1989) Lighting for healing. *Journal of Health Care Interior Design*, 1, pp. 55-58.

Bianchetti, A., Bevenuti, P., Ghisla, K.M., Frisoni, G.B., Trabucchi, M. (1997) An Italian model of dementia special care unit: Results of a pilot study. *Alzheimer's Disease and Associated Disorders*, 11, pp.53-56.

Birdsong, C., Leibrock, C. (1990) Patient-centred design. *The Healthcare Forum Journal*, 33, pp.40-45.

Birmingham City University Forum for Accessing Community Experience (F.A.C.E) group. Available: <https://icity.bcu.ac.uk/hels/FACE/Index>
[Accessed: 2 September 2022]

Blackman T, Van Schaik P, Martyr A. (2007) Outdoor environment for people with dementia; an exploratory study using virtual reality. *Ageing and Society*, 27, pp.811-825.

Blakemore, K., Boneham, M. (1994) *Age, Race and Ethnicity: A Comparative Approach*. Buckingham: Open University Press.

Bond, J., Corner, L., Graham, R. (2004) 'Social science theory on dementia research: normal ageing, cultural representation and social exclusion'. In:

Innes, A., Archibald, C., Murphy, C. eds. *Dementia and Social Inclusion*. London: Jessica Kingsley., pp.220-235.

Bowie, P., Mountain, G. (1997) The relationship between patient behaviour and environmental quality for the dementing. *International Journal of Geriatric Psychiatry*, 12 (7), pp.718-723.

Braun, V. Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, pp.77-101.

Brawley, B.C. (2006) *Designing innovation for ageing and Alzheimer's. Creating caring environments*. Hoboken, NJ: John Wiley & Sons, Inc.

Bray, J., Evans, S., Carter, C., Brooker, D., Milosevic, S. (2015) Improving activity and engagement for patients with dementia. *Nursing Older People*, 27 (8), pp. 22-26.

Briller, S.H., Meert, H., Schim, S., Thurston, C., Kabel, A. (2008) Implementing a triangulation protocol in bereavement research: a methodological discussion. *Omega*, 57 (3), 245-260.

British Geriatric Society (2021) *Clinical Guidelines*.

Available:

<https://www.bgs.org.uk/resources/resource-series/clinical-guidelines>

[Accessed: 2 September 2022]

Brooke, J., Semleyn, J. (2019) Exploring the impact of dementia-friendly ward environments on the provision of care: a qualitative thematic analysis. *Dementia*, 18 (2), pp. 685-700.

- Brooker, D. (2004) What is person-centred care in dementia? *Reviews in Clinical Gerontology*, 13 (30), pp.215-222.
- Brooker, D., Latham, I. (2015) *Person-centred dementia care: Making services better with the VIPS framework*. London: Jessica Kingsley Publishers.
- Brorsson, A., Ohman, A., Lundberg, S., Nygard, I. (2011) Accessibility in public space as perceived by people with Alzheimer's disease. *Dementia*, 10 (4), pp.587-602.
- Browall, M., Koinberg, I., Falk, H., Wijk, H (2013) Patient's experience of important factors in the healthcare environment in oncology care. *International Journal of Qualitative Studies on Health and Well-Being*, 8, pp. 208.
- Brush, J.A., Meehan, RA., Calkins, MP. (2002) Using the environment to improve intake for people with dementia. *Alzheimer's Care Quarterly*, 3 (4), pp. 330-338.
- Bryman, A. (2006) Integrating quantitative and qualitative research: how is it done? *Qualitative Research*, Feb 6 (1), pp3-37.
Available: <https://journals.sagepub.com/doi/10.1177/1468794106058877>
[Accessed: 2 September 2022]
- Buck, D., Maquire, D. (2015) *Inequalities in life expectancy. Changes over time and implications for policy*. London: Kings Fund.
- Buffel, T., Phillipson, C., Scharf, T. (2013) Experiences of neighbourhood exclusion and inclusion among older people living in deprived inner-city areas in Belgium and England. *Ageing and Society*, 33 (1), pp.89-109.

Burns, N., Grove, K. S. (1997) *The Practice Of Nursing Research: Conduct, Critique, & Utilization*. Third Edition. W.B.Saunders Company.

Chafetz, P.K. (1991) Behavioural and cognitive outcomes of SCU care. *Clinical Gerontologist*, 11, pp. 19-38

Calkins, M. P. (1988) *Designing for dementia planning: Environments for the elderly and confused*. Owing Mills, M.D. National Health Publishing.

Calnan, M., Tadd, W., Calnan, S., Hillman, A., Read, S., Bayer, A. (2013) 'I often worry about the older person being in the system': exploring the key influences on the provision of dignified care for older people in acute hospitals. *Ageing & Society*, 33, pp. 465-485.

Cameron, I.D., Dyer, S.M., Panagoda, C.E., Murray, G.R., Hill, K.D., Cumming, R.G., Kerse, N. (2018) Interventions for preventing falls in older people in care facilities and hospitals. (Review). *Cochrane Database of Systematic Reviews*. Issue 9. Art. No. Cd005465_Available:

<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD005465.pub4/epdf/full>

[Accessed: 2 September 2022]

Cantley, C. ed. (2001) *A Handbook of Dementia Care*. Buckingham: Open University Press.

Carolan, M. (2003) Reflexivity: a personal journey during data collection. *Nursing Research*, 10 (3), pp.7-14. Doi:10.7748/nr2003.04.10.3.7.c5892. Available:

<https://pubmed.ncbi.nlm.nih.gov/12739414/>

[Accessed: 2 September 2022]

CASP (2013) *Critical Appraisal Skills Programme: Research Checklist*.

Available:

www.casp-uk.net

[Accessed: 2 September 2022]

Chafetz, P.K. (1991) Behavioural and cognitive outcomes of SCU care. *Clinical Gerontologist: The Journal of Aging and Mental Health*, 11 (1), pp. 19-38.

Charlson, M.E., Pompei, P., Ales, K.L., MacKenzie, C.R. (1987) A new method of classifying prognostic comorbidity in longitudinal studies: Development and validation. *Journal of Chronic Disease*, 40 (5), pp.373-383.

Chandler, M. (2007) Managers in the low band residential care sector in NSW; A demographic profile. *Geriatrician*, 25, pp. 21-28.

Charres, K., Eynard, C., Viatour, G. (2016) Use of Space and Human rights: Planning Dementia Friendly Settings. *Journal of Gerontological Social Work*, 59 (3), pp.181-204.

Charter, K., Hughes, N. (2012) Strategies to deliver dementia training and education in the acute hospital setting. *Journal of Research in Nursing*, 18, pp. 578-593.

Chaudhury, H., Cooke, H., Cowie, H., Razaghi, L. (2017) The effect of the physical environment on residents with dementia in long term care settings. A review of the empirical evidence. *The Gerontologist*, 0 0, pp.1-13.

Cheston, R., Bender, M. (2004) *Understanding dementia: The man with the worried eyes*. London: Jessica Kingsley.

Clarke, M. (1978) Getting Through The Work. In: Dingwall, R., McIntosh, J. eds. *Readings on the Sociology of Nursing*. Edinburgh: Churchill Livingstone., pp.67-86.

Cleary, T.A., Clamom, C., Price, M., Shullaw, G. (1988) A reduced stimulation unit: effects on patients with Alzheimer's disease and related disorders. *The Gerontologist*, 28, pp.511-514.

Cleary, T.A., Edgman-Levithan, S., Roberts, M., Maloney, T.W., McMullen, W., Walker, J.D. (1991) Patients evaluate their hospital care: A national survey. *Health Affairs*, 10, pp. 254-267.

Cleary, T.A., Edgman-Levithan, S., Walker, J.D., Gerteis, M., Delbanco, T.L. (1993) Using patient reports to improve medical care: A preliminary report from 10 hospitals. *Quality Management in Health Care*, 2, pp. 31-38.

Clissett, P., Oreck, D., Harwood, R.H., Gladman, J.R.F. (2013) The challenges of achieving person-centred care in acute hospitals: A qualitative study of people with dementia and their families. *International Journal of Nursing Studies*, 50, pp.1495-1503.

Codinhoto, R., Tzortzopolous, P., Kagioglou, M., Aouad, G., Cooper, R. (2008) *The effects of the built environment on health outcomes, research report*, HaCIRIC (Health and Care Infrastructure Research and Innovation Centre) Salford.

Cohen-Mansfield, J., Werner, P. (1995) Environmental influences on agitation: An integrative summary of an observational study. *American Journal of Alzheimer's Disease and Other Dementias*, 10, pp.32-39.

Cohen-Mansfield, J., Werner, P. (1997) Management of verbally disruptive behaviors in nursing home residents. *Journal of Gerontology*, 52A (6), pp.369-377.

Cohen-Mansfield, J., Parpura-Gill, A. (2007) Bathing: a framework for intervention focusing on psychosocial, architectural and human factors considerations. *Archives of Gerontology and Geriatrics*, 45 (2), pp. 121-135.

Cohen, U., Weisman, J. (1991) *Holding on to home: Designing environments for people with dementia*. Baltimore, MD: John Hopkins University Press.

Cooper, B., Mohide, A., Gilbert, S. (1989) Testing the use of color in a long-term care setting. *Dimensions in Health Service*, 66 (6), pp.22, 24-26.

Cooper, R., Boyko, C., Codinhoto, R. (2008) *State-of-Science Review: The Effect of the Physical Environment on Mental Wellbeing: Making the most of ourselves in the 21st century*. Government Office for Science.

Cooper, C., Marston, L., Barber, J., Livingston, D., Rapaport, P., Higgs, P., Livingston, G. (2018) *Do care homes deliver person-centred care? A cross-sectional survey of staff-reported abusive and positive behaviours towards residents from the MARQUE (Managing Agitation and Raising Quality of Life) English national care home survey*. PloS One 13 (3):

e0193399.<https://doi.org/10.1371/journal.pone.0193399>

Available:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5862450/>

[Accessed: 2 September 2022]

Cooperrider, D. L., Whitney, D. (2005) *Appreciative Inquiry: A Positive Revolution in Change*. San Francisco: Berrett-Koehler Publishers Incorporated.

Cormack, D.F.S. (2000) An overview of the research process. In: Cormack, D. ed. *The Research Process in Nursing*. Fourth Edition, Oxford: Blackwell., pp.63-71.

Cox, H., Burns, I., Savage, S. (2004) Multisensory environments for leisure; promoting wellbeing in nursing home residents with dementia. *Journal of Gerontological Nursing*, 30, pp.37-45.

Cowdell, F. (2010) The care of older people with dementia in acute hospitals. *International Journal of Older People*, 5 (2), pp. 83-92.

Craig, D, V. (2009) Introduction to action research. In Craig, D.V. *Action Research Essentials*. San Francisco: Jersey-Bass., pp.1-28.

Creswell, J. W., Piano Clark, V.L., Gutmann, M., Hanson, W. (2003) Advanced mixed methods research designs. In: Tashakkori, A., Teddlie, C. eds. *Handbook of mixed methods in social & behavioural research*. Thousand Oaks, California: Sage., pp.209-240.

Creswell, J.W., Piano Clark, V.L. (2017) Choosing a mixed methods design. In: Creswell, J.W., Piano Clark, V.L. *Designing and conducting mixed methods research* 3d edition. Sage Publications Inc.

Available:

https://books.google.co.uk/books/about/Designing_and_Conducting_Mixed_Methods_R.html?id=eTwmDwAAQBAJ&rediresc=y

[Accessed: 2 September 2022]

Crotty, M. (1998) *Improving the Foundations of Social research: Meaning and Perspective in the Research Process*. London: Sage.

Culverwell, A., Milne, A. (2010) Intermediate care: evaluating a specialist home treatment service. *Journal of Dementia Care: Research Focus*, 18 (3) May/June, pp.32-35.

Cunningham, C. (2009) Auditing design for dementia. *Journal of Dementia Care*, 17 (3), pp. 31-32.

Cutler, L.J., Kane, RA. (2002) Environments for privacy, safety, and movement of persons with dementia; Maximal privacy+ moderate barriers = minimal intrusion. *Alzheimer's Care quarterly*, 3 (1), pp.50-54.

Dartington, T., Jones, P., Miller, E. (1974) *Geriatric Hospital Care*. London: Tavistock Institute of Human Relations.

Davidson, A.W. (1994) Banking on the environment to promote human well-being, In: Seidel, A.D. (ed). *Banking on design?* Proceedings of the 26th annual conference of the Environmental Design Research Association, Oklahoma, U.S.A., pp. 62-66.

Davis, S., Byers, S., Nay, R., Koch, S., Andrews, G. (2007) *Creating dementia friendly physical and social environments for residential and respite care*. Melbourne: Department of Human Services.

Davis, S., Byers, S., Nay, R., Koch, S. (2009) Guiding design of dementia friendly environments in residential care settings. Considering the living experiences. *Dementia*, 8 (2), pp.185-203.

Davis-Rollans., C., Cunningham, S. (1987) Physiologic responses of coronary care patients to selected music. *Heart and Lung*, 16, pp. 370-378.

Day, K., Carreon, D., Stump, C. (2000) The therapeutic design of environments for people with dementia: A review of the empirical research. *The Gerontologist*, Aug 2000; 40, (4), pp.397-416.

De Boer, B., Beerens, H.C., Katterbach, M.A., Viduka, M., Wilems, B.M., Verbeek, H. (2018) The Physical Environment of Nursing Homes for People with Dementia: Traditional Nursing Homes, Small Scale Living Facilities, and Green Care Farms. *Healthcare*, 6 (4). Available:

<https://www.ncbi.nlm.nih.gov/pubmed/30486306>

[Accessed: 2 September 2022]

Dementia Action Alliance (2018) *Dementia friendly hospital charter*. Available:

<https://www.dementiaaction.org.uk/dementiafriendlyhospitalscharter>

[Accessed: 2 September 2022]

Dementia Care Matters Ltd (2013) *Person, interactions and environment (PIE): Noticing levels of interaction*. UK: Dementia Care Matters Ltd.

Dementia Services Development Centre (2012) *Design features to assist patients with dementia in general hospitals*. University of Stirling, UK: DSDC.

Dementia Services Development Centre (2007) *Best practice in design for people with dementia*. University of Stirling, UK: DSDC.

Denzin, N. K. (1989) *The research act: A theoretical introduction to sociological methods*. 3d edition. Englewood Cliffs, N.J.: Prentice Hall.

Department of Health (2007) *Urgent Care Pathways for Older People with Complex needs*. Best Practice Guidelines. London: DH.

Department of Health (2009) *Living Well with Dementia*:

A National Dementia Strategy. London: DH.

Department of Health (2010) *Quality Outcomes for People with Dementia; Building on the Work of the National Dementia Strategy*. Leeds: DH.

Denscombe, M. (2007) *The Good Research guide for small-scale social research projects*. Third Edition. Maidenhead: Open University Press.

Design Council (2011) *Living Well with Dementia*. London: DH.

Devlin, A.S. (1992) Psychiatric ward renovation: Staff perception and patient behaviour. *Environment and Behavior*, 24, pp. 66-84.

Devlin, A.S. (1995) Staff, patients and visitors: Responses to hospital unit enhancements. In: Nasar, J.L., Grannis, P., Hanyu, K. eds. *Proceedings of the 26th annual conference of the Environmental Design Research Association, Oklahoma City, U.S.A.*, pp.13-117.

Devlin, A.S., Arneill, A. B. (2003) Health Care Environments and Patient Outcomes: A Review of the Literature. *Environment and Behavior*, 36, pp.665-694.

Dewing, J. (2002) From ritual to relationship. A person-centre approach to research with older people who have dementia. *Dementia*, June 1 (2), pp.157-171.

Dewing, J. (2008) Personhood and dementia: Revisiting Tom Kitwood's ideas. *International Journal of Older People Nursing*. 3 (1), pp.3-13.

Available:

https://www.researchgate.net/publication/229794080_Personhood_and_dementia_Revisiting_Tom_Kitwood%27s_ideas

[Accessed: 2 September 2022]

Dewing, J., Dijk, S. (2016) What is the current state of care for older people with dementia in general hospitals? A literature review. *Dementia*, 15, pp.106-124.

Dewing, J., McCormack, B. (2015) Engagement: a critique of the concept and its application to person-centred care. *International Practice Development journal*, 5 (6), pp.1-10.

Available:

FONS.[https://www.fons.org/Resources/Documents/Journal/Vol5Suppl/IPDJ_05\(suppl\)_06.pdf](https://www.fons.org/Resources/Documents/Journal/Vol5Suppl/IPDJ_05(suppl)_06.pdf)

[Accessed: 2 September 2022]

Donovan, C., Dupuis, M. (2000) Specialized Care Unit: Family and Staff Perceptions of Significant Events. *Geriatric Nursing*, 21 (1), pp.30-33.

Dracup, K. (1988) Are critical care units hazardous to health? *Applied Nursing Research*, 1, pp. 14-21.

Dressel, P., Minkler, M., Yen, I. (1997) Gender, race, class and ageing: advances and opportunities. *International Journal of Health Services*, 27 (4), pp. 579-600.

Dickinson, J.I.M., McLain-Kark, J. (1998) Wandering behavior and attempted exits among residents diagnosed with dementia-related illnesses: a qualitative approach. *Journal of Women and Ageing*, 10, pp.23-34.

Dickinson, J.I.M., McLain-Kark, J., Marshall-Baker, A. (1995) The effect of visual barriers on exiting behavior in a dementia care unit. *Gerontologist*, 35, pp.127-130.

Digby, R., Bloomer, M. J. (2014) People with dementia and the hospital environment: the view of patients and family carers. *International Journal of Older People Nursing*, 9 (1), pp. 34-43.

Digby, R., Lee, S., Williams, A. (2017) The 'unworthy' patient with dementia in geriatric rehabilitation hospitals. *Collegian*, 25 (4), pp377-383. Available:

<https://doi.org/10.1016/j.colegn.2017.10.002>

[Accessed: 2 September 2022]

Drahota, A.K., Ward, D., Udell, J.E., Soilemezi, D., Ogollah, R., Higgins, B., Severs, M. (2013) Pilot cluster randomised controlled trial of flooring to reduce injuries from falls in wards for older people. *Age and Ageing*, 42, pp.633-640.

Duffy, M. E., Jacobsen, B.S. (2005) Organizing and Displaying Data. In Munro, B., Connell, W.F. eds. *Statistical Methods for Health Care Research*. Fifth Edition, Lippincott Williams & Wilkins., pp.3-33.

Edvardsson, D., Einblad, B., Sandman, P. (2008) Person-centred care of people with severe Alzheimer's disease: Current status and ways forward. *The Lancet Neurology*, 7 (4), pp.362-367.

Edvardsson, D., Featherstonhaugh, D., Nay, R. (2010) 'Promoting a continuation of self and normality; person-centred care as described by people with dementia, their family members and aged care staff'. *Journal of Clinical Nursing*, 19 (17-18), pp. 2611-2618.

Edvardsson, D., Sandman, P., Rasmussen, B. (2011) Forecasting the ward climate; a study from a dementia care unit. *Journal of Clinical Nursing*, 21 (7-8), pp.1136-1140.

Eisenhardt, K. (1989) Building theories from case-study research. *Academy of Management Review*, 14 (4), pp.532-550.

Ellis, G., Gardner, M., Tsiachristas, A., Langhorne, P., Burke, O., Harwood, R.H., Conroy, S.P., Kircher, T., Somme, D., Saltvedt, I., Wald, H., O'Neill, D., Robinson, D., Shepperd, S. (2017) Comprehensive assessment for older adults admitted to hospital. *Cochrane Database of Systematic Reviews*, issue 9, Art. No: CD006211. Available:

<http://www.cochrane.org/CD006211/EPOC> comprehensive-geriatric-assessment-older-adults-admitted-hospital

[Accessed: 2 September 2022]

Ellingsen-Dalskau, L.H., de Boer, B., Pedersen, I. (2021) Comparing the care environment at farm-based and regular day care for people with dementia in Norway-An observational study. *Health & social care in the community*, 29 (2), pp.506-514.

Elmstahl, S., Annerstedt, L., Ahlund, O. (1997) How should a group living unit for demented elderly be designed to decrease psychiatric symptoms? *Alzheimer's Disease and Associated Disorders*, 11, pp.47-52.

Estes, C.L., Mahakian, J.L. (2001) 'The political economy of productive ageing'. In: Morrow-Howell, N, Hinterlong, J., Sherradon, M. eds. *Productive Ageing: Concepts and challenges*. Baltimore: John Hopkins University Press., pp.197-213.

Evans, J., Jones, P. (2011) 'The walking interview: Methodology, mobility and place', *Applied Geography*, 31 (2), pp. 849-858.

Evers, H. (1981) Tender Loving Care? Patients and Nurses in Geriatric Wards, In: Copp, L. A. ed. *Care of the Ageing*. Edinburgh: Churchill Livingstone., pp.46-74.

Evers, H. (1982) Professional Practice and Patient Care: Multidisciplinary Teamwork in Geriatric Wards, *Ageing & Society*, March 2 (1), pp.57-75.

Ferrira, M., Kalula, S. (2009) *Ageing, women and health: emerging caregiving needs in sub-Saharan African countries*. Paper presented at the conference of NCOA and the American Society on Ageing, Paris.

Available:

<http://www.inia.org.mt/data/images/bold/boldaugust2009.pdf>

[Accessed: 2 September 2022]

Fielding, P. (1979) An exploratory investigation of Self Concept in the Institutionalised Elderly, and a Comparison with Nurses Conceptions and Attitudes. *International Journal of Nursing Studies*, 16, pp.345-354.

Fleming, R., Bowles, J. (1987) Units for the confused and disturbed elderly; Development, design, programming and evaluation. *Australian Journal on Ageing*, 6, pp25-28.

Fleming, R., Crookes, P., Sum, S. (2008) *A review of the empirical literature on the design of physical environments for people with dementia*. Sydney, Australia: Primary Dementia Collaborative Design Centre.

Available:

<https://ro.uow.edu.au/hbspapers/2874/>

[Accessed: 2 September 2022]

Fleming, R., Purandare, N. (2010) Long term care for people with dementia: environmental design guidelines. *International Psychogeriatrics*, 22 (7), pp.1084-1096.

Fleming, R., Goodenough, B., Low, L., Chenoweth, L., Brodarty, H. (2014) The relationship between the quality of the built environment and the quality of life of people with dementia in residential care. *Dementia*, 0 (0), pp.1-18.

Forsund, L.H., Grov, E.K., Helvik, A-S., Juvert, L.K., Skoydahl, K., Eriksen, S. (2018) The experience of lived space with dementia: a systematic meta-synthesis. *BMC geriatrics*, 18 (1), pp.1-27.

France, E. R Wells, M., Lang, H., Williams, B. (2016) Why, when and how to update a meta-ethnography qualitative synthesis. *Systematic Reviews*, 5, pp.44.

Francis, R., (Chair) (2013) *Report of the Mid Staffordshire NHS Foundation Trust Public Enquiry: Executive summary*. London: HMSO.

Garcia, L. J., Herbert, M., Kozak, J., Senecal, S.E., Aminzaden, F., Eliasziw, M. (2012) Perceptions of family and staff on the role of the environment in long-term care homes for people with dementia. *International psychogeriatrics*, 24 (5), pp753-765.

Garre-Olmo, J., Lopez-Pousa, B., Turon-Estrada, S.E., Juvinya, D., Ballester, D., Vilalter-Franch, J. (2012) .Environmental determinants of quality of life in nursing home residents with severe dementia. *Journal of the American Geriatrics Society*, 60 (7), pp. 1230-1236.

Gibson, M.C., MacLean, J., Borrie, M., Geiger, J. (2004) Orientation behaviors in residents relocated to a redesigned dementia care unit. *American Journal of Alzheimer's Disease and Other Dementias*, 19 (1), pp. 45-49.

Gnaedinger, N., Robinson, J., Sudbury, F., Dutchak, M. (2007) Renovating the built environment for dementia care: Lessons learned at the Lodge at Broadmead in Victoria, British Columbia. *Healthcare Quarterly*, 10 (1), pp. 76-80.

Godfrey, M., Young, J., Shannon, R. (2018) *The Person, Interaction and Environment Programme to improve care of people with dementia in hospital: a multi-site study*. Southampton: NIHR Journals Library; 2018 June. Health Services Research and Development Programmes No 6.23. Available: www.ncbi.nlm.nih.gov/books/NBK508092/

[Accessed: 2 September 2022]

Goffman, E. (1961) *Asylums: Essays on the Social Situation of Mental Patients and other inmates*. New York: Doubleday Aschor.

Goffman E. (1963) *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, NY; Prentice Hall.

Goldberg, S.E., Whittamore, K H., Harwood, R.H., Bradshaw, L.E., Gladman, J.R., Jones, R.G. (2012) The prevalence of mental health problems among older adults admitted as emergency to a general hospital. *Age and ageing*, Jan, 41(91) pp. 80-86.

Gotesham, K.G., Melin, L. (1987) Improving well-being for patients with senile dementia by minor changes in the ward environment. In: Levi, L. ed. *Society, stress and disease*, Volume 5. Oxford Medical Publications., pp.295-297.

- Gottlieb-Tanaka, D., Small, J., Yassi, A. (2003) A Programme of creative expression activities for seniors with dementia. *Dementia*, 2 (1), pp.125-135.
- Graham, M.E. (2019) The securitisation of dementia: socialities of securitisation on secure dementia care units. *Ageing and Society*, 17 (1), pp.1-17.
- Grealy, J., McMullen, H., Grealy, J. (2005) *Dementia Care. A Practical Photographic Guide*. Oxford: Blackwell.
- Greene, J.C. (2007) *Mixed methods in social inquiry*. San Francisco: Jossey-Bass.
- Guba, E.G., Lincoln, YS. (1994) Competing paradigms in qualitative research. In: Denzin, N.K., Lincoln, Y.S. eds *Handbook of Qualitative Research*. Thousand Oaks: Sage., pp. 105-117.
- Gutman, G. (2005) *Critical elements of the physical features of an elderly friendly acute care hospital environment: A literature review undertaken for Fraser Health*. Vancouver, BC: Simon Fraser University, Gerontology Research Centre.
- Guynes, D.A. (1990) Physical rehabilitation centers. *Journal of Health Care Interior Design*, 2, pp. 37-47.
- Haesler, E., Bauer, M., Nay, R. (2006) Factors associated with constructive staff-family relationships in the care of older adults in the institutional setting. *International Journal of Evidence-Based Healthcare*, 4 (4), pp. 288-336.
- Hagglund, D. (2010) A systematic literature review of incontinence care for persons with dementia: the research evidence. *Journal of Clinical Nursing*, Feb,19 (3-4), pp.303-312.
- Haggman-Laitila, A. (1999) The authenticity and ethics of phenomenological research: How to overcome the researchers own views. *Nursing Ethics*, 6 (1), pp.12-22.

Halfon, P., Egli, Y., PretreRohrbach, I., Meylon, D., Marazzi, A., Burnard, B. (2006) Validation of the Potentially Avoidable Hospital Readmission Rate as a Routine Indicator of the Quality of Hospital Care. *Medical Care*, 44 (11), pp.972-981.

Available:

https://www.epistemonikos.org/pt/documents/8cd655d6d0fef7f3950fe9d6390564b029eb6585?doc_lang=en

[Accessed: 2 September 2022]

Hall, B. L. (2001) I Wish This Were a Poem of Practices of Participatory Research. In: Reason, P., Bradbury, H. eds. *Handbook of Action Research: Participatory Inquiry and practice*. Sage., pp.171-178.

Hanne, K., Macailis, K. (2012) A move to more systematic and transparent approaches in qualitative evidence synthesis: update on a review of published papers. *Qual Res*, 12, pp. 402-442.

Harre, R. (1991) *The discursive production of selves*. *Theory and Psychology*, 1, pp. 51-63.

Harris, M., Taylor, G. (2014) *Medical Statistics Made Easy*, Glossary. 3d edition. Scion.

Hart, T. (1971) The Inverse Care Law. *The Lancet*, Feb 27, 1 (7696), pp.405-412.

Hatch, M., Cunliffe, A. (2013) *Organization Theory, Modern, Symbolic and Postmodern Perspectives*. Third edition, Oxford: Oxford University Press.

Harvey, G., Kitson, A. (2015) Revised (2016) PARIHS revisited: from heuristic to integrated framework for the successful implementation of knowledge into practice.

Implementation Science, Mar 10, 11(33). Available:

<https://doi.org/10.1186/s13012-016-0398-2>

[Accessed: 2 September 2022]

Heath, H., Sturdy, D., Wilcock, G. (2010) Improving quality of care for people with dementia in general hospitals. *Nursing Standard Supplement*. Summer 2010, RCN Publishing Company/Department of Health., pp.1-16.

Heerwagon, J.H., Heerwagon, D.R. (1986) Lighting and psychological comfort. *Lighting Design and Application*, 16, pp 47-51.

Hewawasam, L.C. (1996) The use of two-dimensional grid patterns to limit hazardous ambulation in elderly patients with Alzheimer's disease. *Nursing Times Research*, 1, pp. 217-227.

Heylighen, A., Bianchin, M. (2013) How does inclusive design relate to good design?. Designing as a deliberate enterprise. *Design Studies*, 34 (1), pp.93-110.

Heylighen, A., Van Doren, C., Vermeersch, P.W. (2013) Enriching our understanding of architecture through disability experience. *Open House International*, 38 (1), pp.7-19.

Heynes, P., Abreu, B.C., Ottenbacher, K.J. (2004) The effects of exercise training on elderly persons with cognitive impairment and dementia: a meta-analysis. *Physical Medicine and Rehabilitation*, 85 (10), pp. 1694-1704.

Hiatt, L. (1991) Designing Specialised institutional environments for persons with dementia. In: Sloane, P., Matthew, L. eds. *Dementia units in long term care*. Baltimore: John Hopkins University Press., pp174-197.

Hilton, B.A. (1985) Noise in acute patient care areas. *Research in Nursing & Health*, 8, pp. 283-291.

- Holloway, I., Wheeler, S. (2002) *Qualitative Research in Nursing*, 2nd Edition, Oxford: Blackwell.
- Holmes, D., Teresi, J., Weiner, A., Monaco, C., Ronch, J., Vickers, R. (1990) Impacts associated with special care units in long-term facilities. *The Gerontologist*, 30 (2), pp.178-183.
- Holmes, J., Bentley, K., Cameron, L. (2002) *Between two stools: Psychiatric services for older people in general hospitals*. Report of a UK survey. University of Leeds.
- Holstein, A., Gubrium, J.F. (2004) Active interviewing. In: Silverman, D. ed. *Qualitative Research. Theory Method and Practice*. Sage., pp. 113-129.
- Hsieh, Y. (2010) Investigations on the day-to-day behaviour of a Taiwanese nursing organization's residents through shared bedroom style. *Journal of Asian Architecture and Building engineering*, 9 (2), pp. 371-378.
- Hulko, W. (2009) 'From 'not a big deal' to 'hellish'; experiences of older people with dementia'. *Journal of Ageing studies*, 23 (3), pp.131-144.
- Hunt, N. (2010) Transforming hospital care. *Journal of Dementia Care*, Jan/Feb 18 (1), pp. 12-13.
- Hussian, R.A., Brown, D.C. (1987) Use of two-dimensional grid patterns to limit hazardous ambulation in demented patients. *Journal of Gerontology*, 42, pp 558-560.
- Innes, A., Macpherson, S., McCabe, I. (2006) *Promoting Person-Centred Care at the Frontline*. York: Joseph Rowntree foundation., pp 25-42.

Innes, A. (2009). *Dementia Studies, A Social science Perspective*. Sage.

Innes, A., Scerri, C., Kelly, F. (2016) Living with dementia in hospital wards; A comparative study of staff perceptions of practice and observed patient experience. *International journal of Older People Nursing*, June 11 (2), pp.94-106.

Isaksson, U., Astrom, S., Sandman, P.O., Karlsson, S. (2009) Factors associated with the prevalence of violent behaviour among residents living in nursing homes. *Journal of Clinical Nursing*, 18 (7), pp .972-980.

Jenkins, C., Coventry, G., Playford, L. (2009) The nursing care of older people with mental health problems. In: Clarke, V, Walsh, A. eds. *Fundamentals of Mental Health Nursing*. Oxford: Oxford University Press., pp. 147-179.

Jenson, L., Padilla, R. (2017) Effectiveness of environment-based interventions that address behavior, perception, and falls in people with Alzheimer's disease and related major neurocognitive disorders: A systematic review. *American Journal of Occupational Therapy*, 71, 7105180030. Available:

<https://doi.org/10.5014/ajot.2017.027409>

[Accessed: 2 September 2022]

Joose, L.L. (2009) *The environmental influences of sound and space related to agitation in people with dementia*. Dissertation, University of Wisconsin-Milwaukee. Available:

<http://radworks.umi.com/33/99/3399281.html>

[Accessed: 2 September 2022]

Kadri, A. Rapaport, P., Livingston, G., Cooper, C., Robertson, S., Higgs, P. (2018) Care workers, the unacknowledged persons in person-centred care: A secondary qualitative analysis of UK care home staff interviews. *PloS One*, 13 (7); e020031. Available:

<https://doi.org/10.1371/journal.pone.0200031>

[Accessed: 2 September 2022]

Kaplan, S., Kaplan, R., Wendt, J.S. (1972) Rated preference and complexity for natural and urban visual material. *Perception and Psychophysics*, 12, pp. 354-356.

Keane, M., Coyle, C., Farragher, L., O’Nolan, G., Cannon, A., Long, J. (2018) *Integrated interventions to reduce pressure on acute hospitals*. Dublin: Health research Board.

Keenan, B. (1987) *An Evaluation Of Perceptions Of Care Amongst Nurses Working With The Hospitalised Elderly*. Unpublished MSc dissertation, Department Of Geriatric Medicine, Faculty of Science & Engineering, University Of Birmingham.

Kelly, F. (2007) *Well-being and expression of self in dementia: interactions in long-term wards and creative sessions*. Thesis submitted for the degree of Doctor of Philosophy, University of Stirling.

Kendall, J., Kohler, I. (2010) Bringing dementia out of the shadows for BME elders. *Journal of Dementia Care*, July/August 18 (4), pp.16-18.

Kinney, J.M., Kart, C.S., Murdoch, L.D., Conley, C.J. (2004) Striving to provide safety assistance for families of elders. The SAFE House project. *Dementia*, 13 (3) pp.351-370.

Killet, A., Burns, D., Kelly, F., Brooker, D., Bowes, A., La Fontaine, J., Latham, I., Wilson, M., O'Neill, M. (2014) Digging deep: how organizational culture affects care home residents experiences. *Ageing and Society*, 34 (8), pp.1427-1451.

Killick, J., Allan, K. (2001) *Communication and the care of people with dementia*. Buckingham: Open University Press.

Kirkley, C., Bamford, C., Poole, M., Arksey, H., Hughes, J., Bond, J. (2010) 'The impact of organisational culture on the delivery of person-centred care in services providing respite care and short breaks for people with dementia'. *Health and Social Care in the Community*, 19 (4), pp. 438-448.

Kitson, L. (1984) *Steps Toward the Identification of Nursing Therapeutic Function in Care of the Hospitalised Elderly*. Unpublished Ph.D. Thesis University of Ulster, Colerain.

Kitwood, T. (1997) *Dementia Reconsidered: the person comes first*. Buckingham: Open University Press.

Koch, R.M. (1991) Design considerations for electrical power, lighting, and auxillary systems in critical care areas of hospitals. *Critical Care Nursing Quarterly*, 14, pp. 54-59.

Kock, N. (2004) The three threats of action research: A discussion of methodological antidotes in the context of an information systems study. *Decision Support Systems*, 37 (2), pp. 265-278. DOI: 10.1016/50167-9236(03)00022-8

Available:

https://www.researchgate.net/publication/222849276_The_three_threats_of_action_research_A_discussion_of_methodological_antidotes_in_the_context_of_an_information_systems_study

[Accessed: 2 September 2022]

Kolonowski, A.M. (1992) The clinical importance of environmental lighting to the elderly. *Journal of Gerontological Nursing*, 18, pp. 10-14.

Kontos, P. (2005) 'Embodied selfhood in Alzheimer's disease: rethinking person-centred care'. *Dementia*, 1, pp. 553-570.

Koss, E., Gilmore, G.C. (1998) Environmental interventions and functionality of AD patients. In: Vellas, B. ed. *Research and practice in Alzheimer's disease*. Paris, New York: Serdi/Springer., pp.185-191.

Kovach, C.R., Stearns, S.A. (1994) DSCUs: A study of behaviour before and after residence. *Journal of Gerontological Nursing*, 20 (12), pp. 33-39.

Kovach, C., Weisman, G., Chaudhury, H., Calkins, M. (1997) Impacts of a therapeutic environment for dementia care. *American Journal of Alzheimer's Disease*, 12 (3), pp.99-110.

Kromm, D., Kromm, Y.H.N. (1985) A nursing unit designed for Alzheimer's disease patients at Newton Presbyterian Manor. *Nursing Homes*, 35, pp. 30-31.

Kyle, K. (2018) Field evaluation of the circadian stimulus potential of daylit and non-daylit spaces in dementia care facilities. *Building and Environment*, 135, pp. 112-123.

La Garce, M. (2004) Daylight interventions and Alzheimer's behaviors: A twelve-month study. *Journal of Architectural and Planning Research*, 21 (3), pp. 257-269.

Laing, R.D. (1961) *The Self and Others*. Tavistock.

Lambert, S., Loselle, C. (2008) Combining individual interviews and focus groups to enhance data richness. *Journal of Advanced Nursing*, 62 (2), pp. 228-237.

Landefeld, C.S., Palmer, R.M., Kresevic, D.M., Fortinsky, R.H., Kowal, J. (1995) A randomized controlled trial of care in a hospital medical unit especially designed to improve the functional outcomes of acutely ill older patients. *The New England Journal of Medicine*, 332, pp. 1338-1344.

Lather, P. (1986) Research as Praxis. *Harvard Educational Review*, 56 (3), pp.257-277.

Latimer, N., Dixon, S., Drahota, A.K., Severs, M. (2013) Cost-utility analysis of a shock-absorbing floor intervention to prevent injuries from falls in hospital wards for older people. *Age and ageing*, 42, pp.641-645.

Lawton, M., Fulcomer, M., Laban, M.H. (1984) Architecture for the mentally impaired elderly. *Environment and Behaviour*, 16, pp.730-757.

Lawton, M.P. (1987) Environmental approaches to research and treatment of Alzheimer's disease. In: Light, E., Liebowitz, B. eds, *Alzheimer's disease*,

treatment and family stress: Directions for research. National Institute of Mental Health, Rockville M.D.,

Lawton, M.P., Liebowitz, B., Charon, H. (1970) Physical structure and the behavior of senile patients following ward remodelling. *Ageing and Human Development*, 1, pp. 231-239.

Laybourne, A., Livingston, G., Cousins, S., Rapaport, P., Lambe, K., La Frenais, F., Savage, H., Manela, M., Stringer, A., Marston, L., Barber, J. (2018) Carer coping and resident agitation as predictors of quality of life in care home residents living with dementia: Managing Agitation and Raising Quality of Life (MARQUE) English national care home prospective cohort study. *International Journal of Geriatric Psychiatry*, 34 (1), pp.106-113.

Laybourne, A., Rapaport, P., Livingston, G. (2021) Long-term implementation of the Managing Agitation and Raising Quality of Life Intervention in care homes: A qualitative study. *International Journal of Geriatric Psychiatry*, 36, pp.1252-1263.

Lee-Treweek, G. (1997) Women, resistance and care: an ethnographic study of nursing auxiliary work. *Work. Employment and Society*, 11 (1), pp. 47-63.

Lemprecht, B. (1996) The gap between design and healing. *Metropolis*, 77, pp.123.

Leon, J., Ory, M.G. (1999) Effectiveness of Special Care unit (SCU) placement in reducing physically aggressive behaviors in recently admitted dementia nursing home residents *American Journal of Alzheimer's Disease and other Dementias*, 14 (5), pp. 270-277.

Leung, M-y., Wang, C., Chan, I.Y.S. (2019) A qualitative and quantitative investigation of effects of indoor built environment for people with dementia in care and attention homes. *Building and Environment*, 157, pp. 89-100.

Leung, M-y., Wang, C., Wei, X. (2020) Structural model for the relationships between indoor built environment and behaviors of residents with dementia in care and attention homes. *Building and Environment*, 169, pp. 1-13.

Lewin, K. (1946) Action Research and Minority Problems. *Journal of Social Issues*, 2, pp. 34-46.

Let's Respect Project Team (2006) *Let's Respect the Mental Health Needs of Older People*. 20 No 40 RCN Publishing.

Liebowitz, B., Lawson, M.P., Waldman, A. (1979) Evaluation: Designing for confused elderly people. *American Institute of Architects Journal*, pp. 59-61.

Livingston, G., Barber, G., Marston, L., Rapaport., P., Livingston, D., Cousins, S., Robertson, S., La Frenais, F., Cooper, C. (2017) Prevalence of and associations with agitation in residents with dementia living in care homes: MARQUE cross-sectional study. *BJPsych Open*, 394:pp.171-178. Available: <https://doi.org/10.1192/bjpo.bp.117.005181>

[Accessed: 2 September 2022]

Mackey, D.C., Lachance, C.C., Wang, P.T., Feldman, F., Laing, A.C., Leung, P.M. (2019) The Flooring for Injury Prevention (FLIP) Study of compliant flooring for the prevention of fall-related injuries in long-term care: A randomized trial. *PLoS Medicine*, 16 (6), pp. 1-20.

Macnee, C.L., McCabe, S. (2008) Inferential results. In Macnee, C.L., McCabe, S. (2008) *Understanding Nursing Research: Reading and Using Research in*

Evidence-Based Practice. 2nd ed. Wolters Kluwer/ Lippincott Williams & Wilkie., pp. 89-112.

Manley, K., McCormack, B. (2003) Practice development: purpose, methodology, facilitation and evaluation. *Nursing in Critical Care*, 8 (1), pp. 22-29.

Marshall, M. (1997) Design and technology for people with dementia. In: Jacoby R., Oppenheimer., C. eds. *Psychiatry in the Elderly*. 2nd Edition, Oxford: Oxford Press., pp.40-48.

Marshall, M. (1998). How it helps to see dementia as a disability. *Journal of Dementia Care*, 6 (1), pp. 15-17.

Marshall, M. (1999) "They should not really be here": people with dementia in the acute sector. Keynote Lecture. British Geriatric Society. *Age & Ageing*, 28-52; 9-11.

Marshall, M. (2001) Environment: how it helps to see dementia as a disability. Care homes and Dementia. *Journal of Dementia Care*, 6, pp15-17.

Marshall, M. (2000) *Astrid, a guide to using technology within dementia care*. London: Hawker Publications.

Marshall, M. (2001) Care settings and the care environment. In: Cantley, C. ed. *A Handbook of dementia Care*. Buckingham: Open University Press., pp. 173-185.

Marshall, M.J., Hutchinson, S. (2001) A critique of research on the use of activities with persons with Alzheimer's disease: a systematic review. *Journal of Advanced Nursing*, 35(4), pp. 488-496.

Martin, D.P., Hunt, J.R., Conrad, D.A. (1990) The Planetree model hospital project: An example of the patient as partner. *Hospital and Health Services Administration*, 35, pp. 591-601.

Marquardt, G., Schmiege, P. (2009) Dementia-friendly architecture: Environments that facilitate wayfinding in nursing homes. *American Journal of Alzheimer's Disease and other Dementias*, 24 (4), pp. 333-340.

Marquardt, G. (2011) 'Wayfinding for people with dementia: a review of the role of architectural design'. *Health Environments Research & Design Journal*, 4 (2), pp. 75-90.

Marquardt, G., Bueter, K., Motzek, T. (2014) Impact of the design of the Built Environment on People with Dementia; An Evidence-Based Review. *Health Environments Research and Design Journal*, 8 (1), pp. 127-157.

Mathew, L., Sloane, P., Kilbey, M., Flood, R. (1988) What's different about a special care unit for dementia patients? A comparative study. *American Journal of Alzheimer's Disease and Other Dementias*, 3 (2), pp. 16-23.

Mayer, R., Darby, S.J. (1991) Does a mirror deter wandering in demented older people? *International Journal of Geriatric Psychiatry*, 6, pp. 607-609.

McAlister, C.L., Silverman, M.A. (1999) Community formation and community roles among persons with Alzheimer's disease: A comparative study of experiences in a residential Alzheimer's facility and a traditional nursing home. *Qualitative Health Research*, 9, pp. 65-85.

McCarron, M., Fahey-McCarthy, E., Connaire, K. (2008) *Intellectual Disability and Advanced Dementia: Fusing the Horizons of Intellectual Disability*.

Palliative and Person-Centred Dementia Care. School of Nursing and Midwifery, Trinity College, Dublin.

McCormack, B. (2004) 'Person-centredness in gerontological nursing; an overview of the literature. *International Journal of Older People Nursing*, 13, pp. 31-38.

McCormack, B., McCance, T. (2006) 'Development of a framework for person-centred nursing'. *Journal of Advanced Nursing*, 56, pp. 472-479

McCormack, B., McCance, T. (2010) *Person-centred Nursing: Theory and Practice*. Oxford: Wiley Blackwell.

McDougall, P. (2000) In-depth interviewing: the key issues of reliability and validity. *Community Practitioner*, 73 (8), pp.722-724.

McGivern, Y., O'Neill, D. eds. (2007) Seminar Proceedings; Independent Living, Housing, Transport And Technology. *Irish Ageing Studies Review*, 1, (1).

McLaughlin, H. (1976) The monumental headache: Overtly monumental and systematic hospitals are usually functional disasters. *Architectural Record*, 160, pp.118.

Melin, L., Gottesham, K.G. (1981) The effects of rearranging ward routines on communication and eating behaviors of psychogeriatric patients. *Journal of Applied Behavior analysis*, 14 (1), pp. 47-51.

Menegazzi, J. J., Paris, P., Kersteen, C., Flynn, B., Trautman, D.E. (1991) A randomized controlled trial of the use of music during laceration repair. *Annals of Emergency Medicine*, 20, pp. 348-350.

Miller, A. E. (1978) *Evaluation of the Care Provided for Patients with Dementia in Six Hospital Wards*. Unpublished M.Sc. Thesis, University of Manchester.

Miller, A. (1985) Nurse-Patient Dependency-Is It Iatrogenic? *Journal of Advanced Nursing*, 10 (1), pp.1365-2648.

Miller, J., Glassner, B. (2004) The 'Inside' and the 'Outside'. Finding Realities in Interviews. In: Silverman, D. ed. *Qualitative Research: Theory, Method and Practice*. Sage., pp. 51-66.

Minkler, M. (1996) 'Critical perspectives on ageing: new challenges for gerontology'. *Ageing and Society*, 16, pp.467-487.

Mobley, C., Leigh, K., Malinin, L. (2017) Examining Relationships between Physical Environments and Behaviors of Residents with Dementia in a Retrofit Special Care Unit: DEMENTIA SCU ENVIRONMENT/BEHAVIOR STUDY. *Journal of Interior Design*, 42 (2), pp. 49-69.

Mooney, P., Nicell, P.L. (1992) The importance of exterior environment for Alzheimer residents: Effective care and risk management. *Healthcare Management Forum*, 5, pp. 23-29.

Moore, S. (2017) What's in a word? The importance of the concept of "values" in the prevention of abuse of older people in care homes. *Journal of Adult Protection*, 19 (3), pp.130-145.

Moos, R. (1969) Sources of variance in responses to questionnaires and in behaviour. *Journal of Abnormal Psychology*, 74, pp.405-412.

Moos, R., Smail, P. (1974) Characterizing Treatment Environments. In: Moos, R. ed. (1974) *Evaluating Treatment Environments: A Social Ecological Approach*, Second edition. New York: Wiley-Interscience, Wiley & Sons., pp.3-32.

Moos, R. (2002) The Mystery of Human Context and Coping: An Unravelling of Clues. 2001 Invited Address. *American Journal of Community Psychology*, 30 (1), pp.67-88.

Morgan, D.G., Stewart, N.J. (1997) The Importance of the Social Environment in Dementia Care. *Western Journal of Nursing Research*, 19 (6), pp.740-761.

Morgan, D.G., Stewart, N.J. (1998) Multiple occupancy versus private rooms on dementia care units. *Environment and Behavior*, 30, pp.487-503.

Morgan, D.G., Stewart, N.J. (1999) The physical environment of special care units: Needs of residents with dementia from the perspective of staff and family caregivers. *Qualitative Health Research*, 9 (10), pp. 105-118.

Morley, D. (1991) Resource Analysis as Action Research. In: Wilkinson, P.F., William, C.F. eds. *Resource Analysis Research in Developing Countries*. York University, Toronto., pp.1-16.

Morse, J, M. (1991) Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40, pp.120-123.

Morse, J, M. (1999) Qualitative methods: the state of the art. *Journal of Advanced Nursing*, 9, pp.393-406

Morse, J, M. (2003) Principles of mixed methods and multimethod research design. In: Tashakkori, A., Teddie, C. eds. *Foundation of Mixed Methods*

Research: Integrating Quantitative and Qualitative Techniques in the Social and Behavioural Sciences. Thousand Oaks: Sage., pp189-203.

Morse, J, M., Niehaus, L. (2009) *Mixed methods design: Principles and procedures*. Walnut Creek, California: Left Coast Press.

Moss, V., A. (1988) Music and the surgical patient. *Association of Operating Room Nurses*, 48, pp. 64-69.

Munro, B. H. (2005a) Selected Nonparametric Techniques. In: Munro, B.H., Connell, W.F. eds. *Statistical Methods for Health Care Research*. 5th edition. Lippincott Williams & Wilkins., pp.109-135.

Munro, B.H. (2005b) Logistic Regression. In: Munro, B.H., Connell, W.F. eds. *Statistical Methods for Health Care Research*. Fifth Edition, Lippincott Williams & Wilkins., pp.301-320.

Namazi, K.H., Rosner, T. T., & Calkins, M.P. (1989) Visual barriers to prevent ambulatory Alzheimer's disease patients from exiting through an emergency door. *The gerontologist*, 29, pp. 699-702.

Namazi, K.H., Johnson, B.D. (1991) Environmental effects on incontinence problems in Alzheimer's disease patients. *American Journal of Alzheimer's Disease and Other Dementias*, 6, pp.16-21.

Namazi, K.H., Johnson, B.D. (1991) Physical environmental cues to reduce the problems of incontinence in Alzheimer's disease units. *American Journal of Alzheimer's Disease and Other Dementias*, 6, pp.22-28.

Namazi, K.H., Rosner, T., Rechlin, L. (1991) Long term memory cuing to reduce visio-spatial disorientation in Alzheimer's disease patients in a special

care unit. *American Journal of Alzheimer's Disease and Other Dementias*, 6, pp.10-15.

National Institute for Health and Clinical Excellence (2009, updated 2018) *Guideline CG90 Depression: the treatment and management of depression in adults*. London: NICE.

Available:

<https://www.nice.org.uk/guidance/cg90/documents/depression-in-adults-update-scope-consultation>

[Accessed: 2 September 2022]

National Institute for Health and Clinical Excellence (2010) *Delirium, Diagnosis, Prevention and Management*. Clinical guideline no 103. National Clinical Guideline Centre for Acute and Chronic Conditions, London: NICE.

Available: <https://www.nice.org.uk/guidance/cg103/evidence/full-guideline-134653069>

[Accessed: 2 September 2022]

National Institute for Health and Clinical Excellence (2019) *Dementia Quality Standard (Draft)*. Available:

<https://www.nice.org.uk/guidance/qs184/documents/draft-quality-standard>

[Accessed: 2 September 2022]

National Institute for Health and Clinical Excellence (2013) *NICE Guideline CG161: Falls in older people; assessing risk and prevention*.

Available:

<https://www.nice.org.uk/guidance/>

[Accessed: 2 September 2022]

National Institute for Health Research (NIHR) (2017) *Comprehensive Care: Older people living with frailty in hospitals*. Available:
<https://content.nihr.ac.uk/nihrdc/themedreview-002370-CC/Comprehensive-Care-final.pdf>
[Accessed: 2 September 2022]

National Institute for Health Research (NIHR) (2021)
Research for Patient Benefit- Competition 47.
Available:
<https://www.nihr.ac.uk/funding/research-for-patient-benefit-competition-47/29217>
[Accessed: 2 September 2022]

Negley, E.N., Manley, T. (1990) Environmental interventions in assaultive behaviour. *Journal of Gerontological Nursing*, 16 (3), pp.29-33.

Nelson, J, (1995) The influence of environmental factors in incidents of disruptive behaviour. *Journal of Gerontological Nursing*, 21(5), pp.19-24.

Nesmith, E.L. (1995) *Health care architecture: Designs for the future*.
Washington: The American Institute of Architects Press.

Netten, A. (1989) The effect of design of residential homes in creating dependency among confused elderly residents; a study of elderly demented residents and their ability to find their way around homes for the elderly. *International Journal of Geriatric Psychiatry*, 4 (3) pp. 143-153.

NHS Confederation (2009) *Healthy mind, healthy body: How liaison psychiatry services can transform quality and productivity in acute settings*. Issue 179. London: NHS Confederation.

NHS Confederation (2010) *Acute awareness: Improving hospital care for people with dementia*. London: NHS Confederation.

Nobili, A., Piana, I., Balossi, L., Pasina, L., Matcci, M., Tarantola, M. (2008) Alzheimer special care units compared with traditional nursing home for dementia care: Are there differences at admission and in clinical outcomes? *Alzheimer's disease & Associated Disorders*, 22 (4), pp.352-361.

Noblit, G. W., Hare, R.D. (1988) *Meta-ethnography: Synthesising qualitative studies*. Newbury Park: Sage. Available:

<https://doi.org/10.4135/9781412985000>

[Accessed: 2 September 2022]

Noffke, S. (2009) Revisiting the professional, personal and political dimension of action research. In: Noffke, S., Somekh, B. eds. *The Sage handbook of Educational action research*. Los Angeles: Sage., pp.5-18.

Nolan, B.A.D., Matthews, R.M., Harrison, M. (2001) Using external memory aids to increase room finding by older adults with dementia. *American Journal of Alzheimer's Disease and Other Dementias*, 6, pp.251-254.

Norman, R. (2003) *Acute Nursing Care for People with Dementia. What Happens When a Patient with Dementia is Admitted to Hospital for Acute Care*. University of the West of England, Bristol.

Norton, D., McLaren, R., Exton-Smith, A N. (1962) *An Investigation of Geriatric Nursing Problems in Hospital*. London: The National Corporation for the Care of Old People.

Notter, J., Spijker, T., Stomp, K. (2004) Taking the community into the home. *Health and social care in the community*, 12 (5), pp.448-453.

Nuffield Trust (2018) *Emergency readmission to hospital for potentially preventable conditions on the rise new research shows*. Quality Watch.

Available:

<https://www.nuffieldtrust.org.uk/news-item/emergency-readmissions-to-hospital-for-potentially-preventable-conditions-on-the-rise-new-research-shows-1>

[Accessed: 2 September 2022]

Nursing and Midwifery Council (2019) *The Code: behaviour for nurses and midwives*. London: NMC.

Oborn, E., Barrett, M., Racko, G., (2010) *Knowledge translation in healthcare; A review of the literature*. Cambridge Judge Business School, U.K. Available:

<https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/wp/wp1005.pdf>

[Accessed: 2 September 2022]

O'Brien, R., (1998) *An Overview of the Methodological Approach of Action Research*. Faculty of Information Studies, University of Toronto.

O'Connor, D., Phinney, A., Smith, A., Small, J., Purves, B., Perry, J., Drance, E., Donnelly, M., Chaudhury, H., Beattie, L. (2007) Personhood in dementia care: developing a research agenda for broadening the vision. *Dementia: The International Journal of Social Research & Practice*, 6, pp.121-142.

Orth, J., Li, Y., Simning, A., Zimmerman, S., Temkin-Greener, H. (2020) *Health Services research*, 55 (S1), pp.19.

Oyetunde, M O., Ojo, O., Ojewal, J. L. (2013) Nurses Attitude towards the Care of the Elderly; Implications for Gerontological Nursing Training. *Journal of Nursing Education and Practice*, 3 (7), pp.150-158.

Pallant, J. (2005) *SPSS Survival Manual*. Open University Press, Maidenhead.

Palmer, R.M., Counsell, S., Landefeld, C.S. (1998) Clinical intervention trials: The ACE unit. *Acute Hospital Care*, 14, pp.833-849.

Pantin, C., Mucklow, J., Rogers, D., Cross, M., Wall, J. (2006) Bedside Clinical Guidelines: the missing link. *Clinical Medicine*, RCP journals, Jan/Feb 6, (1), pp.98-104.

Available:

<https://www.rcpjournals.org/content/clinmedicine/6/1/98.full.pdf>

[Accessed: 2 September 2022]

Parke, B., Boltz, M., Hunter, K., Chambers, T., Wolf-Ostermann, K., Adi, M N., Feldman, F., Gutman, G. (2017) A Scoping Literature Review of Dementia-Friendly Hospital Design. *The Gerontologist*, 57 (4), pp.62-74.

Pawson, R.D., Manzano-Santaella, A. (2012) A realist diagnostic workshop, Evaluation. *Journal of theory, research and practice*, 18 (2), pp.176-191.

Passini, R., Pigot, H., Rainville, C., Tertreault, M.H. (2000) Wayfinding in a nursing home for advanced dementia of the Alzheimer's type. *Environment and Behavior*, 32 (50), pp.684-710.

Pembrey, S. (1980) *The Ward Sister- Key to Nursing: A Study of the Organisation of Individualised Nursing*. London: Royal College of Nursing.

Pentland, D., Forsyth, K., Maciver, D., Walsh, M., Murray, R., Irvine, L., Sikora, S. (2011) Key characteristics of knowledge transfer and exchange in healthcare: integrative literature review. *Journal of Advanced Nursing*, 67 (7), pp.1408-1425.

Perrit, M.R., McCune, E., McCune, S.L. (2005) Research informs design: Empirical findings suggest recommendations for carpet pattern and texture. *Alzheimer's Care Quarterly*, 6 (4), pp.300-305.

Perry, M., Draskovic, I., Lucassen, P.L.B.J., Vernooij-Dassen, M.J.F.J., van Achterberg, T., Rikkert, M.O. (2011) Effects of educational interventions on primary dementia care: A systematic review. *International Journal of Geriatric Psychiatry*, 26 91, pp.1-11.

Phillips, C.D., Sloane, P.D., Hawes, C., Koch, G., Han, J., Spry, K., Williams, R.L. (1997) Effects of residence in Alzheimer's disease special care units on functional outcomes. *The Journal of the American Medical Association*, 278 (16), pp.1340-1344.

Pontin, D. (2000) Interview. In: Cormack, D. ed. *The Research Process in Nursing*. Fourth Edition. Oxford: Blackwell., pp.289-297.

Price, C. (2009) Just Checking: lessons three years on. *Journal of Dementia Care*, May/June 17 (3), pp.12-13.

Primeau, C. (2003) Reflections on self in qualitative research: stories of family. *American Journal of Occupational Therapists*, 57 (1), pp.9-16.

Doi:10.5014/ajot.57.1.9.

Available:

<https://pubmed.ncbi.nlm.nih.gov/12549886/>

[Accessed: 2 September 2022]

The Preferred Reporting System for Systematic reviews and Meta-Analysis (PRISMA). (2000). Available:

<https://www.bmj.com/content/372/bmj.n71>

[Accessed: 2 September 2022]

Proshansky, H.M., Ittelson, W.H., Rivlin, J.G. (1970) Freedom of choice and behavior in a physical setting. In: Proshansky, H.M., Ittelson, W.H., Rivlin, J.G. eds. *Environmental psychology: Man and his physical setting*. New York: Holt, Rinehart & Winston., pp.173-183.

QRS International (2012) *Nvivo 10*. Available:

<https://support.qsrinternational.com/nvivo/s/article/TRC-Standard-installation-NVivo-10-for-Windows>

[Accessed: 2 September 2022]

R Core Team (2013) *R: A language and environment for statistical computing*.

16 July 2013. Available:

<http://www.R-project.org/>

[Accessed: 2 September 2022]

Ragneskog, H., Gerdner, LA., Josefsson, K., Kihlgren, M. (1998) Probable reasons for expressed agitation in persons with dementia. *Clinical Nursing Research*, 7 (2), pp.189-206.

Rainville, C., Passini, R., Marchand, N. (2001) A multiple case study of wayfinding in dementia of the Alzheimer type: decision making. *Aging, Neuropsychology and Cognition*, 8, pp.54-71.

Rapaport, P., Livingston, G., Hamilton, O., Turner, R., Stringer, A., Robertson, S., Cooper, C. (2018) How do care home staff understand, manage and respond to agitation in people with dementia? A qualitative study. *British Medical Journal Open*, 8 (6),

Available:

eo22260.<http://dx.doi.org/10.1136/bmjopen-2018-022260>

[Accessed: 2 September 2022]

Rapaport, R. (1960) *Community as doctor*. London: Tavistock.

Ray, P.P., Dash, D., De, D.A. (2019) A systematic Review and Implementation of IoT-Based Pervasive Sensor-Enabled Tracking System for Dementia Patients. *Journal of Medical Systems*, 43, 287.

Available:

<https://doi.org/10.1007/s10916-019-1417-z>

[Accessed: 2 September 2022]

Read, S., Coluhoun, S., Burton, J. (2010) Safe2walk: safe walking for people with dementia. *Journal of Dementia Care*, March/April 18 (2), pp. 14-16.

Redfern, S. (1979) *The Charge Nurse: Job Attitudes and Occupational Stability*. Unpublished Ph.D. Thesis University of Aston.

Redman, R.W., Jones, K.R. (1998) Effects of implementing patient-centred care models on nurse and non-nurse managers. *The Journal of Nursing Administration*, 28, pp.46-53.

Reimer, M.A., Slaughter, S., Donaldson, C., Currie, G., Eliaszie, M. (2004) Special care facility compared with traditional environments for dementia care: a longitudinal study of quality of life. *Journal of the American Geriatrics Society*, 1 (1), pp.1085-1092.

Richards, H.M., Schwartz, L. J. (2002) Ethics of qualitative research: Are there special issues for health research? *Family Practice*, 19 (2), pp.135-139.

Riel, M., Lepori, K. (2014) Analysis of reflections of action researchers. *Educational Research for Social Change, (ERSC)*, April 3 (1), pp. 52-74.

Available: http://ersc.nmmu.ac.za/articles/Vol_3_no_1_Riel_pp_52-74_April_2014.pdf

[Accessed: 2 September 2022]

Rinaldi Carpenter, D. (2007a) Ethical Considerations in Qualitative Research. In: Streubert Speziale, H J., Rinaldi Carpenter, D. eds. *Qualitative Research in Nursing*. Lippincott Williams & Wilkins., pp.57-73.

Rinaldi Carpenter, D. (2007b) Triangulation as a Qualitative Research Strategy. In: Streubert Speziale, H J., Rinaldi Carpenter, D. eds. *Qualitative Research in Nursing*. Lippincott Williams & Wilkins., pp.379-391.

Rinaldi Carpenter, D. (2007c) Phenomenology as Method. In: Streubert Speziale, H J., Rinaldi Carpenter, D. eds. *Qualitative Research in Nursing*. Lippincott Williams & Wilkins., pp.75-99.

Roberts, P., Priest, H., Traynor, M. (2006) Reliability and validity in research. *Nursing Standard*, July 12, 20, (44), pp. 41-45. Available:

<https://www.researchgate.net/publication/306332255-Reliability-and-validity-in-research>

[Accessed: 2 September 2022]

Rolfe, G. (1993) Closing the theory-practice gap: a model of nursing praxis. *Journal of Clinical Nursing*, 2 (3), pp.173-177. Available: <https://doi.org/10.1111/j.1365-2702.1993.tb00157.x>

[Accessed: 2 September 2022]

Rolfe, G. (2002) Reflective practice: where now? *Nurse Education in Practice*, 2 (1), pp .21-29.

Rolfe, G. (2014) Rethinking reflective education: What would Dewey have done? *Nurse Education Today*, 34 (8), pp.1179-1183.

Rousek, J.B., Hallbeck, M.S. (2011) The use of simulated visual impairment to identify hospital design elements that contribute to wayfinding difficulties. *International Journal of Industrial Ergonomics*, 41, pp. 447-458.

Rovner, B.W., Lucas-Blaustein, J., Folstein, M.F., Smith, S.W. (1990) Stability over one year in patients admitted to a nursing home dementia unit. *International Journal of Geriatric Psychiatry*, 5 (2), pp.77-82.

Rowe, J. (2003) From the charnel house to intermediate care. Editorial, *Ageing & Health* ISSN 1364-9752, p.1.

Royal College of Nursing (2012) *Dementia: Commitment to the care of people with dementia in hospital settings*. London: R.C.N. Available:

<https://dementiapartnerships.com/wp-content/uploads/sites/2/rcnhospitalcare.pdf>

[Accessed: 2 September 2022]

Royal College of Nursing (2019) *Staffing for Safe and Effective Care: RCN Member campaigning in the U.K. Policy Report*. London: R.C.N.

Royal College of Psychiatrists (2005) *Who Cares Wins. Guidelines for the Development of Liaison Mental Health Services for Older People*. London: RCP.

Royal College of Psychiatrists (2011) *Report of the National Audit of Dementia Care in General Hospitals*. Young J, Hood C, Wooley R, Gandesha A and Souza R. eds. London: Healthcare Quality Improvement Partnership.

Rubin, H.R., Owens, A.J. (1996) *Progress report: An investigation to determine whether the built environment affects patients' medical outcomes*. Martinez: The Centre for Health Design.

Ruga, W. (1989) Designing for the six senses. *Journal of Health Care Interior Design*, 1, pp. 29-34.

Sabat, S. (2001) *The Experience of Alzheimer's Disease: Life Through a Tangled Veil*. Oxford: Blackwell.

Saitlin, A., Volicer, R., Ross, V., Herz, L., Campbell, S. (1992) Bright light treatment of behavioural and sleep disturbances in patients with Alzheimer's disease. *American Journal of Psychiatry*, 149, pp.1028-1032.

Samus, Q.M., Rosenblatt, A., Steele, C., Baker, A., Harper, M., Brandt, J., Lyketsos, C. (2005) The association of *neuropsychiatric symptoms and environment with quality of life* in assisted living residents with dementia. *The Gerontologist*, 45 (1), pp.19-26.

Sandelowski, M. (1995) Triangles and crystals: on the geometry of qualitative research. *Research in Nursing & Health*, 18, pp.569-574.

Sandelowski, M. (1998) The call to experts in qualitative research. *Research in Nursing & Health*, 21, pp.467-471.

Sanford, J.A., Megrew, M.B., (1995) An evaluation of grab bars to meet the needs of elderly people. *Assistive Technology*,7, pp. 36-47.

Seers, C. (1986) Talking to the Elderly and its Relevance to Care. *Nursing Times (Occasional Papers)*, 82 (1) pp. 51-54.

Schein, E. (1990) Organizational culture. *American Psychologist*, 45 (2), pp. 109-19.

Scerri, A., Innes, A., Scerri, C. (2019) Using appreciative inquiry to implement person-centred dementia care in hospital wards. *Dementia*, 18 (1), pp. 190-209.

Scott, H. (2021) The changing self: The impact of dementia on the personal and social identity of women (findings from the Improving the Experience of Dementia and Enhancing Active Life programme). *Dementia*, 0 (0), pp.1-16.

Scottish Government (2010) *Scotland's National Dementia Strategy*.
Edinburgh: Scottish Government.

Scottish Government (2013) *Scotland's National Dementia Strategy*.
Edinburgh: Scottish Government.

Scottish Government (2017) *Scotland's National Dementia Strategy*.
Edinburgh: Scottish Government.

Schneider, J., Skales, K., Bailey, S., Lloyd, J. (2010) *Challenging care: the role and experience of Health Care Assistants in dementia wards*. Report for the NIHR Research Service Delivery and Organisation Programme. Available: http://www.netscc.ac.uk/hsdr/files/project/SDO_FR_08-1819-222_V01.pdf
[Accessed: 2 September 2022]

Senior, B., Fleming, B. (2006) *Organizational Change*. Third edition. Harlow: Pearson Education.

Shakespeare, T. Zelig, H., Mittler, P. (2019) Rights in mind: thinking differently about dementia and disability. *Dementia*, 18 (3), pp.1075-1088.

Sheehan, B., Stinton, C., Mitchell, K. (2009) The care of people with dementia in general hospital. *The Journal of Quality Research in Dementia*, 16 (5), pp.603-607.

Sherer, J.L. (1993) Putting patients first: Hospitals work to define patient-centred care. *Hospitals*, 67, pp.14-18.

Shumaker, S. A., Pequegnat, W. (1989) Hospital design, health providers, and the delivery of effective health care. In: Zube, E.H., Moore, G.T. eds. *Advances in environment, behavior and design*, 2., pp. 161-199.

Silverman, D. (2011) *Interpreting Qualitative Data: Methods for Analysing Talk Text and Interaction*. London: Sage.

Simpson, T., Lee, E.R., Cameron, C. (1996) Relationships among sleep dimensions and factors that impair sleep after cardiac surgery. *Research in Nursing and Health*, 19, pp. 213-223.

Sixsmith, J., Boneham, M., Goldring, J.E. (2003) Accessing the community: Gaining insider perspectives from the outside. *Qualitative Health Research*, 13 (4), pp.578-589.

Sloane, P.D., Mitchell, C.M., Preissner, J.S., Phillips, C., Commander, C., Burker, E. (1998) Environmental correlates of resident agitation in Alzheimer's disease special care units. *Journal of the American Geriatrics Society*, 46 (7), pp. 862-869.

Sloane, P.D., Williams, C.S., Mitchell, C.M., Preissner, J.S., Wood, W., Barrick, AL., Zimmerman, S. (2007) High-intensity environmental light in dementia. Effect on sleep and activity. *Journal of American Geriatrics Society*, 55 (10), pp. 1524-1533.

Smit, D., de Lange, J., Willense, B., Pot, A.M. (2012) The relationship between small-scale care and activity involvement of residents with dementia. *International Psychogeriatrics*, 24 (5), pp.722-732.

Smith, B. (2001) Dementia on a general ward: the benefits of activities. *Journal of Dementia Care*, Sept/Oct, pp. 30-31.

Smith, G. (1986) Resistance to Change in Geriatric Care. *International Journal of Nursing Studies*, 23 (1), pp. 61-70.

Smith, K. (2016) Reflection and person-centredness in practice development. *International Practice Development Journal*, 6 (1), pp.1-6.

Smith, S.C., Lamping, D.L., Banerjee, S., Harwood, R.H., Foley, B., Smith, P., Knapp, M. (2007) Development of a new measure of health related quality of

life for people with dementia: DEMQOL. *Psychological Medicine*, 37, pp.737-746.

Smythe, A., Jenkins, C., Wright, J., Dee, P., Bentham, P., Oyebode, J. (2014) EVALUATION OF DEMENTIA TRAINING FOR STAFF IN ACUTE HOSPITAL SETTINGS. *Nursing Older People*, 26 (2), pp.18-24.

Sprinks, J. (2012) Nurses at the forefront of drive to make wards dementia-friendly. *Nursing Standard*, 27 (7), pp.12-13.

Staley, K. (2015) 'Is it worth doing?' Measuring the impact of patient and public involvement in research. *Research Involvement and Engagement*. 1 (6).

Available:

<https://researchinvolvement.biomedcentral.com/articles/10.1186/s40900-015-0008-5>

[Accessed: 2 September 2022]

Stannard, C. (1973) Old Folks and Dirty Work.: The Social Conditions for Patient Abuse in a Nursing Home. *Social Problems*, 20, pp. 329-342.

Starks, H., Trinidad, S.B. (2007) Choose your method: a comparison of phenomenology, discourse, analysis, and grounded theory. *Qualitative Health Research*, 17 (10), pp. 1372-1380

Stephoe, A., Appels, A. (1989) *Stress, personal control, and health*. Chichester: John Wiley.

Streubert Speziale, H. J. (2007a) The Conduct of Qualitative Research: Common Essential Elements. In: Streubert Speziale, H J., Rinaldi Carpenter, D. eds. *Qualitative Research in Nursing*. Lippincott Williams & Wilkins., pp. 9-33.

Streubert Speziale, H J. (2007b) Action Research Method. In: Streubert Speziale, H. J., Rinaldi Carpenter, D. eds. *Qualitative Research in Nursing*. Lippincott Williams & Wilkins., pp. 327-363.

Streubert Speziale, H. J. (2007c) Designing Data Generation and Management Strategies. In: Streubert Speziale, H J., Rinaldi Carpenter, D. eds. *Qualitative Research in Nursing*. Lippincott Williams & Wilkins., pp. 35-56.

Stokes, G. (2002) Working with Aggression: Prevention & intervention. In: Stokes, G. and Goudie, F. eds. *The Essential Dementia Care Handbook: A Good Practice Guide*. London: Speechmark Publishing., pp. 140-151.

Stringer, E. (1999) *Action Research*. 2nd Edition. Thousand Oaks: Sage Publications.

Swanson, E.A., Maas, M.L., Buckwalter, K.C. (1993) Catastrophic reactions and other behaviors of Alzheimer's residents: special unit compared with traditional units. *Archives of Psychiatric Nursing*, 7 (5), pp. 292-299.

Tadd, W., Hillman, A., Calnan, M., Bayer, A., Read, S. (2011) *Dignity in Practice: an exploration of the care of older adults in acute NHS Trusts*. NIHR Service Delivery and Organisation Programme; 2011. Available: <https://www.journalslibrary.nihr.ac.uk/programmes/hsdr/081819218/#/> Accessed: 2 September 2022]

Taylor, S.E. (1979) Hospital patients behavior: Reactance, helplessness, or control? *Journal of Social Issues*, 35, pp. 156-184.

The Dignity in Care campaign. Available:

<https://www.dignityincare.org.uk/>

Accessed: 2 September 2022]

The Kings fund (2013) *Developing supportive design for people with dementia: The kings Fund's Enhancing the Healing Environment Programme 2009-2012*.

Available:

<https://www.kingsfund.org.uk/publications/developing-supportive-design-people-dementia>

Accessed: 2 September 2022]

Thorpe, L., Middleton, J., Russell, G., Stewart, N. (2000) Bright light therapy for demented nursing home patients with behavioral disturbance. *American Journal of Alzheimer's disease and Other Dementias*, 15, pp.18-26.

Trites, D.K., Galbraith, F.D.Jr., Sturdavant, M., Leckwart, J.F. (1970) Influence in nursing-unit design on the activities and subjective feelings of nursing personnel. *Environment and Behavior*, 2, pp 303-334.

Tinetti, M., Huang, A., Molnar, F. (2017) The Geriatrics 5M's: A New Way of Communicating What We Do. *Journal of the American Geriatric Society*, 65 (9), pp. 2115.

Topf, M. (1984) A framework for research in aversive physical aspects of the environment. *Research in Nursing and Health*, 7, pp. 35-42

Topf, M. (1988) Noise-induced occupational stress and health in critical care nurses. *Hospital Topics*, 66, pp. 30-34.

Topf, M., Dillon, E. (1988) Noise induced stress as a predictor of burnout in critical care nurses. *Heart and Lung*, 17, pp. 567-574.

Topf, M., Davis, E. (1993) Critical care unit noise and rapid eye movement (REM) sleep. *Heart and Lung*, 22, pp. 252-258.

Topf, M. (1994) Theoretical considerations for research on environmental stress and health. *The Journal of Nursing Scholarship*, 26, pp. 280-293.

Topf, M., Bookman, M., Arand, D. (1996) Effects of critical care unit noise on the subjective quality of sleep. *Journal of Advanced Nursing*, 24, pp. 545-551.

Topf, M. (2000) Hospital noise pollution: An environmental stress model to guide research and clinical interventions. *Journal of Advanced Nursing*, 11, pp. 520-528.

Torrington, J. (2006) What has architecture got to do with dementia care? Explorations of the relationship between quality of life and building design in two Equal projects. *Quality in Ageing*, 7 (1), pp. 34-48.

Towell, D. (1975) *A Sociological Study of Modern Psychiatric Nursing Practice*. London: Royal College of Nursing.

Towers, A-M., Smith, N., Palmer, S., Welch, E., Netten, A. (2016) The acceptability and feasibility of using the Adult Social Care Outcomes Toolkit (ASCOT) to inform practice in care homes. *BMC Health Services Research*, 16, pp. 523.

Available:

<https://www.ncbi.nlm.nih.gov/pubmed/27682625>

[Accessed: 2 September 2022]

Trochelman, K., Albert, N., Spence, J., Slifcak, E. (2012) Patients and their families weigh in on evidence-based hospital design. *Critical Care Nurse*, 32 (1), pp.1-10.

Trueland, J. (2017) Outdoor spaces improve dementia care. *Nursing Standard*, 32 (2), pp. 24-26.

Tuckett, A.G., Banchoff, A.W., Winter, S.J., King, A.C. (2018) The built environment and older adults: A literature review and an applied approach to engaging older adults in built environment improvements for health. *International Journal of Older Peoples Nursing*, 13 (1) doi:10. .1111/opn.12171.

Available:

<https://pubmed.ncbi.nlm.nih.gov/289406741/>

[Accessed: 2 September 2022]

Ulrich, R.S. (1981) Natural versus urban scenes: Some psychophysiological effects, *Environment and Behavior*, 13, pp. 523-556.

Ulrich, R.S. (1984) View through a window may influence recovery from surgery, *Science*, 224, pp. 420-421.

Ulrich, R.S., Dimberg, U., Driver, B.L. (1990) Psychophysiological indicators of leisure consequences. *Journal of Leisure research*, 22, pp. 154-166.

Ulrich, R.S. (1991) Effects of interior design on wellness: Theory and recent scientific research. *Journal of Healthcare Interior Design*, 3, pp. 97-109.

Ulrich, R.S., Simons, R.F., Losito, B.D., Fiorito, E., Miles, M.A., Zelson, M. (1991) Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, 11, pp. 201-230.

Ulrich, R.S. (1992) How design impacts wellness. *Healthcare Forums Journal*, 35, pp. 20-25.

Ulrich, R.S. (1995) Effects of healthcare interior design on wellness: Theory and recent scientific research. In: Marberry, O. ed. *Innovations in healthcare design: Selected presentations from the first five symposia on healthcare design*, New York. U.S.A: Van Nostrand Reinhold., pp. 88-104.

Vaismoradi, M., Turenen, H., Bondas, T. (2013) Content analysis and thematic analysis: Implications for conducting a qualitative research study. *Nursing and Health Sciences*, 15, pp. 398-405.

Van Hoof, J., Kort, S.M. (2009) Supportive living environments: A first concept of a dwelling designed for older adults with dementia, *Dementia*, 8 (2), pp.293-316.

Van Hoof, J., Verbeek, H., Janssen, B.M., Eijkelenboom, S., Molony, L., Felix, E., Nieboer, K.A., Zwerts-Verhelst, J., Sijstermans, J.W.M., Wouters, E.J.M. (2016) A three perspective study of the sense of home of nursing home residents: the views of residents, care professionals and relatives. *BMC Geriatrics* 16, 169 doi: 10.1186/s12877-016-0344-9. Available: <https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-016-0344-9> [Accessed: 2 September 2022]

Van Steenwinkel, I., Van Audenhove. C., Heylighen, A. (2012). Spatial clues for orientation: architectural design meets people with dementia. In: Langdon, P.,

Clarkson, P., Robinson, P., Lazar, J., Heylighen, A. eds. *Designing inclusive systems*. London: Springer-Veerlag., pp. 227-236.

Vass, A., Minardi, H., Ward, R., Garfield, C., Cyber, B. (2003) "Research into communication patterns and consequences for effective care of people with Alzheimer's and their carers". *Dementia*, 2 (1), pp. 21-48.

Verbeek, H., Zwakhalen, S.M.G., Van Rossum, E., Ambergen, T., Kempen, G.I.J.M., Hamers, J.P.H. (2010) Dementia care redesigned: effects of small scale living facilities on residents, their family caregivers, and staff. *Journal of the American Directors Association*, 11 (9), pp.662-670.

Verderber, S. (1982) Designing for the therapeutic function of windows in the hospital rehabilitation environment. In: Bart, P., Chen, A., Francescato, G. eds. (1982) *Power by design*. Proceedings of the 13th International Conference of the Environmental Design Research Association, EDRA College Park, MD, U.S.A., pp.476-492.

Verderber, S. (1986) Dimensions of person-window transactions in the hospital environment. *Environment and Behavior*, 18, pp 450-466.

Verderber, S., Fine, D.J. (2000) Healthcare architecture in an era of radical transformation. *The Journal of the Society of Architectural Historians*, 59 (4), pp. 556-557.

Verderber, S., Refuerzo, B. (1999) On the construction of research-based design: A community health center. *Journal of Architectural Planning Research*, 16, pp.225-24.

Verderber, S., Reuman, D. (1987) Windows, views and health status in hospital therapeutic environments. *Journal of Architectural and Planning Research*, 4, pp. 120-133.

Verne, J., Harris, S., Ho, D. (2011) Dementia/Mental Capacity Issues: New insights into place of death for people with Alzheimer's disease, dementia and senility. *BMJ Support Palliative Care*, 1, pp. 83.

Waller, S. (2012) Redesigning wards to support people with dementia in hospital. *Nursing Older People*, March 24 (2), 16, pp.18-21.

Walter, M. (2009) Participatory Action Research: Social Research Methods. In: Bryman, A. ed. *Social Research Methods*, pp.151-158.

Ward, R., Clark, A., Campbell, S., Graham, B., Kullberg, A., Manji, K., Rummery, K., Keady, J., Venooij-Dassen, M., Jeon, Y-H., Moniz-Cook, E. (2018) The lived neighbourhood: understanding how people with dementia engage with their local environment. *International Psychogeriatrics*, 30 (6), pp. 867-880.

Warren, C.J., Hanger, H.C. (2013) Fall and fracture rates following a change from carpet to vinyl floor coverings in a geriatric rehabilitation hospital. A longitudinal study. *Clinical Rehabilitation*, 27, pp. 258-263.

Webber, P.A., Breur, W, Lindeman, D.A. (1995) Alzheimer's special care units vs integrated nursing homes: A comparison of resident outcomes. *Journal of Clinical Gerontology*, 1 (3), pp.189-205.

Weber, D.O. (1996) Life-enhancing design. *The Healthcare Forum Journal*, 39, pp. 3-11.

- Wells, T. (1980) *Problems In Geriatric Nursing Care*. Edinburgh: Churchill Livingstone.
- Wells, Y., Jorm, A.P. (1987) Evaluation of a special nursing home unit for dementia sufferers: a randomised controlled comparison with community care. *The Australian and New Zealand Journal of Psychiatry*, 21 (4), pp. 524-531.
- Weyerer, S., Schaefer, M., Hendlmeir, I. (2010) Evaluation of special and traditional dementia care in nursing homes. Results from a cross-sectional study in Germany. *International Journal of Geriatric Psychiatry*, 25 (11), pp.1159-1167.
- White, J.M., (1992) Music therapy: An intervention to reduce anxiety in the myocardial infarction patient. *Clinical Nurse Specialist*, 6, pp. 58-63.
- Wijk, H., Sivik, L. (1995) Some aspects of colour perception among patients with Alzheimer's disease. *Scandinavian Journal of Caring Sciences*,9, pp. 3-9.
- Wilkinson, T.J., Henschke, P.J., Handscombe, K. (1995) How Should Toilets be Labelled for People With Dementia. *Australian Journal of Ageing*, 14 (4), pp 163-165.
- Wilkes, L., Fleming, A., Wilkes, B.L., Cioffi, J.M., Le Miere, J. (2005) Environmental approach to reducing agitation in older persons with dementia in a nursing home. *Australasian Journal on Ageing*, 24 (3), pp.141-145.
- Wilson, H. S., Hutchinson, S.A. (1991) Triangulation of qualitative methods: Heideggerian hermeneutics and grounded theory. *Qualitative Health Research*, 1, pp.263-276.

Wilson, L.M. (1972) Intensive care delirium: The effect of outside deprivation in a windowless unit. *Archives of Internal Medicine*, 130, pp. 225-226.

Windle, G. (2010) Does telecare contribute to quality of life and wellbeing for people with dementia? *The Journal of Dementia Care: Research Focus*, September/October 18 (5), pp. 33-36 & 38.

Winter, R. (1987) *Action-Research and the Nature of Social Inquiry: Professional Innovation and Education Work*. Aldershot: Gower.

Wood, W., Harris, S., Patchel, S.A. (2005) Activity situations on Alzheimer's disease special care units and resident environmental interaction, time use, and effect. *American Journal of Alzheimer's Disease and Other Dementias*, 20 (2), pp.105-118.

Woodbridge, R., Sullivan, M., Harding, E., Crutch, S., Gilhooly, M., McIntyre, A., Wilson, L. (2018) Use of the physical environment to support everyday activities of people with dementia: a systematic review. *Dementia*, 17 (5), pp. 533-572.

Wu, Y-T., Clare, L., Jones, I.R., Nelis, S.M., Quinn, C., Martyr, A., Victor, C.R., Lamont, R.A., Rippon, I., Matthews, F.E. (2021) Perceived and objective availability of green and blue spaces and quality of life in people with dementia: results from the IDEAL programme. *Social Psychiatry and Psychiatric Epidemiology*, 56 (9), pp. 1601-1610.

Wu, Y-T., Brayne, C., Liu, Z., Huang, Y., Sosa, A.L., Acosia, D., Prina, M. (2020) Neighbourhood environment and dementia in older people from high-, middle-and low-income countries; results from two population- based cohort studies. *BMC Public Health*, 20 (1), pp.1330.

Yates Bolton, N., Yates, K., Williamson, T., Newton, R and Codinhoto, R. (2012) *Improving hospital environments for people with dementia. Listening event report*, The University of Salford.

Yao, L., Algase, D. (2006) Environmental ambience as a new window on wandering. *Western Journal of Nursing Research*, 28 (1), pp.89-104.

Yun, E.L., Norman, I.J., While, A.E. (2013) Nurses attitudes towards older people and working with older patients: A systematic review. *International Journal of Nursing Studies*, 50 (9), pp. 1271- 1282.

Yonge, O., Stewin, L. (1988) Reliability and validity: Misnomers for qualitative research. *Canadian Journal of Nursing*, 20 (2), pp. 61-67.

Young, J., Hood, C., Woolley, R., Gandesha, A., Souza, R. (2011) *Report of the National Audit of Dementia Care in General Hospitals*. London: Royal College of Psychiatrists, Healthcare Quality Improvement Partnership.

Young, J., Hood, C., Woolley, R., Gandesha, A., Souza, R. (2013) *National Audit of Dementia care in general hospitals 2012-13: Second round audit report and update*. London: Royal College of Psychiatrists, Healthcare Quality Improvement Partnership.

Zeisel, J. (2003) Environmental correlates to behavioural health outcomes in Alzheimer's special care units. *The Gerontologist*, 43, pp.697-711.

Zeisel, J., Hyde, J., Levkoff, S. (1994) Best practices: An environment-behavior (E-B) model for Alzheimer special care units. *American Journal of Alzheimer's Care and Related Disorders and Research*, 9, pp. 4-21.

Zeisel, J., Raia, P. (2006) Non pharmacological treatment for Alzheimer's disease. A mind-brain approach. *American Journal of Alzheimer's Disease and Other Dementias*, 15 (6), pp. 331-340.

Zimmerman, L., Pierson, M., Marker, J. (1988) Effects of music on patient anxiety in the coronary care units. *Heart & Lung*, 17, pp. 560-566.

Zuidema, S.U., de Jongha, J.F.M., Verhey, F.R.J., Koopmans, R.T.C.M. (2010) Environmental correlates of neuropsychiatric symptoms in nursing home patients with dementia. *International Journal of Geriatric Psychiatry*, 25 (1), pp.14-22.

Appendix A

Case note & observational audit tool

Date conducted

Patient's initials

Date of birth

Date of admission

1) Is there an assessment of the patient's level of orientation or mental state in the patient records?

Yes/No

2) Is there a care plan relating to this?

Yes/No

3) Do these include a risk assessment?

Yes/No

4) Is there evidence of regular review?

Yes/No

5) Is there a key worker/ primary nurse identified for patients with mental health needs?

Yes/No

6) Is there evidence of the care plan being discussed with the patient?

Yes/No

7) Is there evidence that the family are involved/informed of care

Yes/No

8) Is there evidence that patient with mental health problems have access to professional input as required?.

Yes/No

Specify.....

9) Is there evidence that the doctor or nurse inform the patient of the referral?.

Yes/No

10) Is there evidence that the patient/carer is actively encouraged to participate in their care.

Yes/No

11) Is there evidence that the MDT member involved regularly evaluates patient's progress?

Yes/No

12) Is there evidence that team contact is maintained at least weekly?

Yes/No

13) Is there a communication assessment (incorporating language) on admission?.

Yes/No (& date)

14) Is there a mobility/ manual handling assessment upon admission?.

Yes/No (& date)

15) Is there a social assessment upon admission?

Yes/No (& date)

16) Is there a nutritional assessment upon admission

Yes/No (& date)

17) Was the Waterlow score completed on admission?.

Yes/No(& date)

Falls data

1) Are bed rails in position?.

Yes/No

Describe type

Is there evidence of consent/ consultation in patient's notes?

Yes/No

Is there evidence of discussion with relatives/carer in patient's notes?.

Yes/No

Is there evidence of specific clinical decision in patient's notes?.

Yes/No

2) Mattress in use:

Softform/foam Air Mattress (Specify type).....

Low profiling bed

Electric bed

Standard Hospital bed

Mattress on floor

Patient sleeping in chair (Specify type & pressure relieving properties).....

3) Are bed tables or furniture hindering patient's movements?.

Yes/No

(Specify).....

4) Is there open access to the ward?.

Yes/No

5) Is specialised equipment being used or is patient being escorted?

Yes/No

(Specify).....

6) Is the patient dressed in day clothes?.

Yes/No

Is the patient wearing: Shoes () Slippers () Nothing () (state
if in bed)

7) Mental state of the patient as described in documentation or by
clinicians.....

8) Evidence of sedation

Yes/No

(Detail).....

Is there evidence of consent/ consultation in patient's notes?

Yes/No

Is there evidence of discussion with relatives/carer in patient's notes?.

Yes/No

Is there evidence of specific clinical decision in patient's notes?.

Yes/No

9) Is there an accessible call bell?.

Yes/No

10) Is there an accessible drink?.

Yes/No

Environmental audit tool

- 1) Are there signs in the ward area that conform to dementia friendly guidelines (large print, pictorial, lower height, highly contrasting colours)? Yes/No

Specify.....

- 2) Is there evidence that environmental cues are used (large print names in personal spaces, use of colour to create points of reference, clocks in bed spaces, etc).

Yes/No

Specify.....

- 3) Does flooring conform to dementia friendly guidelines? Yes/No

Specify.....

- 4) Is music/ aromatherapy/ lighting used to assist orientation

Yes/No

Describe.....

- 5) Are familiar objects or tapes/letters from family used to assist orientation?.

Yes/No

Describe.....

- 6) Is there any other evidence of dementia friendly design?

Yes/No

Specify.....

7) What are the staffing ratios on the ward?

Specify.....

8) Are there any displayed dementia friendly mission statements, policies or posters on the ward?. Yes/No

Specify.....

7) Are there any emails that overtly support a dementia friendly approach that have been sent in the same month that the audit is being undertaken?

Yes/No

Specify.....

8) Is the 'all about me' or similar document in use on the ward?

Yes/No

Staff interview sheet

Ward

Grade of staff

How long have you worked in this area of care? (detail how many years' experience, newly qualified, etc.)

- 1) Have you been provided with any training or written guidelines to help you care for people who have dementia
Specify.....

- 2) How would you describe the nurses role in the care of older people?.

.....

- 3) Do you feel that you are able to give good care on this ward?.

Yes/No

why.....

4) What would help you achieve better care here?

.....

Consent forms and information sheets



Centre Number:

Study Number: IRAS number ID 228821

Participant Identification Number for this study: 17/WM/0400



CONSULTEE DECLARATION FORM

Title of Project: The effect of the environment on the care of older people with confusion or other forms of cognitive impairment in acute general hospital settings

Name of Researcher: Bernie Keenan

Please initial box

I [name of consultee] have been consulted about _____'s
participation in this research project. I have had the opportunity to ask questions
about the study and understand what is involved.

In my opinion he/she would have no objection to taking part in the above study.

I understand that I can request he/she is withdrawn from the study at any time, without giving any reason and without his/her care or legal rights being affected.

I understand that relevant sections of his/her care record, medical notes, prescription charts and data collected during the study may be looked at by responsible individuals from University Hospitals Birmingham NHS Foundation Trust and the University of Stirling, where it is relevant to their taking part in this research.

_____	_____	_____

Name of Consultee	Date	Signature

Relationship to participant:

_____	_____	_____

Person undertaking consultation (if different from researcher):

_____	_____	_____
Name	Date	Signature

_____	_____	_____

Researcher	Signature	Date

When completed: 1 (original) to be kept in care record, 1 for consultee; 1 for researcher site file

Research Project Title: The effect of the environment on the care of older people with confusion or other forms of cognitive impairment in acute general hospital settings

I.R.A.S. number: id 228821

Study number; 17/WM/0400

Information for Consultee

Version2....., Date ...20.12.17.....

I

Introduction

We feel your
for
participate in   relative/friend is unable to decide
himself/herself whether to
this research.

To help decide if he/she should join the study, we'd like to ask your opinion whether or not they would want to be involved. We'd ask you to consider what you know of their wishes and feelings, and to consider their interests. Please let us know of any advance decisions they may have made about participating in research. These should take precedence.

If you decide your relative/friend would have no objection to taking part we will ask you to read and sign the consultee declaration on the last page of this information leaflet. We'll then give you a copy to keep. We will keep you fully informed during the study so you can let us know if you have any concerns or you think your relative/friend should be withdrawn.

If you decide that your friend/relative would not wish to take part it will not affect the standard of care they receive in any way.

If you are unsure about taking the role of consultee you may seek independent advice.

We will understand if you do not want to take on this responsibility.

The following information is the same as would have been provided to your relative/friend.

Relative/carer information sheet

This leaflet is about a study being carried out by Bernie Keenan for her Doctorate Research at Stirling University. Bernie has a nursing background and has a particular interest in the care and wellbeing of older people.



Bernie is interested in the experiences of patients who have memory loss or confusion. The nurses on the ward will be leaving leaflets for relatives and visitors of people who are currently patients to find out if the person you come to visit would like to take part in Bernie's research and how you feel about that.

This study may not be of direct benefit to your relative or friend but may benefit patients in future by helping other researchers to understand how the ward environment can affect people who are confused for any reason and how we can make them feel more comfortable.

If you agree to take part in the study Bernie will observe patients in their bed space and look at the equipment they are

provided and their documentation: including patient notes, care plans and prescription charts. This will take approximately 30 minutes and will not involve any interactions with them besides introducing herself and checking that they are comfortable for her to observe them.

This will only take place with their knowledge and consent or the knowledge and consent of somebody who would be considered suitable to speak on their behalf. This study has been reviewed by the Coventry and Warwickshire Research Ethics Committee and will adhere to their high standards of research conduct.

When the study is over Bernie will write a report. She will circulate a short copy of this report via the Patient's Council group at the Hospital. The person you come to visit's name will not be used in the report, this will help to make sure that information about them is kept private. Once patient details have been transferred into an anonymised form then they will be destroyed, however if you wish to receive a copy of the report then your name and contact details will be kept until this has been sent and only destroyed at that point.



If you would like to ask any questions you can phone Bernie on 0121-3316167 or the nurses on the ward can arrange for

you to meet her, or you can email her;

Bernie.Keenan@bcu.ac.uk.

Her academic supervisor is Louise McCabe who can be contacted if required via email at louise.mccabe@stir.ac.uk. Or by telephone on; 01786466317

For further assistance you can contact the PALS team within the Trust by telephone on; 0121 3713280 or by email at; PALS@uhb.nhs.uk



IRAS ID: 228821

Centre Number:

Study Number:

Participant Identification Number for this trial: 17/WM/0400

CONSENT FORM Title of Project: **The effect of the environment on older people with confusion and other forms of cognitive impairment in acute general hospital settings**

Name of Researcher: Bernie Keenan

Please initial box

1. I confirm that I have read the information sheet dated, 20.12.17 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
 2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.
 3. I understand that relevant sections of my medical notes, care plans, prescription charts and data collected during the study, may be looked at by the researcher or individuals from The University of Stirling, or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.
-

4. I agree to take part in the above study.



Name of Participant

Date

Signature

Name of Person
taking consent

Date

Signature

Research Project Title: The effect of the environment on the care of older people with confusion or other forms of cognitive impairment in acute general hospital settings

I.R.A.S. number: id 228821

Study number; 17/WM/0400

Information for Consultee

Version2....., Date ...20.12.17.....



Participant information

sheet

This leaflet is about a study being carried out by Bernie Keenan for her Doctorate Research at Stirling University. Bernie has a nursing background and has a particular interest in the care and wellbeing of older people.



Bernie is interested in the experiences of patients who have memory loss or confusion. The nurses on the ward will be leaving leaflets for relatives and visitors of people who are currently patients to find out if they would like to take part in Bernie's research.

This study may not be of direct benefit to you but may benefit people in future by helping other researchers to understand how the ward environment can affect people who are confused for any reason and how we can make them feel more comfortable.

If you agree to take part in the study Bernie will observe you in your bed space and look at the equipment you are provided and your documentation; including notes, care plans and prescription charts. This will take approximately 30 minutes and will not involve any interactions with you besides introducing herself and checking that you are comfortable for her to observe you.

This will only take place with your knowledge and consent or the knowledge and consent of somebody who would be considered suitable to speak on your behalf. This study has been reviewed by the Coventry and Warwickshire Research Ethics Committee and will adhere to their high standards of research conduct.

If during the study any poor practice is seen or disclosed then the ward manager will be informed and the Trust disciplinary and safeguarding procedures will be followed.

When the study is over Bernie will write a report. She will circulate a short copy of this report via the Patient's Council

group at the Hospital. Your name will not be used in the report. This will help to make sure that information about you is kept private. Once details have been transferred into an anonymised form then they will be destroyed, however if you wish to receive a copy of the report then your name and contact details will be kept until this has been sent and only destroyed at that point.



If you would like to ask any questions you can phone Bernie on 0121-3316167 or the nurses on the ward can arrange for you to meet her, or you can email her; Bernie.Keenan@bcu.ac.uk.

Her academic supervisor is Louise McCabe who can be contacted if required via email at louise.mccabe@stir.ac.uk. Or by telephone on; 01786466317

For further assistance you can contact the PALS team within the Trust by telephone on; 0121 3713280 or by email at; PALS@uhb.nhs.uk

Participant Consent Form

Study Number IRAS number ID 228821 Participant number 17/WM/0400

Research Project Title: The effect of the environment on the care of older people with confusion or other forms of cognitive impairment in acute general hospital settings

Please initial box	
I confirm that I have read and understood the information sheet dated [20/12/2017] explaining the above research project and I have had the opportunity to ask questions about the project	
I understand that my participation is voluntary and that I am free to withdraw [provide timeframe] without giving a reason, and without any penalty.	
I understand that my responses will be kept strictly confidential and I give permission for members of the research team to have access to my anonymised responses.	
I consent to being audio recorded (optional)	
I understand how the transcribed audio recordings will be used in research outputs	
I give permission to be quoted anonymously in the research publication	
I have had the opportunity to ask questions and discuss the study	
I agree to take part in this study	
I agree that the anonymised data can be used for monitoring and audit purposes	

Name of Participant

Signature:

Date: [Click here to enter a date](#)

Name of Researcher

Signature:

Date: [Click here to enter a date](#)

**The effect of the environment on older people with
confusion and other forms of cognitive impairment in
acute general hospital settings**

Information sheet-staff



My name is Bernie Keenan and I am a part-time student working on a Professional Doctorate in Applied Social Research with the University of Stirling. After a long career as a nurse I now work as a Senior Lecturer at Birmingham City University, helping to train student nurses. I am also an executive member and trustee of the West Midlands Institute of Ageing & Health, a charitable organisation that seeks to improve the health and well-being of older people. I am particularly interested in the care of older people in the hospital setting, which has led to this research.

Before you decide whether or not you wish to participate, I need to be sure that you understand what I am doing, why I am doing it and what it would involve if you agreed to participate. I am therefore providing you with the following information. Read it carefully and be sure to ask any

questions you have. I will do my best to explain and provide any further information you may need.



Participation in this project is entirely voluntary and you are free to refuse to take part or withdraw from the project at any time without having to give a reason. Any refusal will not affect your employment in any way.

As part of my studies I am seeking to understand the impact of the physical environment in wards at this hospital, and how this affects the type of care given. This involves observing patients and looking at their documentation and equipment, the observations will last approximately 30 minutes. I will also be interviewing nursing staff to get their views.

Your session will be tape recorded, with your agreement. If you do not want your interview to be tape recorded then if you will allow me to take notes as an alternative that would be adequate. The confidentiality of recorded material, notes and transcripts from them will be ensured by removing names, identifying titles or characteristics. Any quotes used will be anonymised. I alone will be doing the transcribing and will ensure that any identifying material is not disclosed. You will be given the opportunity to check the details entered into the final report.

If you decide, during the meeting that you are not comfortable with the tape recording or note taking, you can ask me to stop at any time and this meeting transcript or notes will not be used for my project.

To ensure safety of the data, once the recordings are transcribed, the paper transcriptions will be coded by a unique number and the audio recordings will be deleted. All paper transcriptions will be stored in a locked filing cabinet to which only I have access, then destroyed after 10years. All hand written material will be archived on NHS premises.

The interview would be conducted at a place that is convenient to you. This could be done by telephone if that is easier. The interview will last approximately 40 minutes.

All the interviews will be coded, analysed and written up as part of my project in conjunction with my Doctorate in Applied Social Research Thesis. I will ensure you cannot be identified in any of the material that is written up.

Thank you for taking time to read this information about the interviews and for considering taking part in this project.



For any further queries please contact me on 0121-3316167 or;
Bernie.Keenan@bcu.ac.uk or my supervisors are;
Dr Louise McCabe, Senior Lecturer in Dementia Studies, School of Applied Social Science, University of Stirling, Stirling, FK9 4LA Telephone 01786 466317, e-mail ; louise.mccabe@stir.ac.uk
Dr Susan Alexander, Faculty of Social Science, University of Stirling, Stirling, FK9 4LA Telephone 01786 466444, e-mail; susan.alexander@stir.ac.uk

Appendix B

Full results of P.I.E. data analysis

```
Call:
glm(formula = p ~ 1 + DF + factor(Year), family = "binomial",
     data = df, weights = X__1)

Deviance Residuals:
    1     2     3     4     5     6
0.8715  1.8959  0.8682 -0.7935 -1.9245 -0.6814

Coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept)  -0.01384    0.23112  -0.060    0.952
DF             2.17435    0.25668   8.471 <2e-16 ***
factor(Year)2018 -0.21829    0.25764  -0.847    0.397
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 89.1066 on 5 degrees of freedom
Residual deviance: 9.9052 on 3 degrees of freedom
AIC: 40.248

Number of Fisher Scoring iterations: 4
```

Null results

**Chi-square results
Type of ward and age of patient**

Case Processing Summary

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * environment	180	100.0%	0	0.0%	180	100.0%

Age * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
Age	65-69 years	4	9	13
	70-79 years	31	12	43
	80-89 years	62	23	85
	90+years	23	16	39
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	10.653 ^a	3	.014
N of Valid Cases	180		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 4.33.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.243	.014
	Cramer's V	.243	.014
N of Valid Cases		180	

Type of ward and Charlson score

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
charlson * environment	180	100.0%	0	0.0%	180	100.0%

charlson * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
charlson	score below 6	64	32	96
	score 6 and above	56	28	84
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	.000 ^a	1	1.000		
N of Valid Cases	180				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.00.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.000	1.000
	Cramer's V	.000	1.000
N of Valid Cases		180	

Type of ward and evidence of regular review of care plan

evidence * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
evidence	evidence of regular review	117	52	169
	no evidence of regular review	3	7	10
	3.00	0	1	1
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)

Pearson Chi-Square	8.550 ^a	2	.014
N of Valid Cases	180		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .33.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.218	.014
	Cramer's V	.218	.014
N of Valid Cases		180	

Type of ward and evidence of regular multi-disciplinary review of patient

MDT review * environment Cross tabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
MDTreview	evidence of regular MDT review in notes	120	60	180
Total		120	60	180

Chi-Square Tests

	Value
Pearson Chi-Square	. ^a
N of Valid Cases	180

a. No statistics are computed because MDTreview is a constant.

Symmetric Measures

		Value
Nominal by Nominal	Phi	. ^a
N of Valid Cases		180

a. No statistics are computed because MDTreview is a constant.

Type of ward and referral to specialist services

referrals * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
referrals	dignity in care team	1	2	3
	psychiatric liaison/RAID team	2	3	5
	discharge liaison team	2	0	2
	other psychiatric services	4	2	6
	none	111	53	164
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	4.176 ^a	4	.383
N of Valid Cases	180		

a. 8 cells (80.0%) have expected count less than 5. The minimum expected count is .67.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.152	.383

Cramer's V	.152	.383
N of Valid Cases	180	

Type of ward and evidence of weekly medical team contact

teamcontact * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
teamcontact	evidence of weekly team contact	120	60	180
Total		120	60	180

Chi-Square Tests

	Value
Pearson Chi-Square	. ^a
N of Valid Cases	180

a. No statistics are computed
because team contact is a constant.

Symmetric Measures

	Value
Nominal by Nominal Phi	. ^a
N of Valid Cases	180

a. No statistics are computed because team
contact is a constant.

Type of ward and completion of communication assessment on admission

communicationassessment * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
communicationassessment	evidence of communication assessment on admission	120	59	179
	no evidence of communication assessment on admission	0	1	1
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	2.011 ^a	1	.156		
N of Valid Cases	180				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .33.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.106	.156
	Cramer's V	.106	.156
N of Valid Cases		180	

Type of ward and completion of mobility assessment on admission

mobilityassessment * environment Crosstabulation

Count

environment | Total

		ward has 'dementia friendly' environment	not 'dementia friendly'	
mobilityassessment	mobility/manual handling assessment on admission	119	56	175
	not done on admission	1	4	5
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	5.040 ^a	1	.025		
N of Valid Cases	180				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.67.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.167	.025
	Cramer's V	.167	.025
N of Valid Cases		180	

Type of ward and completion of social assessment upon admission

socialassessment * environment Crosstabulation

Count

		environment		Total
		environment	not 'dementia friendly'	
ward has 'dementia friendly' environment				

socialassessment	social assessment completed on admission	117	57	174
	not completed	3	3	6
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.776 ^a	1	.378		
N of Valid Cases	180				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.00.

b. Computed only for a 2x2 table

Symmetric Measures

	Value	Approximate Significance
Nominal by Nominal		
Phi	.066	.378
Cramer's V	.066	.378
N of Valid Cases	180	

Nutritional assessment upon admission

nutrition * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
nutrition	nutritional assessment upon admission	115	52	167
	not completed on admission	5	8	13
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	5.016 ^a	1	.025		
N of Valid Cases	180				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.33.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.167	.025
	Cramer's V	.167	.025
N of Valid Cases		180	

Type of ward and completion of Waterlow score on admission

waterlow * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
waterlow	waterlow assessment completed upon admission	116	56	172
	not completed	4	4	8
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
--	-------	----	--	--------------------------	--------------------------

Pearson Chi-Square	1.047 ^a	1	.306	
N of Valid Cases	180			

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.67.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.076	.306
	Cramer's V	.076	.306
N of Valid Cases		180	

Type of ward and type of mattress in use

mattress * environment Crosstabulation

Count

		environment		Total
		ward has 'dementia friendly' environment	not 'dementia friendly'	
mattress	air mattress in use	18	19	37
	standard mattress	102	41	143
Total		120	60	180

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.804 ^a	1	.009		
N of Valid Cases	180				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.33.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	-.194	.009
	Cramer's V	.194	.009
N of Valid Cases		180	

Falls- Poisson regression

Call:
`glm(formula = Falls ~ offset(log(`Bed days`)) + DF, family = "poisson", data = falls_df)`

Deviance Residuals:

Min	1Q	Median	3Q	Max
-1.9406	-0.9346	-0.2090	0.5990	2.0188

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-5.1264	0.1601	-32.01	<2e-16 ***
DF	0.3798	0.1938	1.96	0.05 *

 Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for poisson family taken to be 1)

Null deviance: 27.280 on 17 degrees of freedom
 Residual deviance: 23.275 on 16 degrees of freedom
 AIC: 93.554

Number of Fisher Scoring iterations: 4

Appendix C

Patient experience survey

Inpatient and Day Case - Patient Experience Survey

We aim to provide the best care and service to our patients and your views will enable us to improve the quality of care we offer. All information from this survey will be gathered anonymously, treated confidentially and will not affect your ongoing treatment in anyway.

Thank you for taking the time to give us your feedback

Ward discharged from Speciality (if known)

.....

1. How likely are you to recommend our ward to friends and family if they needed similar care or treatment?

- | | | |
|---|---|--|
| <input type="checkbox"/> Extremely likely | <input type="checkbox"/> Likely | <input type="checkbox"/> Neither likely nor unlikely |
| <input type="checkbox"/> Unlikely | <input type="checkbox"/> Extremely unlikely | <input type="checkbox"/> Don't know |

2. What would have made your visit better?

Please tick this box if you DO NOT wish your comments to be made public

3. Are you leaving this hospital today? If you are transferring to another hospital, going home or to a care home or to stay with relatives/friends (today) please answer YES

- Yes No

4. Did hospital staff ask who you were happy for them to share your information with e.g. partner, family members, carers?

- | | |
|--|--|
| <input type="checkbox"/> Yes, and they respected my wishes | <input type="checkbox"/> No, they did not ask me |
| <input type="checkbox"/> Yes, but they did not respect my wishes | <input type="checkbox"/> Don't know/can't remember |

5. Was this information reviewed regularly during your stay?

- Yes No Don't know/can't remember

6. When you were treated at the hospital, did you feel that information about your care was shared clearly and accurately between health and social care professionals?

- Yes, definitely Yes, to some extent No
 Social care professionals were not involved in my care Don't know/can't remember

7. During your time in hospital did you feel well looked after by hospital staff?

- Yes, always Yes, sometimes No

Please provide further details

8. Have you been bothered by noise at night? (tick all that apply)

- Yes, from staff Yes, from other patients No I have not been in hospital overnight

9. Did you have confidence and trust in the nurses treating you?

- Yes, always Yes, sometimes No

Please provide further details

10. Sometimes in hospital a member of staff says one thing and another says something quite different. Has this happened to you?

- Yes, often Yes, sometimes No, never

Please provide further details

11. Have you been involved as much as you wanted to be in decisions about your care and treatment?

- Yes, always Yes, sometimes No

Please provide further details

12. Were you given enough privacy when discussing your care and treatment? (please complete both parts)

a) Single room

- Yes, always
 Yes, sometimes
 No
 I have not been in a single room

b) Shared bay

- Yes, always
 Yes, sometimes
 No
 I have not been in a shared bay

13. Do you think that hospital staff do all they can to help control your pain?

- Yes, definitely Yes, to some extent No I have no pain

14. Do you feel you got enough emotional support from hospital staff during your stay?

- Yes, always Yes, sometimes No I did not need any emotional support

15. Did you find someone on the hospital staff to talk to about your worries and fears?

- Yes, definitely Yes, to some extent No I didn't need to

16. If you needed attention, were you able to get a member of staff to help you within a reasonable time?

- Yes, always Yes, sometimes No I did not want/need this

17. How would you rate the hospital food?

- Very good Good Fair Poor I did not have any hospital food

18. If you needed help to eat your meals, who helped you?

I did not need help to eat meals (go to Q20) I did not receive the help I needed (go to Q20)

Hospital staff Relative/carer Hospital volunteer

19. Did you get enough help?

Yes, always Yes, sometimes No

20. Overall, do you feel you have been treated with dignity and respect while you have been a patient?

Yes, always Yes, sometimes No

About you

21. Who has answered the questions on this survey?

The patient Carer (on behalf of the patient) Volunteer (on behalf of the patient)
 Family member/friend (on behalf of the patient) Staff member (on behalf of the patient) Interpreter (on behalf of the patient)

22. Are you receiving treatment as?

An NHS patient A private patient An overseas patient Don't know

23. Which of the following best describes your gender?

Male Female Prefer not to say
 Prefer to self-describe

24. Do you identify as transgender?

Yes No Prefer not to say

25. What is your sexual orientation?

Bi Gay man Gay woman/lesbian
 Heterosexual/straight Prefer not to say Prefer to self-describe
.....

26. What is your age group?

0 – 15 years 16 – 17 years 18 – 24 years 25 – 49 years
 50 – 64 years 65 – 74 years 75 – 84 years 85 years and over

27. Do you have any of the following longstanding conditions? (Please select all that apply)

Deafness or severe hearing impairment Blindness or partial sighted

- A long standing physical condition
- A mental health condition
- No, I do not have a longstanding condition
- A learning disability
- A long standing illness
- Prefer not to say

28. To which of these ethnic groups would you say you belong to?

White

- White British
- Irish
- Gypsy or Irish Traveller
- Other white

Asian/Asian British

- Indian
- Pakistani
- Bangladeshi
- Chinese
- Other Asian

Other ethnic group

- Arab
- Any other ethnic group

Mixed/multiple ethnic groups

- White and Black Caribbean
- White and Asian
- White and Black African
- Other mixed

Black/African/Caribbean/Black time to complete this survey.

Please return to a member of staff or post in the box on reception.

British

- African
- Caribbean
- Other black

Thank you for taking the time to complete this survey

Staff Interview Codes

Tree: Preparedness for care

Node: Dignity in care study day = 19

Node: Mandatory on-line dementia training = 5

Node: Provided with written guidelines = 1

Node; No training or guidelines = 5

Tree: How I care

Node: Task orientated=6

Node: dignity & respect= 11

Node: involving the person/family in care=4

Node: empathy=5

Node: autonomy=5

Node: enablement=11

Tree: Being able to care

Node:Understanding/accepting the nature of dementia=10

Node: Appropriate environment=4

Tree: Challenges I face in my work

Node: Impact of behaviour =5

Node: Mix of patients=2

Node: Staffing linked to poor care=4

Node: Pressure for throughput = 3

Node: Unprepared/ need more support = 6

Node: Aspirational= 5

Tree: ward environment

Node: Negative = 11

Node: Positive = 5

Tree: Length of employment on ward

Node: Less than a year = 1

Node: 1-2 years = 8

Node: 2-5 years = 9

Node: Over 5 years = 12

Appendix D

Research timetable

Year 1			
Dates	Work to be completed	Constraints	Plan for resolution
December 2016-May 2017	Research proposal prepared for University ethics committee	Working full time during this period	Use annual leave and agreed study leave (2 days per month)
May-September 2017	Submission and revisions to Stirling NICR Ethics Committee	'Had 3 surgical procedures on my eyes during this period which posed practical difficulties	Applied for 60 hrs sabbatical leave to complete data collection. Additional application made to employing University for continued study leave and support to complete PHd.
September 2017	Formal approval given by Stirling NICR Ethics Committee	Working full time during this period	Informed that successful in application for sabbatical leave. Also informed of continued employing University support for PHd with an additional 2 days per month study leave for the final year of PHd.
September 2017-December 2017	Application and revisions	Protocol document had to be	Had to seek advice and obtain a

	to NHS Ethics	submitted with IRAS form, this was an unknown quantity which took lengthy preparation. Presentation prepared for viva with NHS Ethics local committee	template from a University research department colleague locally in order to complete the protocol as this is not a requirement in Scotland
December 2017	Formal approval given by NHS Ethics local committee		
December 2017	Commenced application to Trust Research Governance for formal approval for research to take place	New forms had to be completed, many of which had to be signed by more than one member of UHBT clinical staff which made the process more complex and time consuming	
Year 2			
January 2018-June 2018	Sent additional HRA forms to complete. Also sent additional Trust forms to complete. After many delays I was asked to complete a	Still working full time at this period Not allowed to present	Taking the full allotment of PhD study leave but lost the 60 hours sabbatical leave as could not complete the data collection by the end of June. Had to

	power point presentation to be presented to the Research Governance Committee.	unless Trust Principle Investigator present which he cannot be.	complete an on-line training in order to complete cost distribution elements of HRA forms
June 2018	Received official approval for the research from UHBT	Introductions and access arrangements to ward areas took longer than anticipated due to annual leave arrangements on the part of the Principal Investigator and the Senior Nurse supervising research in the clinical areas	
July 2018-December 2018	Data collection of case note and observational data in dementia friendly wards	Ward configurations have recently changed	New configurations of wards for sample population required
October 2018	Staff interviews commenced	Difficulties surrounding staff time to be interviewed	Have to coordinate own work commitments around the staff timetables. 'Walking interview' methodology incorporated in

			response to this
November 2018 – May 2019	Data collection to be completed	Full sample population may not be reached	Still working full time
June 2019-August 2019	Analysis of data to be completed	NVivo & SPSS training has already been completed but may require updates for help with queries	Applying for extension to submission