

**The Role of the Registered Nurse
Managing Pro Re Nata (PRN)
Medicines in the Care Home
(Nursing): a Case Study of Decision-
making, Medication Management and
Resident Involvement**

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Abstract

The aim of this study was to analyse the role of the registered nurse in the management of pro re nata (PRN) medication in a care home (nursing) for older people. Studying PRN medication provides insights into the role of the nurse in care homes (nursing) who act as assessor, decision maker and evaluator in residents' care. It also provides a lens by which to explore how residents and their carers interact and participate in day-to-day care decisions about residents' health.

The case study draws on ethnography. It is a multi-method study, using documentary and medication reviews, observations and interviews to answer the research questions.

Thirty-four residents were recruited to the study and 60 care home staff. Findings showed that 88.2% of residents (n=30) were prescribed PRN medication and that all residents were on a minimum of 1 and a maximum of 7 medication. During each 28-day MAR sheet period between 35 and 44 PRN prescriptions were written. They contributed 12.7% of all medication prescribed, accounting for between 1.2 and 1.5 medication per resident.

Nurses were found to administer PRN medication, but a finding of this study was that this activity could be delegated to carers who were identifying resident needs. There was some evidence of resident engagement but this was often a three-way process between resident, GP and family or resident, carer and nurse. A percentage of medication that could have been PRN were routinely prescribed. Observations also identified that nurses would decide not to administer routine medication in certain circumstances and that this was directly related to their assessment of the resident.

The process of medication management was dominated by the regulations and governance processes of the care home. Observations and interviews found that

care home staff recognised and affirmed residents' pain but did not take action for analgesia to be administered. They were familiar with the use of pain assessment tools for older people living with dementia and had received training in dementia care. Many of the staff were also able to interpret signs and symptoms of a resident's distress. Nevertheless, their preoccupation with meeting internal and external regulator standards was a barrier to addressing residents' needs.

This is the first study that has looked at an aspect of medication management to understand how nurses and care home staff work for and with residents to moderate and address their health care needs. It suggests that additional training in aspects of medication management and resident assessment may not be able to address deeper seated issues of autonomy and how the nursing role is understood and enacted in care home settings.

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Chapter 1 Introduction

Nurses play a crucial role in the care of older people in care homes (nursing). They work in an environment that is, in the public perception a '*last resort*' rather than a positive alternative housing with a care package attached. Little is known about the nursing workforce employed by care homes. They have been characterised as an overlooked professional group who, despite working with some of the frailest and most vulnerable in our society, do not have a defined career pathway or training requirements for working in this setting (Spilsbury, Hanratty, & Dorothy McCaughan, 2015). The role of nurses in long-term care settings and their ability to shape both the care of residents and the education and training of unqualified care workers is not well understood. The registered manager is the leader, seen as the expert in the field with a responsibility to ensure staff are skilled, competent, and knowledgeable (Care Quality Commission, 2010b; Orellana, 2014).

This study arose from a combination of factors. An interest in the role and work of nurses in care homes began from my work as a practice placement facilitator to care homes (September 2004 to February 2006) and adult nursing lecturer (February 2006 to present date). A conversation with the Chief Executive Officer of the Registered Nursing Home Association (RNHA) and a concern that the nursing contribution is largely overlooked and undervalued were the catalyst to develop a study on the nurses' role in the administration of pro re nata (PRN) medication in care homes (nursing).

This chapter introduces the study context and supporting rationale.

1.1. Care Homes (Nursing) Perceptions

In the United Kingdom (UK) care homes (nursing) are portrayed by the media and perceived by the general public as institutions that deliver poor care (Demos,

2014). Residential care is not a positive choice but seen as an end of independence and loss.

Negative press in 2014 included ‘despicable’ Cumbria care home abuse, including sexual abuse (Freeman, 2014), staff suspended or sacked over poor care at a care home in Braintree after Panorama programme identified resident being hit, taunted and handled roughly (A. Holt, 2014), and seven charged over conspiracy to falsely imprison and conspiracy to ill-treat vulnerable adults at a Devon care home (BBC, 2014). These reports are concerning, raising both unprofessional and criminal issues (Nursing and Midwifery Council, 2008a). Alternatively, the Commission on Residential Care (Demos, 2014, p. 20) provides positive examples of how “people can live less restricted, more connected and more fulfilling lives” in ‘houses with care’.

The support and care of an aging population in the UK is perceived as an on-going growing concern for the government, non-government organisations (NGOs), and voluntary groups and services (Commission on Dignity in Care for Older People, 2012). Since the launch of the National Standard Framework for Older People in 2001, numerous campaigns, guidance, and professional and research reports have drawn attention to the care of older people, including those in care homes (British Geriatric Society, 2011; *Care Act 2014*; Department of Health, 2012a; Owen & Meyer, 2012; Spilsbury et al., 2015). Few have considered nursing practice.

Studies often look at one aspect of care home work or life, for example provision of care for dying residents (Kinley et al., 2014). Some studies have focused on care home residents in general, an exemplar being review of data on resident health (Moore & Hanratty, 2013). Other studies have provided a detailed account of how the care home works (Robbins, Gordon, Dyas, Logan, & Gladman, 2013). A better comprehension of health and social care activities in care homes (nursing) and the involvement of residents with dementia is vital to ensure an accurate perspective. Goodman and Davies (2012) state residents with dementia have been overlooked in research and consider inclusion should improve. By focusing on medication, and in particular PRN use in this study, an understanding

can be achieved about interface between qualified and unqualified staff, resident assessments, and residents' involvement in decision-making about their care.

1.2. Ageing Society

The UK population of older people is increasing, with 11 million over the age of 65 in 2013 and three million of these were aged 80 or older (Age UK, 2014b, 2015; Office for National Statistics, 2014a). The number of centenarians in the UK in 2012 was reported to be 13,350 (Age UK, 2014b; Office for National Statistics, 2014c). This is in comparison to an overall UK population of 64 million people (Office for National Statistics, 2014a).

It is predicted that by 2030 the number of people aged 65 and over will increase by 48.7% to over 16 million and the number of people aged 80 and over in the UK is expected to more than double to 6 million by mid-2037 (Office for National Statistics, 2013b).

The fastest growing older age group are those 85 years and over (the oldest old), who at present constitute 2% (n=1.4mn) of the total population compared to 1% (n=0.7mn) in 1981 (Office for National Statistics, 2012c). By 2035 it is predicted that the oldest old will account for 5% of the population, reaching 3.5 million (Office for National Statistics, 2012c).

Male life expectancy is 79.1 years and for females it is 82.9 years (Age UK, 2014b). Despite longevity, 36% of people aged 65-74, 47% aged 75-84, and 69% aged 85 and over have a limiting longstanding condition or illness (n=4mn). By 2030 this will rise to 6 million older people with a disability or long-term limiting illness (Age UK, 2014b).

People with long-term conditions (LTCs) account for “50% of GP appointments, 64% of outpatient appointments and 70% of all inpatient bed days” (Department of Health Long Term Conditions Team, 2012, p. 3). In England approximately 70% of the total health and care spend is attributed to caring for people with LTCs, which means that 30% of the population account for 70% of the spend (Department of Health Long Term Conditions Team, 2012). When considering this in relation to the prevalence of LTCs and longevity of older people an

additional 5 billion spend on health and social care by 2018 could be required (Age UK, 2015).

The most prevalent LTCs across the general UK/English population are hypertension, depression, and asthma, and conditions rising most quickly are cancers, chronic kidney disease, diabetes (The NHS Information Centre, 2011) and dementia (Health & Social Care Information Centre, 2014).

In 2011 approximately 291,000 people over the age of 65 years lived in care homes in England and Wales (Office for National Statistics, 2014b) Of these approximately 172,000 people were over the age of 85 years. It is reported that two thirds of all care home residents have dementia (Department of Health, 2013a). High rates of co-morbidity, frailty and cognitive impairment in older people pose long-term demand on health and social care and have contributed to the early 1990s rise in independent care homes (nursing) for older people and the predicted future increase (Laing and Buisson, 2012; Lievesley, Crosby, & Bowman, 2011). With such a large older population and their higher health concerns, it is important that care is of a good standard and nurses are adequately trained to provide that care (Nursing and Midwifery Council, 2010c; D. Richards, Backhouse, & Venkatasubramanian, 2014).

1.3. Rise and Regulation of Care Homes

There are estimated to be 5,153 nursing homes and 12,525 residential homes in the UK, where 405,000 people aged 65 or over live (Age UK, 2015). In England during 2012/2013 there were 4,664 registered care homes (nursing), representing 17.3% of registered adult social care settings, with 218,678 beds (Care Quality Commission, 2013d). The care home population has remained stable since 2001 despite an 11% growth in this age group (Office for National Statistics, 2014b).

Since 2004, regulation and monitoring of care homes has been conducted by the Commission for Social Care Inspection (CSCI) in accordance with the Health and Social Care (Community Health and Standards) Act 2003. The CSCI, the Health Care Commission and Mental Health Act Commission were directed under the Health and Social Care Act 2008 (Regulated Activities) Regulations 2010 to form a

single regulatory system with effect from April 2009. The new integrated service, the Care Quality Commission (CQC), continues to regulate and inspect providers of adult health and social care as well as monitor the operation of the Mental Health Act 2007 c.12. Health and social care providers must also comply with the Care Quality Commission (Registration) Regulations 2009 (Care Quality Commission, 2010b). In 2013/2014 the CQC (2014) annual report to the government stated that the quality of adult health and social care varied widely with nursing home care poorer than that in care homes without nursing. This 2014 report confirms the continuing importance and need of this study.

1.4. Medication in Care Homes and Use of PRN

The national minimum standard for care homes (nursing) states that medicines should be administered by a medical practitioner or registered nurse (Department of Health, 2002a). Medicine management by nurses in care homes (nursing) is governed by the Department of Health (2001a, 2012d; *Medicines Act 1968 c.67*), directed by the National Institute for Health and Care Excellence (2014b), managed under employer policies, and monitored by the (Care Quality Commission, 2010b). General practitioners (GPs) who attend residents have a key role in the prescribing of medication, maintaining patient records and issuing of prescriptions (National Institute for Health and Care Excellence, 2014b). Pharmacy services offer a range of amenities to care homes (nursing) including prescription management, dispense, deliver, supply of medication administration records and topical medication application charts, auditing and training (Boots, 2015).

The role of the registered nurse in relation to medication management is regulated by the Nursing and Midwifery Council (NMC) (Nursing and Midwifery Council, 2008c). Fitness to practice is examined when behaviour fails to meet the standard expected of a nurse (misconduct), when behaviour is criminal (character issues) or when knowledge, skills or judgement are lacking (lack of competency) (Nursing and Midwifery Council, 2015b). Allegations of maladministration of drugs represent approximately 10% of professional conduct cases each year: 10.4%

2006-07, 9.87% 2007-08, 11.75% 2008-09 and 8.29% 2009-10 (Nursing and Midwifery Council, 2008b, 2009a).

The CQC reported closure of 34 care homes in a twelve month period following regulatory action (Care Quality Commission, 2010a). Their concerns included unsafe medication management. The CQC have also identified that staff lacked guidance on PRN medicine use (Care Quality Commission, 2013d).

Due to poor quality of prescribing and administration, and limited monitoring practices, medication management in care homes (nursing) for older people has been the focus for research (Barber et al., 2009; Barnett et al., 2011; Gallagher, O'Connor, & O'Mahony, 2011; Hughes, Lapane, Watson, & Davies, 2007; C. Ryan et al., 2013).

This study combines a concern about how to improve the quality of medication management in care homes (nursing) with a recognition that very little is known about the process of medication administration and what this might reveal about how nurses interpret their role, what shapes their decision-making and the competing agendas that influence their ability to provide good care.

By focusing on routine and PRN medication prescribing, it is possible to examine in detail the role of the registered nurse, what factors act as facilitators or inhibitors in medication management, and the involvement of unqualified staff and residents, particularly those with limited cognitive capacity, in the process.

1.5. Submission Outline

The population of older people in the UK is increasing, particularly those regarded as the oldest old. This has political and economic consequences for health and social care. The demographic change associated with longevity and frailty has fostered the rise in care home numbers. Despite legislative regulation and monitoring, care homes have been associated since the 1950s with poor care, including abuse of residents (Townsend, 1962). A recurrent issue is medication management and associated concerns around polypharmacy, errors in dispensing and misuse of medication for the sedation and control of residents. A small number of registered nurses are reported to the NMC for maladministration of

medicines annually. In care homes (nursing) medication management is the responsibility of the registered nurse. This knowledge has motivated the submission presented.

The submission is organised as follows:

Chapter 2 presents an account of care home (nursing) facilities in the UK, including further details of legislation and regulation. Demographic information and characteristics of the unique population of residents in care homes (nursing) are reported, and specific features of the workforce, before finally considering medication legislation and medication use by residents. The chapter provides a brief background and sets the context in which research has previously been conducted.

Chapter 3 reports a systematic search undertaken to identify research studies conducted in the United Kingdom (UK), Europe, Australia, and New Zealand that focus on aspects of medication management in care homes (nursing), including PRN medication. These studies addressed medication prescribing, pharmacy review/intervention, medication errors, PRN medication and the involvement of residents in decision-making. Gaps in the literature with regard to the use of PRN medication in the care home, the role of the nurse or the involvement of residents are identified. Finally, the research question and objectives to be address in the study are posed.

Chapter 4 details the methodological approaches used in the ethnographic case study of this submission. The research site was an independent care home (nursing). Recruitment processes of registered nurses and carers and particular challenges that arose regarding residents affected by dementia and lacking mental capacity are discussed. The three phases of data collection; namely documentary review, observations, and interviews, are detailed and justified and the management of data and analytic methods clarified. To conclude the trustworthiness of the study is examined.

Chapter 5 to Chapter 8 present the case study context and findings. Chapter 5 provides an overview of the study site, profiles of the residents, information on

Chapter 1. Introduction

the workforce and the medication services. Chapter 6, Chapter 7 and Chapter 8 report findings from care home (nursing) documentation and residents' nursing notes, observed practice, and registered nurses' and care workers' views respectively. A reflexive account of the researcher's participation is reported.

Chapter 9 draws together the results and discusses how registered nurses manage PRN medicine. In particular it considers what this reveals about how the culture and organisation of a care home (nursing) influences nurses' clinical decision-making, medication management, and the contribution of carers and involvement of older people in their care. New knowledge is identified and limitations of the study are outlined.

Finally, Chapter 10 presents conclusions drawn from the study. The contribution to knowledge is discussed and implications for practice, education, and further research made.

Chapter 2 Background

Prior to 2000, UK care homes were either residential where personal care was offered but external primary care nursing services met nursing needs, nursing where on-site nursing and personal care was provided, or dual registered (Help the Aged, 2007; Netten et al., 2010). Since 2000, ‘care home’ has become a generic term used to describe “*an establishment providing accommodation with nursing or personal care*” (Department of Health, 2003, p. 41). In this study the term care home (nursing) refers to a setting providing long-term care for older people with continuing health and social care needs, with on-site registered nurses.

This chapter reports an overview of care homes (nursing) in England. It provides background information on the ownership and facilities of care home provision, the residents and the workforce employed by the sector. The chapter also provides a brief introduction to medication management in care homes (nursing), considering the current legislation and general medication needs of residents. Medication management is discussed in greater depth in relation to existing research in Chapter 3.

2.1. Care Homes

2.1.1. Facilities

The number of registered care homes (nursing) in England in 2012/2013 was 4,664 with 218,678 beds, which represents 17.3% of adult social care facilities (Care Quality Commission, 2013d). Care homes (nursing) are not homogeneous. They vary in location, type of building, size, ownership, registration with regulatory bodies, residents, funding sources, philosophies of care, and the overall culture. The differences reflect both the history of the sector, its financing, and the need to provide choice to older people and their families when selecting a care home.

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Care homes in England are owned and managed publicly (Local Authorities, NHS Trusts), privately (run by individuals, partnerships, public and private limited companies), and by voluntary/charitable organisations (for example The Leonard Cheshire Foundation, Mencap, Methodist Homes). In 2009, 73% of care homes (residential) were provided by the private (for profit) sector and 19% by the voluntary (not for profit) sector. Eighty-nine percent (n=3,837) of care homes (nursing) were operated by the private sector and only 427 were voluntary (Eborall, Fenton, & Woodrow, 2010). Care home (nursing) premises range from converted properties to purpose built. Size and design vary, with small homes of 10 beds and large homes of more than 100 beds (average 47) (Care Quality Commission, 2014).

Local authorities have a duty to provide care home accommodation for adults who need care and support and fund approximately 44.7% of places (*Care Act 2014*; Care Quality Commission, 2013c). Regional variations exist in funding but most residents in care homes (nursing) or their families pay for part of the cost of their care (Care Quality Commission, 2013c, 2013d). Age UK (2014a) state 9.1% of nursing care is funded by the NHS. 36% of social care is either paid by the resident in full from capital or income, or they make a means-tested contribution that is topped up by the local authority (9.8%) (Age UK, 2014a). In a minority of local authority funded places, top-up is from a charity (0.4%) (Care Quality Commission, 2013c). Funding is a contentious issue that led to the Government's Commission on Funding of Care and Support 2011. The Dilnot Commission proposed a capped threshold of £35,000 for an individual life-time contribution and means-tested support for people with assessable wealth should rise from less than £23,250 to £100,000 (Commission on Funding of Care and Support, 2011; Demos, 2014; Forder & Fernandez, 2012).

NHS primary care and secondary care services are accessed by care homes and are available to residents (Department of Health, 2013b) although differences occur in nursing provision between residents receiving care only or care with nursing (British Geriatric Society, 2011). There are consistent reports that equitable access to NHS provision has been denied (Close et al., 2013; Iliffe et al., 2015; Thorpe &

Martin, 2011) and integrated services are lacking (Gage et al., 2012). Some care homes (nursing) encourage residents to register with a preferred GP practice that is paid a 'retainer' or have a private contract to provide regular surgeries and visits on request (Jacobs, 2003; The National Care Forum, 2013). Non-NHS practitioners may also be involved in residents' care.

Statutory legislation of care homes in the UK is directed by the Care Standards Act 2000 c.14. Health and social care regulation is devolved from the UK government to administrators in each country: the Care Inspectorate Scotland (Healthcare Improvement Scotland regulate the independent health care sector), Care and Social Services Inspectorate Wales (CSSIW), the Regulation and Quality Improvement Authority (RQIA) for Northern Ireland, and the Care Quality Commission (CQC) for England (predecessors The National Care Standards Commission (NCSC) and The Commission for Social Care Inspection (CSCI)).

In England, the CQC inspect and review all adult social care services to ensure they meet government standards of quality and safety (Care Quality Commission, 2012). They protect vulnerable people, including those whose rights are restricted under the Mental Health Act 2007 c.12. All care homes (nursing) must register all regulatory activities in accordance with the National Minimum Standards under Section 23(1) of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2010. This ensures registration of accommodation for persons who require nursing or personal care (Care Quality Commission, 2013a, 2013b). Further regulated activities applicable to care homes for adults over 65 years include dementia, diagnostic and screening procedures, physical disabilities, sensory impairments, and treatment of disease, disorder or injury.

The CQC award ratings to care homes (nursing) of 'inadequate', 'requires improvement', 'good' or 'outstanding' for services provided (safe, effective, caring, responsive, well-led), and publish the inspection reports openly on the Internet. Unannounced inspections can be made by the CQC and when poor care is detected they have the jurisdiction to set conditions in the form of warnings, restrictions, fixed penalty notices, registration suspensions or cancellations, and care provider prosecutions (Care Quality Commission, 2013d). The NCSC, CSCI,

and CQC have consistently highlighted concerns regarding medication management in care homes (nursing) (Care Quality Commission, 2013d; Commission for Social Care Inspection, 2006; National Care Standards Commission, 2004). Medication management in care homes (nursing) is considered later in this chapter.

2.1.2. Residents

The Department of Health (2012a) state that in England there are 380,000 residents in care homes (residential and nursing). Census 2011 data for England and Wales identified people aged 65-74 represented 10.5% of the care home population (residential and nursing), those aged 75-84 represented 30.3%, and people aged 85 and over represented 59.2% (Office for National Statistics, 2014b).

Manthorpe and Martineau (2009) reported that people 85 and over (oldest old) are the main group who consider care home entry and predicted this group may grow to 1.7 million in the UK by 2031, with 670,000 entering care homes. Older people are known to experience long-term medical conditions, immobility, instability, and intellectual impairment that make independent living difficult (Gladman, Donald, Primrose, & Turnbull, 2010).

A gender ratio of 2.8 women for each man aged 65 and over was identified in care home residents (Office for National Statistics, 2014b). This ratio is reflective of people aged 85 and over in the UK population and occurs due to gender differences in life expectancy (Office for National Statistics, 2011).

Older people from ethnic minorities are under-represented in care homes (Froggatt, Davies, & Meyer, 2009). Census 2011 recorded less than 5% of care home (nursing) residents in England and Wales were from black and minority ethnic (BME) groups (Office for National Statistics, 2013a). But BME groups make up over 16% of the population of England, with 8% of people aged 60 and over (Age UK, 2014b). Non-white ethnic groups make up 5% of people aged 65 to 74, 5% of people aged 75 to 84, and 2% of those aged 85 and over (Health & Social Care Information Centre, 2014).

Around 27% of people live in care homes for more than three years (Forder & Fernandez, 2011). The average length of stay in a care home (nursing/residential) is 801 day, with half of residents dying within 462 days (Forder & Fernandez, 2011). A recent publication revealed that 19% of all deaths in England now occur in care homes (Department of Health, 2012c).

The incidence of asthma/COPD, diabetes, dementia, cardiovascular disease (coronary heart disease, heart failure, hypertension) cerebrovascular disease, chronic renal failure, cancer, depression, osteoarthritis, and Parkinson's disease increase with age and are prevalent in care home residents in England and Wales (Gordon, Franklin, Bradshaw, & Logan, 2014; Health & Social Care Information Centre, 2014; Shah, Carey, Harris, DeWilde, & Cook, 2013). Co-morbidities are common in older people (Cornwell, 2012; Falkingham, Evandrou, McGowan, Bell, & Bowes, 2010) with half of those over 65 years having 3 co-existing conditions and a fifth with 5 or more.

The frail disabled residents in care homes and those with dementia (Gordon et al., 2014; Lievesley et al., 2011) increasingly require care services that include long-term care of degenerative conditions, preventative health care, chronic disease management, palliative care, and end of life care (EoLC) (Bowman & Meyer, 2014).

Dementia is the most common diagnosis in care home residents (Gordon et al., 2014). Globally, dementia has become an "*epidemic*" (Prince, Guerchet, & Prina, 2013, p. 2). There are an estimated 44.35 million people worldwide with dementia, which is predicted to reach 75.62 million in 2030 and 135.46 million in 2050 (Prince et al., 2013). Actual rates are unavailable as an official diagnosis is often not made (Bunn, Goodman, Sworn, & Rait, 2012), however any increase in the UK will impact on care home populations. The Global Observatory for Ageing and Alzheimer's Disease International (ADI) predict by 2050 a shift will occur between G8 countries, where rates are due to reduce (32% to 21%) and low and middle income countries, where rates will rise (62% to 71%) due to aging population demographic changes (Prince et al., 2013).

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The term dementia describes a syndrome that is caused by a number of illnesses. The main causes are Alzheimer's disease (62%), vascular dementia (17%), a mix of both these conditions (10%), Lewy bodies (4%), Parkinson's disease (2%), and fronto-temporal dementia (2%) (Lakey, Chandaria, Quince, Kane, & Saunders, 2012). People with dementia experience impairment in processing information, short-term memory loss, using verbal language, and difficulties in social, occupational and self-care activities (Phinney, 2008; Vass, 2014). Dementia has become a focus for the UK government (Department of Health, 2009a; Lea, 2012) who are looking to improve early diagnosis and improve the quality of care for people with the disease (National Institute for Health and Care Excellence, 2012, 2014a).

The Alzheimer's Society (Kane & Terry, 2015; Prince et al., 2014) currently report that dementia affects approximately 850,000 people in the UK, including over 700,000 in England. The number of people in England aged over 65 diagnosed with dementia is more than 300,000 (Kane & Terry, 2015). Of these, 25,000 are from BME groups in England and growth to nearly 50,000 by 2026 and over 172,000 by 2051 is predicted.

It is known that the prevalence of dementia increases with age, in younger age groups (60-79 years) it is associated with living in deprived areas, and rates are higher in women (Rait et al., 2010). A recent UK study by Gordon et al. (2014) identified the prevalence of dementia in care home residents as 62%.

2.1.3. Work Force

In accordance with the Care Quality Commission (Registration) Regulations 2009 each care home must have a registered manager as a condition of registration (*Health and Social Care Act 2008 (Regulated Activities) Regulations 2010*). In care homes with nursing the manager is primarily a registered nurse. Registered nurses make up 25% of the skill-mix during the day and 34% at night and the average nurse to resident ratios have been suggested as 1 registered nurse to 18 residents during the day and 26 residents at night (Royal College of Nursing, 2010).

In England there are 276,000 adult care home (nursing) jobs; the majority of positions are permanent and the workforce is predominantly female (Skills for

Care, 2012, 2013). Workers are of all ages (median 40-44 years), a high proportion work part-time, approximately 75% of staff are involved in direct care and 25% working in independent care homes (nursing) are from black and minority ethnic backgrounds (Eborall et al., 2010).

Many English care homes employ 'overseas' staff, including those who have been resident for many years and those recently migrated (Hussein & Manthorpe, 2012). It is estimated that 20% of the workforce was born outside the UK, but regional variances exist, with up to 68% constituting the London care home (nursing) workforce. A large number speak English as a second language and have diverse cultural backgrounds and experience. The rise in use of migrants as care workers (nurses and carers) in care homes for older people is perceived to have occurred due to difficulties with recruitment and retention of UK trained staff for reasons of low social status, low wage, unsocial hours, and lack of career opportunities (Cangiano & Shutes, 2010; Cangiano, Shutes, Spencer, & Leeson, 2009).

Registered nurses are often those who qualified abroad and have registered with the NMC either from within the EU or are from non-EU/EEA countries and have undertaken an adaptation programme. A positive work ethic and willingness to work shifts and overtime is appreciated by employers but language difficulties, need for additional training, and unacceptance by residents are disadvantages (Cangiano & Shutes, 2010; Walsh & O'Shea, 2010). A number of research studies have examined the relationship between nurse staffing levels in the care home and quality of nursing care to residents but findings are inconclusive (Spilsbury, Hewitt, Stirk, & Bowman, 2011).

Hussein and Manthorpe (2012) reported care workers employed in organisations (including care homes) providing dementia care are less qualified than care workers in other sectors. The National Minimum Care Standards for Care Homes for Older People (Department of Health, 2002b) stipulate that 50% or more of care workers in any one care home should have National Vocational Qualification (NVQ) level 2. Initial difficulties with NVQ trainers and examiners (Eborall et al., 2010) led to care homes not meeting the standard. Adult social care vocational

qualifications (Qualifications and Credit Framework (QCF)) have recently replaced the NVQ and are available as an award or certificate (knowledge and competency) and diploma (professional competency) at a number of levels (Orellana, 2014; Skills for Care, 2014).

To meet the care home demand of the aging population in England an additional 145,000 nurses and care workers will be required by 2032 (D. King, Malley, Wittenberg, Darton, & Comas-Herrera, 2010).

There is an increasing interest in what nurses in care homes do but the literature is sparse for care homes (nursing) in England. Studies conducted in America, Canada and Australia consistently state that higher staffing numbers of registered nurses and higher ratio in the skill-mix relates to better care home (nursing) quality (Dellefield, Castle, McGilton, & Spilsbury, 2015). A positive relationship exists between registered nurses' involvement in decision-making and improved clinical outcomes due to their clinical knowledge, care organisation and professional supervision (Castle & Anderson, 2011). McCloskey, Donovan, Stewart, and Donovan (2015) identified that activities vary across roles and shifts, with registered nurses having the least amount of variability and carers having the most. They also identified that some activities undertaken by the registered nurse could be safely delegated. A study by Harrington et al. (2012) involving 6 countries, including England, established staffing standards, staffing hours, educational preparation and professional credentials for care homes (nursing) are not available.

2.2. Medication Use in UK Care Homes (Nursing)

2.2.1. Medication and Care Home (Nursing) Legislation

United Kingdom medicine legislation arises from the Medicines Act 1968 c.67, government statutory instruments, and The Human Medicines Regulations 2012 (Department of Health, 2012d). Nurses are further governed by the *Nursing and Midwifery Order 2001* and Standards for medicine management (Nursing and Midwifery Council, 2010b). Care home (nursing) practices are governed by the Care Standards Act 2014 and regulatory standards (Department of Health, 2003).

2.2.2. Medication Needs of Residents

The European Union Geriatric Medicine Society (2014) report that older people use more than 30% of prescribed medicines, more than 40% of over-the-counter medicines, and account for up to 60% of pharmaceutical expenditure. They state polypharmacy (5 or more medicines) (Patterson, Hughes, Kerse, Cardwell, & Bradley, 2012) is high with 40% of the older population using 5 or more medicines and 12% using 10 or more. These rates are higher in care home (nursing) residents due to the increased prevalence of co-morbidity (for example heart disease, diabetes and dementia).

Older people who live in care homes (nursing) are considered vulnerable to medication related problems (Barber et al., 2009; Pharmacy and Prescribing Team, 2006). Risks are associated with long-term conditions, polypharmacy, recent hospital discharge, psychiatric needs, and high-risk medicines (requiring monitoring, have wide ranging side effects, or a narrow therapeutic range) (Pharmacy and Prescribing Team, 2006; Task Force on Medicines Partnership and The National Collaborative Medicines Management Services Programme, 2002). Age related pharmacokinetics (absorption, distribution, elimination by the body) and pharmacodynamics (how the medicine works to achieve the expected effect) due to changes in liver and kidney function or disease can affect balance, blood pressure, toxicity, and an increase in side effects (Lawson & Hennefer, 2010). Adverse drug reactions (ADRs) and medication errors are linked to adverse drug events (ADEs) in older people (Tamura, Bell, Inaba, & Masaki, 2012).

It has been identified that residents in nursing homes have little involvement in prescribing decisions or administration of their own medicines (Hughes & Goldie, 2009). This is discussed in more detail in Chapter 3.

2.3. Summary

Registered care homes in England are mostly operated by the independent sector. Health and social care are funded separately but most residents and/or families pay part of the costs. Regulation and monitoring of services are conducted by the Care Quality Commission. The governance and regulation of the care home

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sector shape the organisation and priorities of the workforce and how care is documented and reviewed, including all aspects of medication management.

Care homes (nursing) employ registered nurses but the majority of the workforce are carers. The staff are characteristically female, migrant, less qualified than nurses working in NHS settings, and do not have equivalent pay and conditions of service. The roles that nurses and carers take in the care home (nursing) setting is not clearly understood.

More than half of all care home residents (nursing and residential) are 85 years and over. The residents are frail and affected by co-morbidities, including almost two-thirds with some degree of dementia or other cognitive impairment. Polypharmacy is common among older people, increasing the risk of ADEs due to ADRs. Nursing home residents have few opportunities to influence the prescribing or administration of their medicines.

In the next chapter, details of a systematic search and literature review of research relating to the medication cycle of prescribing, transcribing, dispensing and administration in care homes (nursing) is presented and relevant issues identified. The involvement of the prescriber, pharmacist, nurse and resident in medication management are explored.

Chapter 3 Literature Review

A systematic search strategy was undertaken to identify past research conducted in care homes (nursing) relating to medication management and the use of PRN medicines. The review sought to determine research methodological approaches and methods used, sites and samples recruited, outcomes measured, and findings. The existing knowledge regarding medication processes in care homes, practice issues arising, the roles of practitioners, and resident involvement was used to reveal where limited understanding existed.

This chapter provides a narrative review of the literature relating to prescribing, transcribing, dispensing, and administration of medication. Focus on the use of PRN medication provided a way of understanding how nursing staff interpret their role, their participation with visiting health care professionals, and their involvement of residents and other staff in decision-making. Following the review of the literature, this chapter concludes by presenting the research question and objectives of this study.

3.1. Systematic Search Strategy

A systematic search was undertaken in September 2008 in order to conduct a narrative review of published literature describing primary studies relating to medication management in care homes (nursing) for older people. The search was updated in February 2012 and August 2014.

A preliminary search was conducted using the Internet search engine Google Scholar to assess the volume of potentially relevant studies. This revealed relevant research had been undertaken, identified related search terms (for example medication review, inappropriate prescribing, polypharmacy) and assisted the development of inclusion and exclusion criteria. Criteria included care home

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(nursing), registered nurse and older people. Criteria excluded care home (residential or community), carer and child.

Databases CINAHL, Medline, Open SIGLE/Open Grey, Pubmed, and SCOPUS were searched for literature published between January 2001 and August 2014 written in the English language. The databases include nursing and allied health journals, books, book chapters, dissertations, and selected conference proceedings as well as author(s) references and key authors' publications (Polit & Beck, 2010). A university library catalogue with connections to online databases Embase and ProQuest was used to search English language medicine, nursing, and pharmacy journals. The Cochrane Library of Systematic Reviews was searched and the reference lists of all identified reviews and articles were manually searched for additional primary studies.

Keywords used to search were professional terms known or those identified from relevant studies that covered the central area of interest and population (Table 3.1). The search combined the terms and variations of these.

Truncation, for example nurs*, identified multiple words that shared the same root: nurse, nurses, nursing. Boolean operators (AND, OR, NOT) were used to expand or restrict the search. In PubMed, MeSH terms were used and enabled different terminology for the same concept to be retrieved; For example from keywords ((“Care home (nursing)”[Majr} AND “Pharmaceutical Preparations”[Mesh:NoExp]) AND “Aged”[Mesh]) AND “Aged, 80 and over”[Mesh], 15 hits were identified and of these 10 studies were reviewed by abstract. Four publications were obtained, read and found relevant.

Eligibility criteria specified the explicit characteristics of studies to be included in the literature review (K. Atkinson, Koenka, Sanchez, & Moshontz, 2015). Publications from 2001, the release year of the NSF for Older People (Department of Health, 2001b), to 2014 written in English were selected. Quantitative or qualitative studies conducted in the United Kingdom, Europe, Australia, and New Zealand were included as there are similarities in the social model of care and management of care homes (nursing). The emphasis was for the home to meet the needs of residents aged 65 or over in their 'last home'.

Research assessing prescribing, transcribing, dispensing and/or administration of medication, interventions to improve medication use, resident involvement and PRN medication management by nurses also met the inclusion criteria.

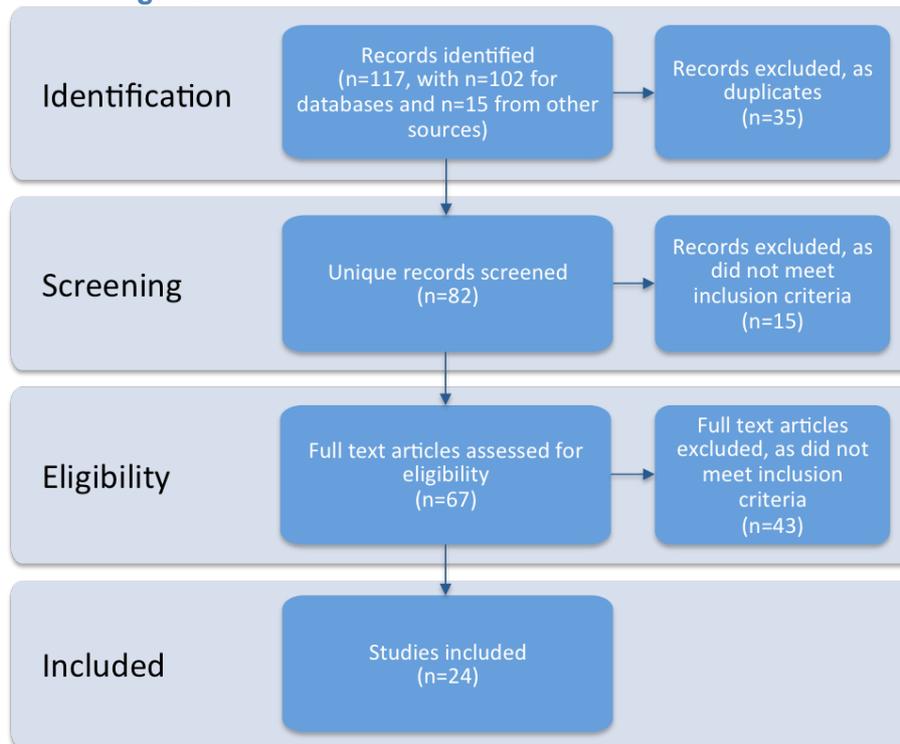
Table 3.1 Search Terms and Variants

Participants	Interventions	Outcome measures	Types of studies
Nurse(s)	Medicine management	Decision(s)	Cohort
Registered nurse	Medicine reviews	Judgement(s)	Case-control
RN	Medication	Reliability	Quantitative
Adult nurse	Prescribing	Consistency	Survey
RMN	Transcribing	Dependability	Questionnaire
Mental health nurses	Dispensing	Value	Case report
Health care assistants	Administering	Usability	Expert opinion
Carers	Pharmaceutical preparations	Efficacy	Intervention
Nursing	Drug(s)	Effectiveness	Non-intervention
Care homes	Polypharmacy	Validity	Qualitative
Older people	Inappropriate drug use	Measure	Observation
Elderly	Pro re nata	Resources	Experimentation
Aged	PRN	Costs/feasibility	Randomised controlled trial
Aged 80 and over	Prescription(s)		RCT
Residents	Repeat prescriptions		Controlled trial
Patients	Treatments		
Service users	Consultations		
General practitioners	Hospital admissions		
GP	Inappropriate drug use		
Pharmacists	Adverse drug events		
Community pharmacists	Drug reactions		
Geriatricians	Medicine related problems		
Prescribers			

Excluded were research studies conducted in countries where care home (nursing) have a convalescent or maternity status or adopt a medical model of care, for example China and North America. Residential, rest and assisted living homes were not considered, nor studies focusing on named medicines or medical conditions.

A total of 24 primary research studies were identified as relevant to the subject being studied, as illustrated in Figure 3.1.

Figure 3.1 Strategic Search



Reference: Moher, Liberati, Tetzlaff, and Altman (2009)

3.2. Review of Included Studies

Research examining medication management in care homes for older people has been undertaken in Australia (Crotty et al., 2004; Nishtala, Hilmer, McLachlan, Hannan, & Chen, 2009; Roberts et al., 2001), Europe, including Norway, Finland, Italy, Belgium (Davidsson, Vibe, Ruths, & Blix, 2011; Hosia-Randell, Muurinen, & Pitkälä, 2008; Ruggiero, Lattanzio, Dell'Aquila, Gasperini, & Cherubini, 2009; Verrue et al., 2012) and Ireland (Patterson, Hughes, Crealey, Cardwell, & Lapane, 2010).

Primary research studies regarding medication management conducted in the UK have considered quality of care (Fahey, Montgomery, Barnes, & Protheroe, 2003), interventions to optimise prescribing in care homes (Alldred et al., 2007; Zermansky et al., 2006), inappropriate prescribing (Barnett et al., 2011), medication errors (Alldred et al., 2011; Barber et al., 2009; Szczepura, Wild, & Nelson, 2011), and aspects of nursing practice (Alldred et al., 2010; Wright, 2002).

The majority of UK studies adopt a quantitative methodology (see Appendix A – Overview of Included Studies from Systematic Search, Table A.1). Most of these

quantitative studies were medication reviews of resident medical notes, nursing records and/or MAR sheets, although some studies included questionnaires, observations, interviews and focus groups.

Only 3 studies considered PRN use. An audit undertaken by Grant et al. (2002) examined number of PRN prescriptions and frequency instructions. A review by Stokes, Purdie, and Roberts (2004) in Australia, which was included as it focused specifically on PRN medication use in nursing homes, identified PRN medication classifications and frequency used. Finally, Alldred et al. (2011) reported PRN medication administration error rates. The 3 studies confirmed PRN medication were prescribed and used in care homes (nursing).

Research involving qualitative methodology and methods are limited. One UK study by Hughes and Goldie (2009) was identified (see Appendix A – Overview of Included Studies from Systematic Search, Table A.2). Seventeen resident and 8 GP participants were interviewed and 9 nurses were involved in focus groups.

The UK studies included have been grouped and are reported according to five identified focal areas: medication prescribing issues, pharmacy interventions, medication administration, resident involvement, and PRN medication. Medication prescribing, reviews, and errors are constituents of medication management that have implications for PRN medication use and nurses' decision-making. UK research studies are primarily considered to increase generalizability to the setting of this research study.

3.2.1. Medication Prescribing and Identified Issues

Medication prescribing to older people in care homes (nursing) is predominantly the role of the GP, with involvement of the multi-professional care-providing team and the resident (Department of Health, 2013b).

Inappropriate medication are those that should be avoided at age 65 or over because they are ineffective or pose unnecessary risk, such as adverse drug reactions, inappropriate drug choice, underuse of beneficial treatments, unnecessary prescribing or excessive use of psychotropic/neuroleptic medicines (Beers, 1997; Gallagher, Barry, & O'Mahony, 2007; Hughes et al., 2007). Tamura,

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Bell, Inaba and Masaki (2012, p. 217) add that potentially inappropriate prescribing (PIP) are when risk outweighs clinical benefits, particularly when there is a safer and more effective alternative. Inappropriate prescribing is explained in three ways (Gallagher et al., 2007). First by the use of medicines that risk adverse drug events (ADEs) when continued for too long, second when used in addition to unnecessary polypharmacy, and third when clinically indicated medicines are underused and not prescribed for ageist reasons.

A body of knowledge exists regarding patterns of prescribing to older people in care homes, prescribing association with unnecessary hospital admissions, and overuse and underuse of medication. These findings are reported in the studies examined below.

Examination of nursing home residents' (n=323) hospital admission records by Bowman, Elford, Dovey, Campbell and Barrowclough (2001) identified fractures (n=17) associated with confusion and sedative (n=12) and antidepressant use (n=6), prescribed individually or combined. The link between medication prescribing and falls resulted in a drive to reduce anti-psychotic/neuroleptic drug use. A cluster randomised trial by Fossey et al. (2006), conducted in nursing homes (n=12) in England, found neuroleptic prescribing reduced significantly in the intervention homes (23.0%) compared with the control homes (42.1%). The study promoted person-centred care for residents with dementia behaviour symptoms in 6 of the care homes (nursing) and evaluated the effectiveness of the 10-month training and weekly support intervention by dementia experts to nursing home staff in reducing neuroleptic prescribing. The promotion of person-centred care and good practice in the management of residents with dementia was recommended (Fossey et al., 2006).

On a larger scale, Grant et al. (2002) undertook a UK NHS funded national sentinel clinical audit of data collected in 1999 from 141 sites (102 hospitals, 24 GP surgeries, 15 nursing homes) and again in 2000 from 76 sites (62 hospitals, 8 general practices, 6 nursing homes) by multi-disciplinary teams. Prescription data of older people, including the nursing home residents, was analysed against prescribing indicators of unnecessary or potentially harmful medication and

evidence based prescribing (Batty et al., 2004; Grant et al., 2002). Prescriptions for regular, PRN and once only (STAT) were examined. The first audit identified 10,700 PRN medication were prescribed with instructions for frequency of administration documented in only 6599 (62%) of cases. PRN medication categories were not identified. Anticoagulants and aspirin associated with atrial fibrillation were underused and benzodiazepines and neuroleptics were prescribed when safer alternatives were available. Feedback on the first audit provided to participant hospitals, GPs, and nursing homes aimed to promote quality prescribing. On reassessment the second audit revealed little change with 10,551 prescriptions PRN and frequency documented on 62% of occasions (Batty et al., 2004; Grant et al., 2002). Prescribing relating specifically to the nursing home sites was not reported. However, the study focused on the importance of medication prescribing to older people in care homes and the need to develop robust criteria to assess the appropriateness of prescribing.

An objective criteria was developed by Osborne et al. (2002; Osborne, Hooper, Swift, & Jackson, 2003) to assess appropriateness of neuroleptic prescribing based on Omnibus Reconciliation Act 1990 (OBRA) guidelines used by nursing homes in America. Data were collected from MAR sheets, nursing and GP notes of 934 residents in 22 nursing homes in a South Thames region. Two hundred and twenty-nine residents were prescribed neuroleptics (notes were available for 225). Of these, only 40 residents (17.8%) receiving neuroleptics received appropriate therapy. The results were similar to those of McGrath and Jackson (1996) involving Glasgow nursing homes. Overall, Osborne et al. (2003) reported 1.5% of residents received no medication, a mean prescription rate of 5.1, of which 4.1 were for regular use. Prescriptions mostly recorded generic or recognised brands (90%), drug sensitivity was identified for 55% of residents and 73% had maximum frequency documented. Twenty-five percent of neuroleptic prescriptions and 19% of paracetamol prescribing had no maximum dose stated, risking inappropriate drug use (IDU). One-fifth (75/397) of residents had an unsafe prescription for paracetamol, a medication commonly administered PRN to relieve pain or a pyrexia. Duplicate prescriptions were also found in small numbers. The study found benzodiazepines were prescribed to 24% of residents

(temazepam 36% and diazepam 24%) and 76% were for routine use, not PRN. Prescribing indications for temazepam are insomnia and diazepam is used in anxiety and/or insomnia (British Medical Association and Royal Pharmaceutical Society, 2014). The British Medical Association and Royal Pharmaceutical Society (2014) recommend short-term intermittent use and therefore PRN prescribing is appropriate. Contraindications were recorded for 76% of users, but only 7% had withdrawal or reduction in dose considered. Antithrombotic therapy was prescribed to 79% of nitrate users, appropriate steroid prescriptions for airway obstruction to 58% of residents, and only 41% of residents with atrial fibrillation received appropriate stroke prophylaxis. Sub-optimal prescribing was the conclusion reached, including medication prescribed PRN. Inappropriate prescribing, considered to increase risks of morbidity and mortality to residents in care homes (nursing) became a focus for further research.

A controlled observational study by Fahey, Montgomery, Barnes and Protheroe (2003) used quality indicators from UK sources to assess prescribing to residents in nursing homes (n=172) and patients living in the community (n=526) in Bristol. Medication prescribed for routine or PRN use were not reported independently. The overuse of inappropriate or unnecessary drugs was reported as well as the underuse of beneficial medicine (pneumococcal vaccines), with care home residents (23%) less likely to receive or be offered pneumococcal vaccinations than the community residents (63%). Data was collected from 3 Bristol GP practices computerised or paper patient records. Prescribing was found inadequate irrespective of residence, but particularly in nursing homes where more residents were prescribed neuroleptic medication (28% compared with 11%) and laxatives (39% compared with 16%). Laxatives should be used PRN for short-term treatment if constipation is diagnosed or is a side-effect of medication being taken (National Prescribing Centre, 2011). Two-fifths of nursing home residents were currently prescribed laxatives (routine or PRN) suggesting constipation was common. The findings raised awareness of prescribing differences in Bristol between the two groups and highlighted the need for a national study.

This was addressed by Shah, Carey, Harris, DeWilde and Cook (2011, 2012b) who analysed prescribing to care home residents (n=10,387) in comparison with community residents (n=403,259) in England and Wales. Primary care data held in The Health Improvement Network (THIN) database provided anonymised patient information of patients aged 65 to 104 years. PRN medication was not reported in the published research. A modified version of the American Beers criteria was used to identify PIP (Beers, 1997). The study identified 3677 (0.91%) patients in the community were prescribed antipsychotics in comparison with 982 (20.8%) in residential homes and 926 (21.7%) in nursing homes (Shah et al., 2011). Overall, 64.5% of antipsychotic prescribing to community patients and 81.2% to care home residents was without a diagnosis of severe mental illness. Shah et al. (2012b) reported residents were more frequently prescribed anticholinergic antihistamines (95%, CI = 2.38 to 3.23), loop diuretics (95%, CI = 1.41 to 1.53) and anticholinergic bladder medication (95%, CI = 1.52 to 1.88). Cardiovascular medication were prescribed less in care homes. Despite a determination to reduce antipsychotic use in people with dementia in England and Wales, due to extra deaths and serious adverse events (Banerjee, 2009), the study identified the practice continues and a persistent depiction of PIP is evident.

The Beers criteria was also used to identify potentially inappropriate medication (PIM) in a 2-year cohort study undertaken by Barnett et al. (2011) involving 65,742 patients living in the community and 4557 residents in care homes in the Tayside area of Scotland (2230 in nursing homes, 1799 in residential care, 528 in dual homes). The study identified residents received twice as many prescriptions and were prescribed a higher number of drug classes. As found by previous studies, prescribing of PIMs was not associated with care homes only. Prescribing of specific PIMs (long acting benzodiazapines, nitrofurantoin, fluoxetine, muscle relaxants, dipyridamole) were higher in nursing homes although other PIMs were lower. The study concluded that the Beers criteria did not apply to the majority of drugs used in the UK and recommended a European-based PIP criteria be researched. In response, a European physiological system-based screening tool (STOPP/START) to identify PIP in older persons' prescriptions and to also identify potential prescribing omissions (PPOs) was formulated by an expert UK

panel and inter-reliability tested (Gallagher, Ryan, Byrne, Kennedy, & O'Mahoney, 2008).

Using the STOPP and START tool, Ryan et al. (2013) obtained an indication of the prevalence of PIP and PPOs for residents (n=313) in 7 Irish nursing homes. Routine and PRN prescribed medication were categorised and reported collectively using the anatomical therapeutic chemical (ATC) code. STOPP identified 329 instances of PIP in 187 (59.8%) residents, with medication for the central nervous system (n=111; 33.7%) and benzodiazepine (n=85; 25.8%) the highest. START identified 199 PPOs in 132 (42.2%) residents. The most common PPOs involved the cardiovascular system (n=114; 57.3%), endocrine system (n=40; 20.1%), musculoskeletal system (n=24; 12.1%), and respiratory system (n=12; 6%).

Potentially inappropriate prescribing of common PRN medication has the potential to harm residents (Batty et al., 2004). Lack of regard to PRN medication in most of the studies suggests they were not considered of significant risk by researchers.

These studies show suboptimal prescribing to older people resident in care homes (nursing) despite it being clearly identified as an issue for many years. PIP of PRN medication, omissions in records, and care home staff training needs are clearly identified in these studies and highlight that this is a suitable exemplar for looking at nursing work.

3.2.2. Pharmacy Interventions and Identified Issues

Transcribing refers to the activity undertaken by a pharmacist in reading a direction to administer written on one form (prescription) to supply or administer and writing it on another (MAR sheet/medication label) (Nursing and Midwifery Council, 2010b). Dispensing is the act of preparing, supplying and distributing a medication in accordance with a written prescription. Details of the studies considered below are contained in Table A.1.

Community pharmaceutical services were identified by Schweizer and Hughes (2001) who undertook a postal survey of all nursing and residential care homes

(n=586) in Northern Ireland. In addition to the supply and delivery of medication, pharmacy services also included advice on correct administration and storage and collection of unused medication. In comparison with residential homes (n=204), dual homes (n=65) (residential and nursing) and nursing homes (n=127) reported higher usage of pharmacy services (advice regarding appropriate formulation, medication records, medicine compliance, adverse drug reaction monitoring, staff training). The study highlighted that care homes were interested in additional staff training, guidelines for missed dosages and home remedy use, and medication reviews to identify adverse drug reactions and polypharmacy interactions (Schweizer & Hughes, 2001). The findings suggest care homes (nursing) staff are reliant on pharmacy services but that they are aware of medication management clinical issues.

Community pharmacists and general practitioners in the UK are now contracted to undertake medication reviews (British Medical Association, 2006; Pharmaceutical Services Negotiating Committee, 2004), which are recommended for older people and those with long-term conditions (Department of Health, 2001a, 2001b, 2005a). Medication review is a structured critical examination with the patient to agree treatments, optimise impact, and minimise medication related problems (Desborough & Twigg, 2014). The research identifies the importance of GP and pharmacist involvement in medication management with care home nurses.

Two randomised controlled trials (RCTs) identified a positive impact of pharmacist medication reviews involving residents (aged ≥ 65) in UK care homes (residential, nursing, dual). The first study, by Zermansky et al. (2006), compared the impact of pharmacist reviews with usual GP care. Six hundred and sixty-one residents from 65 homes in Leeds, UK (residential n=38, nursing n=13, dual n=14) were randomised into two groups (331 intervention, 330 control). Medical and clinical outcomes were measured for 6 months. The number of medication changes (type of medication discontinued and commenced) was significantly greater in the intervention group ($P < 0.0001$) with no overall change in the number prescribed or cost per resident. The number of falls was also reduced

significantly ($P < 0.0001$) per resident (0.8 intervention group, 1.3 control group). Of 747 pharmacist recommendations to GPs, 75.6% were accepted and 76.6% implemented. Further analysis of the data (Alldred et al., 2007) identified more specifically the pharmacist interventions. Six hundred and seventy-two medication related interventions were made, including stopping, changing or starting medication, altering formulation, dose or timing and record mismatches. Seventy-five non-medication interventions made concerned the need for tests to monitor residents' conditions or medicines (Alldred et al., 2007). The research undertaken identified some benefit to pharmacist medication reviews for residents in care homes.

The second RCT focused specifically on psychoactive (anxiolytic, hypnotic, antipsychotic) prescribing for 334 residents in 22 Northern Ireland nursing homes (Patterson et al., 2010). The intervention group ($n=173$) received 12 monthly pharmacist medication reviews using an adapted American model of pharmaceutical care, while the control group ($n=161$) received their usual care. PIP of psychoactive medication at 12 months was significantly lower in the intervention homes (19.5%) than in the control homes (50%; $P < 0.001$). The effect of the intervention on falls was not statistically significant with fewer falls recorded in the control group (186) compared to the intervention group (277) and an increase in both groups compared to the year before (Patterson et al., 2010). Patterson et al. (2011) estimated the mean cost per resident per year was \$4,923 (£3,143.15) for the intervention group and \$5,053 (£3,225.96) for the control group ($P < 0.80$), due particularly to higher GP and hospitalisation costs for the control group.

3.2.3. Medication Administration and Identified Issues

A number of studies to examine the practices of nurse administration of medication to residents in care homes (nursing) have been undertaken in the UK (Alldred et al., 2011; Alldred et al., 2010; Barber et al., 2009; Macdonald, Roberts, & Carpenter, 2004; Szczepura et al., 2011). The aim of the studies (detailed in Table A.1) was to identify the prevalence of potentially inappropriate clinical practice. Addressing, specifically the contribution of the nurse, they identify the

previously studied foci, existing knowledge, and published implications for practice.

Wright (2002) surveyed nurses (n=540) employed in care homes (nursing) regarding tablet or capsule medication administration to residents with swallowing difficulties. Tablets and capsules were difficult to swallow for 15% of residents. A minority of nurses reported these residents spat out medication (5%) or hid them (1%). Nurses stated they hid medication in food (56.5%), omitted the dose (29%), crushed or opened medication (61.4%), or obtained liquid alternatives (87.6%). Unlicensed medication (crushed or opened) were given in more than 80% of the care homes on a weekly basis. Unless nurses ensure prescriber authorization is obtained, recorded and signed, all other options have been considered and advice sought, they are liable.

The prevalence of covert medication administration was the focus of a cross-sectional study by Macdonald, Roberts and Carpenter (2004) among residents (n=445) in nursing homes (n=157) in England. It was found that 21 residents (4.7%) were given covert medication and correct procedures for consent were not addressed with residents with mental capacity. Due to research highlighting inappropriate medication concealment and crushing, standards were set for nurses to address both practices (Nursing and Midwifery Council, 2008a, 2012).

The “Care homes’ use of medicines study”, referred to as CHUMS, (Barber et al., 2009, p. 241) identified errors relating to many aspects of nurses’ medication management. The study aimed to identify the prevalence of medication errors, assess potential harm, and determine underlying causes. They found that 178 (69.5%) residents were affected by one or more errors. Barber et al. (2009) recorded field notes, observations, and interviews in 55 UK care homes (West Yorkshire, Cambridgeshire, London) involving 256 residents. Homes provided dual care (69%), nursing care (9%), or residential care (22%). Errors were identified in prescribing (n=153; 8.3%), monitoring of medicines (n=32; 14.7%), dispensing (n=187; 9.8%), and administration (n=116; 8.4%). Almost half (49.1%) of the administration errors were medication omissions and over one-fifth (21.6%) were incorrect dose. The overall mean potential harm score (0=no

harm, 10=death) was 2.6 (CI 2.5 to 2.7). Contributing factors included resident immobility, dislikes and lack of mental capacity, limited online and computer support, variable GP services, poor knowledge and skills of nursing and care staff, lack of home protocols, and working conditions (Barber et al., 2009).

The MAR sheets, care home records, and GP medical records of a sub-sample of residents recruited to the CHUMS study were examined to determine documented drug sensitivity (Alldred et al., 2010). Recordings of drug sensitivity were 3 (6%), 29 (60%), and 35 (73%), in each type of record respectively. Drug sensitivities on all 3 records simultaneously occurred only twice. Sharing of information between the GP and the dispensing pharmacy that generate the MAR could be resolved by printing sensitivities on prescriptions.

Further analysis of the original data by Alldred et al. (2011) focused specifically on administration errors by formulation. Tablets and capsules in medicine dosage systems (MDS) accounted for 53% of observed administrations. Tablets and capsules not in MDS (29.3%), liquids (11.9%), inhalers (3.8%), and topical, transdermal or injectable formulations (2.1%) were found to have a higher risk of error. Medication administrators (nurses or carers) did not follow instructions for inhaler use in half of cases, measured liquids inaccurately, and used expired eye-drops or omitted doses.

A more recent prospective study by Szczepura, Wild and Nelson (2011) observed 2,289 potential administration errors, affecting 90% of residents at least once. The research was conducted in 13 English care homes (9 residential, 4 nursing) to assess medication administration to residents (n=345). The data was collected via a staff questionnaire and barcode scanning. During the study, 45% of potential administration errors occurred when 4 hourly medication were given too early and other medication were given later or earlier than the prescribed time. Attempting to give medication to the wrong resident, a serious error, exposed half (52%) of the residents to risk. Giving medication on the wrong day, attempting to repeat a dose and giving a discontinued medication were also found. Residential and nursing care homes error incident rates were the same. Staff acknowledged

errors, stating interruptions and work pressures were the reason. Adequate training and level of qualification were not considered relevant.

These findings clearly indicate inappropriate nursing practice affecting medication administration that could put residents at risk. Further research is required to provide a better understanding of the nurses' role in medication management in the care home environment.

3.2.4. Resident Involvement

Shah, Carey, Harris, DeWilde, and Cook (2012a) reported the highest uptake of influenza vaccinations in older people in England and Wales were residents with dementia in care homes and considered informed consent was not a barrier to uptake. To maximize uptake, consent for influenza vaccinations is often not overtly sought with the opt out option of residents or relatives refusing consent being favoured (Hughes, 2008). Hughes (2008, p. 448) refers to "*enforced compliance*" when residents are not able to exercise "*intelligent non-compliance*" because of rigid administration routines, cognitive impairment and/or inability to communicate. This suggests resident and/or relative involvement is an area that requires understanding.

A dearth of literature exists regarding UK care home (nursing) resident involvement in decision-making (concordance) relating to medicines (Tables A1 and A.2). A small qualitative study undertaken by Hughes and Goldie (2009) in Northern Ireland aimed to identify if residents were adherent to medication and their involvement in prescribing and decision-making. The study involved 8 GPs, 17 residents and 9 nurses, representing 9 care homes. GPs and nurses stated the need for control of prescribing and administration processes to ensure safety but acknowledged residents' rights of involvement and environmental disempowerment. Residents accepted this without question and appeared not to want involvement in their own medication. Hughes and Goldie (2009) concluded that residents were passive and subservient to the medical profession, but the next generation of care home residents may demand more autonomy.

3.2.5. PRN Medication Administration in Care Homes

Reported rates of PRN usage are varied and difficult to determine due to the absence of focused research. For example, an RCT conducted in an Australian care home to assess an early psychiatric intervention reported high PRN usage rates (control group=97.4%, intervention group=86.1%) (Kotynia-English, McGowan, & Almeida, 2005). Whereas, a cross-sectional Norwegian study assessing pain treatment in residents of 3 care homes (nursing) identified 20% were given analgesia PRN, although the rate varied dependent on mental capacity (capacity=33%, capacity impaired=27%, dementia=12%) (Nygaard & Jarland, 2005). The study identified residents with dementia were less likely to receive PRN pain relief compared with mentally impaired residents. A significant factor for receiving analgesia was nurses' opinion of pain.

An audit of care home (nursing) documents, conducted by Stokes et al. (2004) for 801 residents in 13 Australian care home (nursing), specifically aimed to identify factors that influence PRN medication use. The study found that 35% of medicines were prescribed PRN. Higher usage was associated with residents with lower care needs, recent hospitalisation, and frequent doses of scheduled medication. PRN use was influenced by residents but more significantly the study found use was related to the care home (nursing) the resident lived in (Stokes et al., 2004). This would suggest that PRN prescribing was a reflection of practitioner preference rather than resident need. The findings led to recommendations that interventions should target PRN prescribing by GPs, the interface between residents and registered nurses, and the point where registered nurses make decisions about PRN drug use. The researchers concluded that the organisational context and culture, staff training or knowledge and the interaction of human relationships in care homes were possible determinants of PRN medication administration.

The Care Quality Commission (2013d, p. 28) reported one in five care home (nursing) inspections identify a problem with resident safety and the problems include “*Staff not having guidance on how to administer medicines that had been prescribed as required*”. Guidance on the type of medication that are appropriate for PRN use

include analgesics, laxatives, sedatives, and antiemetics (BMA & Royal Pharmaceutical Society of Great Britain, 2008). Commonly in care homes (nursing) antipsychotic agents, often referred to as neuroleptics, may also be used PRN to control behaviour (Wood-Mitchell, James, Waterworth, Swann, & Ballard, 2008). PRN prescribed medication leaves the administration to the discretion of the care home (nursing) nurse (Higgins, Madjar, & Walton, 2004). This area of practice has not been addressed by UK research studies and only minimally by European and Australian studies.

3.3. Summary

The literature demonstrates research relating to medication use in UK care homes (nursing) has focused on PIP, of which older people are at high risk. Medication reviews and interventions by pharmacists have been explored to measure efficacy but results are mixed. The high prescribing of neuroleptic medication is an area of research interest, particularly relating to residents diagnosed with dementia although there is limited evidence that this is affected by PRN prescribing. There was very limited information about the assessment or involvement of care home (nursing) residents in decision-making.

In comparison with medical research, studies considering nurses' medication practices are limited and include crushing and concealing medication, administration errors, and PRN medication use. It would appear that a high rate of PRN medicines are used in care home (nursing) specifically to manage pain, constipation, and insomnia yet little evidence exists on the subject. The literature review suggests that PRN medication is linked to prescribing preferences rather than resident need and leads to potential under-use and this may be associated with lack of nurse education.

There is an absence of detail of how PRN medicines are used in care homes (nursing) or the factors influencing the registered nurses' decisions to administer PRN. The literature recommends the involvement of the GP, pharmacist, nurse, and resident although no work has observed this process in practice. There has been a focus on proxy measures, for example notes reviews, but there is very little

observation of how this medication management work fits with the care home routines and practices overall.

3.4. Research Question and Objectives

The research question raised by existing literature and answered in this study is ‘What is the role and contribution of the registered nurse in the management of PRN medicines in the care home (nursing)?’ This question focuses on increasing understanding of the nurse’s role and involvement in the management of PRN medication in the care home (nursing).

This question will be addressed with the following research objectives:

1. To identify the medication prescribed for PRN use in care home (nursing).
2. To examine the social context in which the use of PRN medication has evolved.
3. To examine the extent to which care home activities, customs, and the working culture influence the registered nurse’s clinical practice in relation to PRN medication management.
4. To understand how ancillary staff and members of the primary care team influence PRN medication management in the care home (nursing).
5. To investigate the involvement of older residents with the registered nurse in relation to PRN medication management.

Chapter 4 Methodology

The research question under investigation in this study is ‘What is the role and contribution of the registered nurse in the management of PRN medication in the care home (nursing)?’ To answer this, a 3-phase case study drawing on ethnographic approaches was selected. This question fits with ethnography because the study is looking at roles, values, beliefs and cultural norms within a care home.

This chapter considers the research approach of this study. The research setting, recruitment process and ethics implications of this study, particularly in relation to recruitment of participants that might lack mental capacity, are explained. The methods used to generate data, manage data and analyse findings for the 3-phases of the research study are detailed. Finally, the measures for ensuring the trustworthiness of the study outcomes are discussed.

4.1. Research Paradigm

Studying practice as a social science involves the study of human consciousness and subjectivity of the observed and the observer. According to Nakkeeran (2010, p. 380) writing on social reality:

“It includes the study of belief, values, intentions, and meanings attributed to human actions within a culture. Such a ‘reality’ that is being studied by social sciences is not transparently available for an exterior gaze, but has to be elicited from within, hence the possibility of interpretation as well as social construction of reality.”

The overarching aim of this study is to explore and identify the role and contribution of the registered nurse in the management of PRN medication in a registered care home (nursing) for older people. In seeking to expose the social reality of this topic, as the researcher, I inherently bring my own beliefs and assumptions about social reality that influence my approach throughout the

research. It is therefore important to understand and acknowledge these from the outset.

I view the social reality of this research topic from a relativist ontology. I believe that the social reality of the role and contribution of the registered nurse in the management of PRN medication varies from place to place and from time to time, situated within a historical moment and social content. Reality is socially constructed and knowledge is subjective and changing with multiple perspectives and multiple realities or interpretations (Bunniss & Kelly, 2010; Welford, Murphy, & Casey, 2011). Its value in helping to understand why people act and respond in the way they do has been recognised by others completing research with older people (Emilsdóttir & Gústafsdóttir, 2011; Hertogh, The, Miesen, & Eefsting, 2004; C. Smith, 2010) and in other care home (nursing) studies (Gijsberts, van der Steen, Muller, Hertogh, & Deliens, 2013; Hubbard, Downs, & Tester, 2003; The, Pasman, Onwuteaka-Philipsen, Ribbe, & van der Wal, 2002).

This methodology aims to expose or uncover the role and contribution of the registered nurse in the management of PRN medicine. Using a triangulation research design and survey techniques provided the opportunity to review how PRN medication is provided as an example of nurse led decision making dependent on the participation of others.

More specifically, and as detailed in the next section, I have chosen an ethnographic methodology. Contemporary philosophers accept that interpretivism can combine quantitative and qualitative approaches within one methodology if it is appropriate to the question (Savage, 2006; Welford et al., 2011).

4.2. Research Methodology and Methods Overview

Ethnography is the science of describing (graphic) a group of people and their culture (ethno) (Fetterman, 2010; Oliffe, 2005). There is no agreed definition for ethnographic methodology but there are core assumptions that characterise the approach. A key element is researching people in their natural settings to gain the perspective of those being studied and to understand the meaning people apply to their own experiences (P. Oliver, 2010). The researcher's first-hand experience

enables a personal understanding of the context and culture of the environment and of the participants' roles and narratives. Common features include the study of societies and cultures everyday and already existing conditions, criterion-based and purposeful sampling, extended fieldwork, participant observation, and analysis of textual data to gain the perspective of those being studied (Creswell, 2007).

The inherent features of ethnography for assisting in the exploration and understanding of social settings and social phenomena make it the most appropriate approach to achieve the research aim and objectives of this study. Care homes (nursing) are secluded communities, each with their own rituals, routines and cultural value systems (Jakobsen & Sørli, 2010). It has been identified that the culture of a care home shapes the care provided (André, Sjøvold, Rannestad, & Ringdal, 2014; Fear, 2009), including medication management (Nazarko, 2002). Therefore nursing practice in care homes (nursing) is intrinsically linked to and uniquely influenced by the care home culture. Using an ethnographic methodology provides the best approach for identifying the social reality of nurses' decision-making, using the exemplar of PRN medication. PRN medication use is multi-dimensional. It requires resident participation, discourse between professionals, nursing records of reason for administration and medication response and of non-pharmacological interventions used (Lindsey & Buckwalter, 2012). PRN medication provides an opportunity to identify what takes place in terms of decision-making, the role of the nurse, and resident involvement.

Ethnography is an established research approach used in the understanding of social and cultural constructs associated with nursing practice, patient experiences, care delivery and organisational issues (Barton, 2008; Baumbusch, 2011; Oliffe, 2005; Savage, 2000; Seymour, Ingleton, Paynes, & Beddow, 2003). For example, Savage (2004) explored nursing accountability, Murphy and Dingwell (2007) researched the application of informed consent, Thomas and Lambert (2008) studied intermediate care services in Wales, and Brooks (2008) examined the relationship of the nursing profession to public participation. Ethnographic

research has also been undertaken in care homes (nursing), for example in Holland and New Zealand (Bland, 2002; Hertogh et al., 2004) to identify culture and understand nursing practice.

The ethnographic process focuses on the researcher learning the meaning that the study population hold about a topic (Creswell, 2009). Spradley (1979, p. 25) referred to the study population who are the '*source of information*' as '*informants*' rather than the term '*participants*' now regularly used (Pollner & Emerson, 2007, p. 119; Ritchie, Lewis, McNaughton Nicholls, & Ormston, 2014, p. 55). In this study, the participants providing that information are staff and residents of the care home (nursing) (Burns & Grove, 2005).

In order to answer the research aim and objectives of this study, 3 key data collection methods have been identified and utilised: a review of care home documents and participating residents' records (phase 1), observation of nurses' and carers' management of PRN medication (phase 2), and in-depth staff interviews (phase 3). The alignment of research objectives with the data collection methods is summarised in Table 4.1. Hockley, Dewer and Watson (2005) likewise used documentary review, observations, and interviews in an action research study that focused on EoLC conducted in care homes (nursing) involving nursing staff and resident participants with dementia.

Data collection and analysis were integrated during each phase, which is usual in ethnographic research as it allows the researcher to go back and refine questions and develop lines of inquiry in further depth (Pope, Ziebland, & Mays, 2000). Additionally, phase 1 was completing before phase 2 commenced and phases 2 and 3 ran concurrently but marginally offset. In this manner, each phase provided the opportunity to inform subsequent phases. The individual phases, data collection methods, and data analysis techniques are described in detail in Sections 4.6, 4.7, and 4.8.

Documentary evidence, observation and interviews are the main methods used in qualitative research (P. Atkinson & Pugsley, 2005) but in this study the documentary review was also used to yield quantitative data from residents' records (e.g., resident population and medical demographics, PRN prescribing

rates). In this study, the quantitative data provides important data for ascertaining the potential scale of PRN medication management and the transferability of the results identified in the care home (nursing) studied to the general population of care homes (nursing).

Table 4.1 Alignment of Research Objectives with Data Collection Methods

Research objectives	Data collection methods		
	Phase 1 – documentary review	Phase 2 - observations	Phase 3 - interviews
1. To identify the drugs prescribed for PRN use in the care home (nursing).	✓		
2. To examine the social context in which the use of PRN medication has evolved.		✓	
3. To examine the extent to which care home activities, customs, and the working culture influences the registered nurses’ clinical practice in relation to PRN medication management.		✓	✓
4. To understand how ancillary staff and members of the primary care team influence PRN medication management in the care home (nursing).		✓	✓
5. To investigate the involvement in decision-making of older people resident in the care home with the registered nurse in relation to PRN medication management.		✓	✓

The use of observations of nurses’ and carers’ PRN medication management and in-depth staff interviews align fundamentally with an ethnographic methodology, enabling research of care home (nursing) staff in their natural medication management setting and understanding the meaning the staff apply to their own medication management experiences. The involvement of residents and focusing on a key practice or ritual of care home life reveals the culture and practice of care home nurses. Further, the methods align with the ethnographic ethos; that is the methods should not be intrusive, interfere with care, impact on relatives, friends or carers, or require active participation from residents who may lack mental capacity.

What the researcher decides to annotate is important as decisions made can have “*a profound impact on the final ethnographic report*” (Wolfinger, 2002, p. 85). Reflective

records were written by the researcher from the point of initial selection of the site until the completion of data collection. These were reviewed and further annotated as soon as possible after their creation because as Walford (2009, p. 127) writing on ethnographic field notes states:

“All recognise the limitations of memory and seek to record what they see and hear. Especially where the original notes are just brief, their meaning rapidly disintegrates unless they are expanded quickly after the event.”

The study design also allows for data triangulation, which is crucial in interpretivist, and, thus, ethnographic studies. Thorne (2000, p. 69) states:

“Ethnographic analysis uses an iterative process in which cultural ideas that arise during active involvement “in the field” are transformed, translated, or represented in a written document. It involves sifting and sorting through pieces of data to detect and interpret thematic categorisations, search for inconsistencies and contradictions, and generate conclusions about what is happening and why.”

Data triangulation enables the identification of inconsistencies and contradictions, and thus strengthens the study and increases the researcher’s ability to interpret the findings. According to Laine (1997, p. 49), Denzin (1978) identified data triangulation as using “a variety of data sources in a study”. More specifically Bowling (2009, p. 223) states Denzin (1978) proposed data triangulation as data collected “at different times, places, from different people or groups”. Data triangulation in this study means from 3 data sources at different times, as outlined above. Just as Hertogh et al. (2004, p. 1686) undertook participant observation in phase 2 of their study, stating “The aim was to supplement, specify and confirm the findings of phase 1”, so the aim of triangulation in this study is to increase the richness of the data and trustworthiness of the results by providing more vantage points.

An ethnographic methodology is not without potential issues. Angrosino (2007) supports the view that “Ethnographic research can be done wherever people interact in ‘natural’ group settings” but Froggatt (2004, 2005) warns how complex the care home (nursing and residential) context is, while Bland (2002) refers to it as challenging. The studies by Bland (2002) and Hertogh et al. (2004) reinforce that consenting

residents and following an ethnographic approach is lengthy. As detailed in Sections 4.5 to 4.8, this was also found to be the case here, with consent of participants being obtained over a 2-year time frame and data collection occurring over 15 months.

4.3. Ethics Approval and Obligations

The study was examined and approved by the University of Hertfordshire Research Ethics Committee for Nursing, Midwifery, Social Care, Criminal Justice and Counselling on 25-Feb-2009 (Approval number: NMSCC/02/09/8/A). The approval was given to 1-Sep-2011. Two extensions were granted to 30-Jun-2012 and 20-Jun-2013.

This study involves participants that lack mental capacity and therefore required review in accordance with the Mental Capacity Act 2005 c.9 and the Health Research Authority (NHS Health Research Authority, 2016). This is to ensure legal requirements are met whether or not there is NHS involvement. Social care research ethics committees (SCREC) are responsible to assess Mental Capacity Act 2005 c.9 research for risk and not university research ethics committees (UREC) due to conflict of interest (Association of Directors of Adult Social Services, 2005; NHS Health Research Authority, 2016). At the time ethics approval was requested, SCREC implementation was incomplete. The Assistant Director of Adult Social Services in the London Borough of -----(*name of district*) was sent a copy of the research proposal, letter from the NMSCC Ethics Committee, copy of my recent CRB, and information confirming sponsorship from the University of Hertfordshire on 20-May-2009. A response dated 4-Jun-2009 acknowledged university sponsorship, ethics committee approval and that mental capacity and informed consent were addressed, and confirmed that there was no objection to the study proceeding (Appendix B – Study Acknowledgment Letter from Adult Social Services).

Key ethics obligations in this study concerned gaining informed consent and the involvement of people with cognitive impairment, anonymity and confidentiality, and reporting unsafe practice. The procedure for achieving the latter is given

here, while informed consent and anonymity are detailed in the appropriate sections of this chapter. The dual role as researcher and visiting link lecturer was underpinned by nursing regulations (Nursing and Midwifery Council, 2008a, 2008c, 2009b, 2009c, 2010a). Safeguarding residents was of primary importance and therefore a study protocol to report unsafe practice was agreed with the care home (nursing) Manager (Appendix C – Research Protocol to Report Bad Practice). Figure 4.1 illustrates the stages for raising and escalating concerns (Nursing and Midwifery Council, 2010a).

Figure 4.1 Stages for Raising and Escalating Concerns

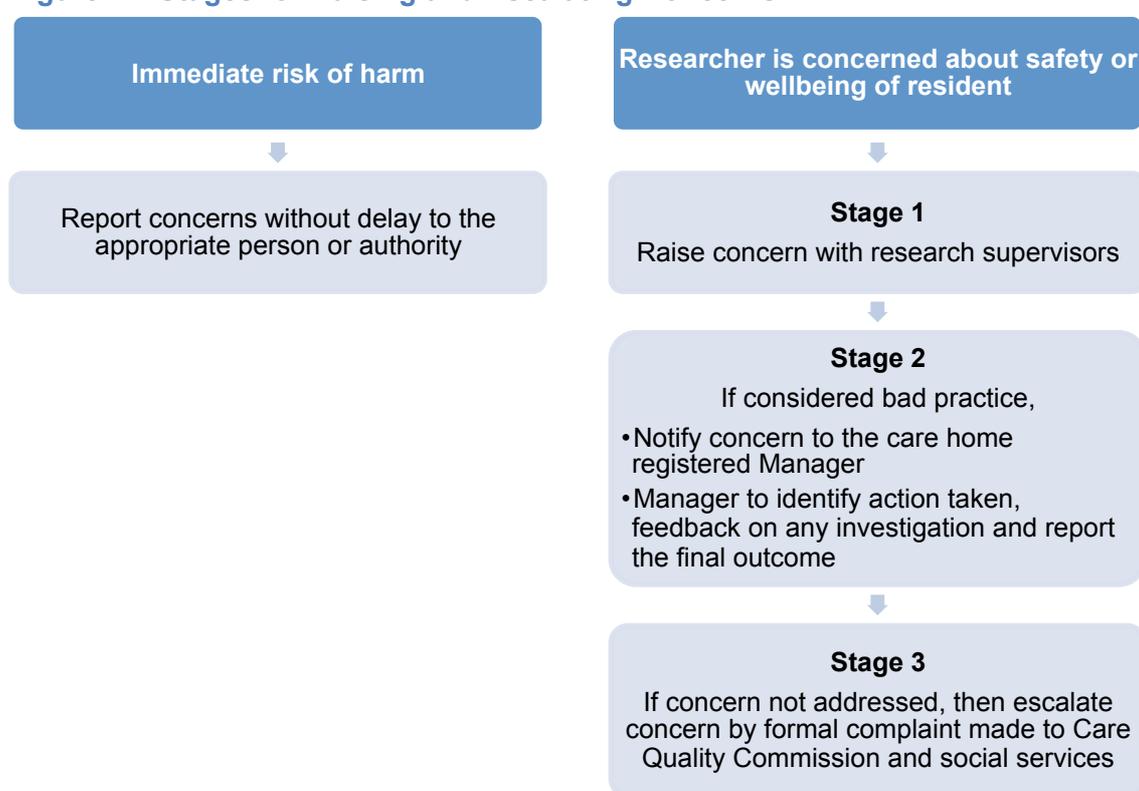


Figure adapted from Nursing and Midwifery Council (2010a).

Participants were informed of the protocol before consent was requested. One incident of unsafe practice was witnessed by the researcher. Before implementing stage 1 of the protocol the practice issue had been identified and dealt with by the Manager.

During the study data protection was maintained using a password protected computer and study records and data stored in a locked filing cabinet. Access to the research data has been restricted to the researcher and two research

supervisors. In accordance with the ethics approval received the data will be saved for 7 years following publication.

4.4. Study Site

A single study site was considered sufficient to address the research question and objectives of this study. The site, registered with the CSCI in 2006, is a care home (nursing) for 77 people over the age of 65 with nursing and dementia needs. The care home (nursing) was known to the researcher prior to the commencement of the study; since 2007 it has been a practice placement for pre-registration adult nurse students, for which the researcher was the placement link lecturer. The care home (nursing) was identified as ideal for the study because recognised features to be studied were present, no other research had been conducted there, gatekeepers were known, and a role was already established (Angrosino, 2007; Ritchie et al., 2014).

Formal consent to access the care home (nursing) to conduct the research was received from the care home (nursing) Manager and the owner. Correspondence was exchanged with Adult Social Services in the London Borough of -----(*name of district*) and the North London Community Research Consortium (NoCLoR) in March 2009 regarding research governance. In accordance with the Research Governance Framework for Health and Social Care (Department of Health, 2005b) research governance was received from the home owner on 22-Jul-2009. A letter dated 17-Nov-2009 notified primary care partners of the study (Appendix D – General Practitioners and Community Pharmacist).

The existing relationship and established trust with the care home (nursing) Manager and staff facilitated the practitioner as researcher role (Ritchie et al., 2014). A dual role can cause conflict of interest and over familiarity can cause researcher bias, which can be both positive and negative in ethnographic research (Fetterman, 2010). To allay negative bias, Fetterman (2010, p. 11) suggests “*triangulation, contextualisation, and a non-judgmental orientation*”. Parahoo (2014, p. 384) states “*audit trail, reflexivity and validation by experts or participants*” can ensure rigour of data collected, analysis and presentation.

The care home (nursing) site was known only by the researcher and two research supervisors. No identifying reference has been made to the care home (nursing) name, geographic location, name of medical centre or pharmacy in any doctoral submission, verbal presentations, or publications.

4.5. Study Participants

The potential pool of study participants composed of the care home (nursing) staff involved in residents' health and social care and the residents. All individuals were considered eligible to participate in the study and their consent was sought as detailed in Sections 4.5.1 and 4.5.2. In the case of residents, it was identified that for some individuals their lack of capacity would negate informed consent and additional processes were put in place to ensure participation did not affect their best interests.

Between March 2009 and June 2010 the researcher made forty visits to the care home (nursing) to recruit participants. Further recruitment occurred on an ad hoc basis as new staff and residents arrived at the care home (nursing). Table 4.2 provides an overview of the timeline, stages, and aims associated with the recruitment process. The research commenced once formal written consents had been received from residents and staff.

Writing field notes during the consenting process gave a valuable insight of activities of interest to the study and informed the content and format of record keeping related to PRN medication management.

4.5.1. Nursing and Care Staff Recruitment

Recruitment of the staff occurred over 2 years, commencing March 2009.

To familiarize staff with the research study prior to seeking participation, 4 pre-arranged meetings were scheduled at the care home (nursing) between the researcher, nurses and senior carers (Table 4.3). Two meetings were held at 14:00 and 1 at 19:00 to enable both day and night staff to attend. One evening meeting was cancelled on arrival due to confusion regarding the time of the meeting and consequently non-advisement to staff.

Table 4.2 Recruitment Timeline of Site and Participants

Dates	Stages	Aim
2008		
November	<ul style="list-style-type: none"> Formal letter to care home Manager Approval from Manager 	<ul style="list-style-type: none"> To explain the study and ask if the home were interest in becoming the research site To obtain consent to conduct study in care home
2009		
February	<ul style="list-style-type: none"> Research governance sought 	<ul style="list-style-type: none"> To seek authority to ensure dignity, rights, safety, and well-being of participants (Department of Health, 2005b)
March	<ul style="list-style-type: none"> Meetings with nursing and care staff 	<ul style="list-style-type: none"> To explain the study to key staff, ascertain interest in participating in the study, and answer questions
July	<ul style="list-style-type: none"> Research governance obtained from care home owner 	<ul style="list-style-type: none"> To obtain support for research study
August	<ul style="list-style-type: none"> Written information provided to staff Attendance at relatives' meeting 	<ul style="list-style-type: none"> To explain study and request participation To explain the study and assess interest in the study
September	<ul style="list-style-type: none"> First consents received from staff Written packs provided to care home for residents and Personal Consultees 	<ul style="list-style-type: none"> To recruit staff to participate in study To explain the study and invite Personal Consultee to indicate if their relative/friend would be interested in participating in the study
November	<ul style="list-style-type: none"> First meetings with resident and Personal Consultee First consent/advice received from residents and/or Personal Consultees 	<ul style="list-style-type: none"> To further explain the study and address questions To assess mental capacity of resident. Obtain informed written consent or Personal Consultee declaration
2010		
June	<ul style="list-style-type: none"> Final consent from new residents received 	<ul style="list-style-type: none"> To recruit new residents participation in the study
2011		
March	<ul style="list-style-type: none"> Final consent from new staff received 	<ul style="list-style-type: none"> To recruit new staff participation in the study

Study information packs (Appendices E – Staff Information Sheet, F – Staff Information Letter, G – Participant Consent Form), including reply envelopes, were distributed via staff pigeonholes to all staff. Information for staff was prepared in line with BMA guidance and written in English (English & Sommerville, 2004). Language translation was unnecessary as English was the first or second language of all staff. A ‘post box’ was provided in the neutral location of the care home (nursing) reception for staff to return completed

consent forms confidentially to the researcher. A unique participant identifier was attributed to each staff member upon consent being received.

Table 4.3 Attendance of Staff Information Sessions

Meeting time and date	In attendance		
	Management	Nurses	Senior carers
14:00 10-Mar-2009	Deputy Manager	2	1
19:00 17-Mar-2009	Cancelled		
14:00 19-Mar-2009	Manager	0	2
19:00 20-Mar-2009	0	3	0

Opportunities for questions to be answered by the researcher were provided to the staff, with a minimum period of 48 hours to consider participation before consent was sought. The researcher addressed concerns raised by a few carers and night-duty nurses regarding their participation in the research study by talking with groups and individuals as required. The concerns related to reward for participation and it was made clear that there was no guaranteed benefit in return for participation. The facilitative role and participation of staff was continually acknowledged by the researcher throughout the study.

New nursing and care home employees (n=3) were recruited in the same manner; the study was explained verbally to individuals in person, they were provided with a study information pack and reply envelope, and consent forms were returned to the Manager or researcher directly. The final staff consent was received in March 2011. A total of 59 (100%) staff consented to participate composed of the Manager, Deputy Manager, 9 registered nurses, 3 senior carers, 43 carers, 1 return to practice student, and 1 activities co-ordinator. Over the course of the study, 2 staff participants permanently or temporarily ceased employment at the care home, all from whom data had already been collected and this data continued to be included in the study.

Staff were involved in the study as participants during phases 2 (observations) and 3 (interviews). Consent to participate was revisited with individuals prior to observations of individual staff members and at the commencement of interviews. None of the staff chose to withdraw their consent.

4.5.2. Resident Recruitment

Recruitment of the residents occurred over 11 months, commencing August 2009. The care home (nursing) residents were old, frail and had ill-health, including some diagnosed with dementia. The process of recruitment involved relatives, family and carers where accessible in addition to the residents and crucially took into consideration the capacity of each resident to give consent.

Prior to recruiting residents, information sessions were held for residents' relatives, friends and carers. The family-oriented culture of the care home (nursing) meant it was considered important that the relatives, friends, and carers of the residents were aware that research was to be conducted at the care home (nursing) before recruiting residents. The researcher attended a relatives' meeting on 4-Aug-2009 to explain the study and address questions. Present were 2 members of staff and 5 relatives (daughter of mother and father at care home, 1 wife, 1 husband, 1 son, and 1 husband of previous resident). Relatives were informed of approval and governance received, the purpose of the study, involvement processes, contacts in case of a problem, confidentiality and final written report to be provided in accordance with the contents of the Personal Consultee Information Sheet (Appendix H). No objections to the research study were raised but inferences were made that their relatives would be unable to participate as they lacked mental capacity.

It was important that participants who have dementia, and may lack mental capacity, were included in the study as the research focus directly affects their treatment and care. The exact involvement of participants with dementia is questioned by Dewing (2002a) therefore the researcher understood that during consenting and observations the residents' participation may be limited. Research studies involving participants with dementia have been undertaken in multiple care homes (residential) and primary care settings (Evans & Goodman, 2009; Kenkmann, Price, Bolton, & Hooper, 2010; Warner, McCarney, Griffin, Hill, & Fisher, 2008).

For consent to be valid the participant must be provided with enough information for them to make the decision, comprehend and retain relevant information, use

the information in making the decision, be capable of make that decision and act voluntarily (Department of Health, 2001c). Given that a number of residents were known to lack capacity, from own experience and Manager confirmation, extended consent procedures were put in place for all residents from the outset of recruitment in accordance with the core principles of capacity legislation (Department of Constitutional Affairs, 2007; *Mental Capacity Act 2005 c.9*). These are summarised in Table 4.4 Statutory Principles of Capacity and discussed in detail below.

In line with the Mental Capacity Act 2005 c.9, a consultee invitation and advice process was put in place in addition to resident consent for those who lacked capacity, as summarised in Table 4.4. A Personal Consultee is “someone who knows the person who lacks capacity well but is not acting in a professional or paid capacity” (DH Scientific Development and Bioethics Division, 2008, p. 4). The personal consultee provides ‘advice’ rather than consent or assent (Dixon-Woods & Angell, 2009).

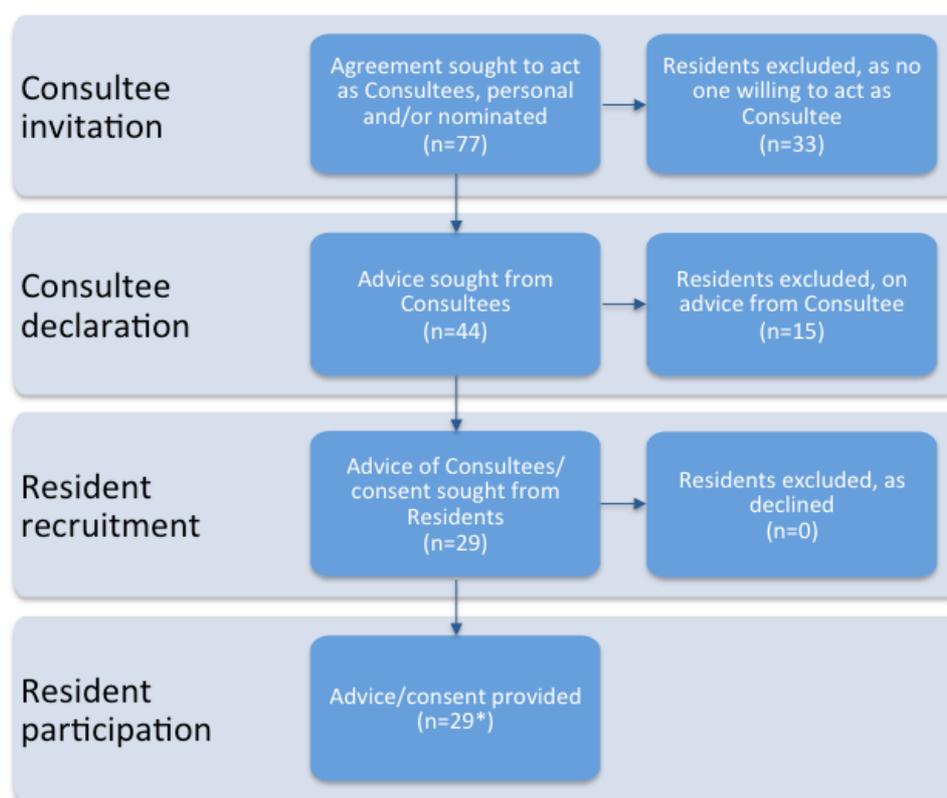
Information packs (Appendices H – Personal Consultee Information Sheet, I – Partner, Family Member, or Friend Information Letter, J – Personal Consultee Invitation Form), including contact details of the researcher and reply envelopes, were distributed to Personal Consultees by post or hand. Four returned responses indicated they did not wish to be consulted further but that the resident might be interested in participating, 4 indicated they thought the resident would not wish to be involved, and 15 responses requested more information from the researcher.

Figure 4.2 illustrates the recruitment of residents through Consultees. Advice refers to the Personal Consultee’s opinion on whether the person who lacks capacity should take part in the study (DH Scientific Development and Bioethics Division, 2008). The Personal Consultee should consider if the person is content to participate and consider “their past and present wishes and feelings” on research participation (DH Scientific Development and Bioethics Division, 2008, p. 6). On information received all consultees were family members who knew the residents when they had mental capacity.

Table 4.4 Statutory Principles of Capacity

Statutory principles of capacity	Principle achieved for this study
The researcher must assume the resident has capacity until lack of capacity is established	To assess the capacity of the participants to consent a diagnostic and functional assessment was undertaken by the researcher (Dobson, 2008) (Appendix N – Assessing Capacity to Consent to Participate in Research).
The researcher must not treat the resident as unable to make a decision unless all practicable steps are taken without success	Enabling capacity was promoted by meeting prospective participants with relatives or friends, conferment with others, allowing sufficient time for the person to think about the study, communicating using language and methods that the person could understand, asking for their opinions, giving additional explanations, continually looking for verbal or non-verbal communications that they wished to participate or not participate. Written information was given (Appendix M – Resident Information Sheet). If a resident was unable to understand what the research was about, could not retain the information or weigh up benefits and risk, or was unable to communicate consent, then on the balance of probability they could not reach a decision themselves and were unable to consent to participation in the research (Dobson, 2008).
The researcher must not categorise the resident as unable to make a decision because they chose not to participate	No resident participated in the study unless they had provided informed consent or their Personal Consultee had advised, based on their knowledge of the resident, that they would have been willing to participate if they had capacity to understand the study (Appendices G – Participant Consent Form, K – Personal Consultee Declaration Form). Indications of an unwillingness to participate, advanced directives, or other statements were honoured. Non-consensual residents or residents whose Personal Consultee refused permission were excluded from the study (Mason, 2006).
The researcher must ensure that decisions made on behalf of the resident who lacks capacity is in their best interest	Personal Consultees were invited. Information was provided to them in writing and verbally to enable them to assess best interest. A signed Personal Consultee Declaration form was received prior to inclusion of the resident in the study. The researcher followed a check list to ensure all steps had been completed with the Personal Consultee. (Appendices I – Partner, Family Member, or Friend Information Letter, K – Personal Consultee Declaration Form, L – Personal Consultee Checklist). Nominated Consultees were sought for residents without Personal Consultees.
The researcher must consider if the purpose for which consent is needed is effectively achieved in a way that is least restrictive of the resident's rights and freedom of action.	The researcher appraised the inclusion of each participant that lacked capacity (Appendix O – Appraisal of a Participant's Involvement with a Project). This ensured the functional assessment had been performed, consulting had occurred, benefits, burdens and risks have been considered, confirm participation was not invasive or restrictive nor likely to interfere with the participant's freedom or privacy.

Figure 4.2 Recruitment of Residents through Consultees



* An additional 5 residents, deemed to have mental capacity but initially excluded as no one was found willing to act as Personal Consultee, provided consent and were included in the study, taking total resident consent and potential participation to 34 individuals.

In order to provide further information on the study to people who had agreed to be Personal Consultees and to meet with potential Personal Consultees who had as yet not responded, 32 meetings were conducted at the care home (nursing). These meetings were initiated by the care home staff and took place in private, either in the resident's bedroom, a small day room, or empty dining room. Meetings with potential and confirmed Personal Consultees occurred individually or in the presence of the resident. The meetings were used to discuss the study in detail, invite participation as Personal Consultee, and complete a Personal Consultee Declaration Form (Appendix K) providing their opinion. A Personal Consultee Checklist (Appendix L) was completed to ensure the procedure was undertaken in line with ethics. Advice was provided by 29 Personal Consultees, representing 66% of those approached. The majority of residents were present when the Personal Consultees' advice was provided and a check was made with them about their consent to participate. In the case where residents were not

present, they lacked mental capacity. No guaranteed benefit led to non-participation of 1 resident but no concerns were raised by the remaining Personal Consultees or residents.

A number of residents were identified who either had no family or friends or had very infrequent contact. In this situation a Nominated Consultee can be appointed (Department of Constitutional Affairs, 2007; DH Scientific Development and Bioethics Division, 2008). A Nominated Consultee must have no connection with the research. Contact with the Independent Mental Capacity Advocacy service (IMCA) led the researcher to contact the Advocacy in ----- (*name of area*) One Stop Shop and the area MIND organisation to investigate further the role of Nominated Consultee to support residents who lacked mental capacity to consent themselves. Meetings were held with both organisations in February 2010. No person approached volunteered to act as a Nominated Consultee and, hence, these residents were not approached to invite their participation.

Five residents who appeared to have mental capacity but no Personal Consultee explicitly requested involvement in the study. The care home (nursing) Manager confirmed their ability to self-consent. To ensure they had a full understanding of the proposed research study, each resident was provided with an information pack (Appendices M - Resident Information Sheet, G – Participant Consent Form) written in English and the study was discussed verbally (Hansen, 2006; Herring, 2008; McHale & Tingle, 2001; World Medical Association, 2008). As with staff participants, language translation was unnecessary as English was the first or second language of all residents. Residents were given at least 48 hours post receiving this information before consent was sought or when consent was given immediately the researcher reaffirmed the consent with the resident at least 48 hours later.

Having sought consent/advice the researcher undertook additional steps to enable the residents' capacity to be decided, establish lack of capacity, consult with others and appraise participants' involvement with the project (Appendices N –

Assessing Capacity to Consent to Participate in Research, O – Appraisal of a Participant's Involvement with a Project).

New residents (n=3) moving into the home during the recruitment and data collection period were addressed similarly. Resident consents and completed Personal Consultant Declarations were received between 30-Oct-2009 and 1-Jun-2010. A total of 34 (44%) residents were included in the study and a unique participant identifier was attributed to each resident upon consent/advice being received. Over the course of the study, 3 resident participants died, 2 from which data had already been collected and this data continued to be included in the study.

Consent and advice was seen as a process rather than a one-off event and therefore was constantly under review (Department of Health, 2001c; Dewing, 2002b). As loss of capacity could occur during the research, consent was revisited and re-established; for example, on entering a resident's room, the staff member would ask the resident if it was okay for the researcher to also be present in order to observe the staff member at work. Records to show legal consents were obtained were maintained (evidence, decisions, discussions regarding appraisal or re-appraisal). All processes were conducted in accordance with recommendations by the Mental Capacity Act 2005 c.9, which came into effect on 1-Oct-2007, the Mental Capacity Act Code of Practice, and The British Psychological Society's practical guide (Department of Constitutional Affairs, 2007; Dobson, 2008; General Medical Council, 2010; Royal College of Nursing, 2011).

Elements of the consenting processes used in this research (open meetings, the Manager writing to relatives on behalf of the researcher, cognitive assessment, relatives giving informed advice) are recommended by the ENRCH website (National Institute for Health Research, 2015) and have been used previously by Evans and Goodman (2009) and Warner et al. (2008).

4.6. Phase 1: Documentary Review

A range of documents was reviewed during phase 1 of the study: resident participants' case records, medication administration record (MAR) sheets, and

care home documents. The researcher was allowed free access to all of these documents for the duration of the study. The review purpose was to address the first research objective: to identify the medication prescribed for PRN use in the care home. Documentary examination also provided baseline data about the resident participants' medical and social profiles, knowledge of nursing practices, professional governance and regulations, and insight into the use of routine and PRN medication, which helped to contextualise the work of nurses.

4.6.1. Case Records and Medication Administration Records

Complete case records of each resident participant were reviewed once between January 2010 and June 2010. The records contained patient personal details, admission information and assessments, and weekly nursing updates.

MAR sheets for each patient were reviewed for a period of 24 weeks (21-Dec-2009 to 7-Jun-2010) for each resident participant on medication. The MAR sheets contained information from the pharmacist on prescriptions, including medication name, dose, formulation, quantity, frequency, amount, and length of treatment. New MAR sheets were generated on a 28-day basis (a MAR period) or more frequently for new residents or medication changes and these were reviewed by the researcher regularly each month. The inclusion of six consecutive MAR periods over the data collection phase was crucial to the design of the data collection, ensuring any medication changes were fully captured. Table 4.5 summarises details of the data sought from the case records and MAR sheets and the rationale for seeking them to answer the study research objectives.

The use of care home (nursing) residents' case records to inform research is not new. Hockley, Watson, Oxenham and Murray (2010) undertook research to implement use of 2 end of life tools in 7 Mid-Lothian care homes (nursing) and found the use of clinical notes to be valuable.

Heath (2010, p. 119) conducted a multi-method study with older people, using documentary analysis of care plans and medication charts; she comments:

“Documents were analysed in order to identify any additional or alternative perspectives on the work of RNs [Registered Nurses] and CAs [Care Assistants] as a way of confirming or otherwise the findings from other methods.”

Table 4.5 Data Collected from Care Records and MAR Sheets

Data sought	Rationale for collecting data
Demographic information: age, gender, nationality, date of admission, place admitted from	<ul style="list-style-type: none"> • Provide baseline data to gain knowledge of the resident participants • Measure similarities/differences of the sample with other research undertaken in care homes • Associate rates of medication with admission date and place
Diagnoses of medical/psychological illnesses	<ul style="list-style-type: none"> • Inform of resident’s medical/mental health • Identify illness prevalence and co-morbidity rates • Link diagnoses to regular medication prescribed
Level of dependency, cognitive state, behavioural and psychological symptoms of dementia (BPSD)	<ul style="list-style-type: none"> • Identify level of dependency and mental state • Ascertain resident participants with a formal diagnosis of dementia and link to medication prescribed and degree of involvement
Current medicines prescribed for regular administration: generic name, date commenced, total medication prescribed, medication prescribed but not taken, changes to prescribed medication in past 4 weeks/28 days	<ul style="list-style-type: none"> • Identify medication prescribed for regular administration • Measure polypharmacy • Detect prescribing changes • Understand why medication is not administered to resident
PRN medicines prescribed: generic name, date commenced, medication prescribed but not taken, changes to prescribed medication in past 4 weeks/28 days	<ul style="list-style-type: none"> • Identify medication prescribed PRN, administration rates, and frequency of any changes • Assess if PRN medication administered was appropriate • Discover degree of resident involvement
Non-prescribed medication administered	<ul style="list-style-type: none"> • Identify resident’s self-administration of over-the-counter medicines and use of the home remedy box
Alternative and complimentary therapies received	<ul style="list-style-type: none"> • Learn what alternative and/or complimentary therapies were used and frequency of use • Establish if use of therapies affected administration rates of regular/PRN medication • Identify resident’s involvement
Indication for non-prescribed medication, alternative and complimentary therapies given/taken	<ul style="list-style-type: none"> • Link diagnosis to medication prescribed • Identify resident involvement
Medication issue (i.e. none, duplication, compliance, adverse event, etc.)	<ul style="list-style-type: none"> • Detect occurrence of errors/adverse events

Furthermore, several ethnographers have successfully used residents' case notes and records in their research, for example Hart, Lymbery and Gladman (2005) to establish the perspective of older people and staff regarding intermediate care in care homes and Hertogh et al. (2004) to determine the moral tension nurses in nursing homes experience between respect for autonomy and respect for the subjective world of the person with dementia. On documentary evidence Hammersley and Atkinson (1983, p. 173) write:

“The presence and significance of documentary products provide the ethnographer with a rich vein of analytic topics, as well as a valuable source of information.”

Heath (2010) however considered documents were of limited use due to omissions, inaccuracies, and inconsistencies. Absent data and inconsistencies in case records identified in resident profiles are reported in Chapter 6.

A data collection instrument was prepared to assist in consistent and accurate collection of data about resident participants from case records and MAR sheets (Appendix P – Medication and Case Notes Review Form). This instrument was informed by the content of clinical medication reviews by pharmacists and general practitioners (Furniss et al., 2000; Snowdon, Day, & Baker, 2006).

A pilot test of the instrument using 5 records was conducted in January 2010 to check the legitimacy (validity) that all fields could be recorded and to assess consistency (reliability). Advice was subsequently sought from researchers with experience of data collection from MAR sheets and care home records and consequently amendments were made to the instrument. Minor amendments were made to the data categories (pages 1 and 2). The medication data recording section (page 3) was withdrawn due to the complexity of extracting and accurately recording medication data and it was replaced with duplicate copies of residents' completed MAR sheets.

One participant who died before data collection from MAR sheets commenced was excluded from the analysis. Two participants who died during the medication review (January and April 2010) were included in the analysis. Three new residents who wanted to enter the study after the medication review commenced

were included and their data was collected from the date of admission (January, May, and May 2010).

The case record and MAR sheet data were analysed using non-parametric descriptive statistics to determine number, measures of location (mean and median) and measures of variation (range and standard deviation) (Willis, 2004). This analysis approach aligns with Fetterman's (2010) statement that ethnographers use non-parametric statistics because they work with small groups and they are not trying to presume normality and outcomes. As suggested by Pope, Ziebland and Mays (2000, p. 114), in ethnographic research quantitative data analysis does "*not aim to identify a statistically representative*" but that "*simple counts are sometimes used and may provide a useful summary of some aspects of the analysis*". Similar analysis methods were used successfully by Evans and Goodman (2009) to collect individuals' characteristics when researching EoLC in care homes (residential) and Stokes et al. (2004) to gather PRN prescribing and use to identify influencing factors.

A number of different categorisation systems were used in the analysis of the documentary review data. Medication data collected from residents' MAR sheets were coded according to the International Anatomical Therapeutic Chemical (ATC) classification system and the Defined Daily Dose (DDD) measuring unit (World Health Organisation, 2012). These offer a standard for classifying medicine substances for use in research on drug utilization (Chen, Lu, Zhang, & Huang, 2014) and this system was used successfully by Parsons et al. (2012) to identify PIP in care home residents with dementia. Medication prescribing trends of routine and PRN rates were scrutinized using the British National Formulary (BNF) (BMA & Royal Pharmaceutical Society of Great Britain, 2008) and the Screening Tool of Older Persons' potentially inappropriate Prescriptions (STOPP) (Gallagher, Barry, Ryan, Hartigan, & O'Mahony, 2008), which has been tested in care home (residential) settings (Parsons et al., 2012). Sedative loads per resident were scored using the 4 group model developed by Linjakumpu et al. (2003).

Carer medication notes on the reverse side of MAR sheets, containing the written rationale for administering a PRN medication and efficacy, were read to identify

administration practices and nurse, carer or resident involvement in the process. The number of administration errors and omissions were measured to assess the rate for potential medication mistakes.

4.6.2. Care Home Documents

The care home (nursing) documents relating to structures and networks, policies and guidance, medication audits, detected adverse events and details of staff training on medicines management were reviewed throughout the study (September 2009 to April 2011). This informed the researcher of any regulations set by the company who own the home that affected the registered nurses' clinical practice. This is important in this study because nurses' behaviour, customs, and way of working (O'Reilly, 2009), as well as their ideas, beliefs, and knowledge (Strauss & Quinn, 1997), are influenced by the organisation in which they work and understanding what shapes nursing practices in the care home adds to contextual and cultural awareness.

4.6.3. Phase 1 Impact on Phases 2 and 3

The documentary review of case notes and nursing records enabled resident participants' demographic, health and social care data to be reported. The review of MAR sheets identified usual medication (routine and PRN) prescribing patterns by doctors and administration and non-administration by nurses and senior carers. This informed the focus of both phase 2 (observations) and phase 3 (interviews). For example, knowledge of prescribing and administration of PRN analgesic medication in phase 1 guided the observation of nurses, senior carers, carers, and residents' involvement in decisions regarding use and non-use. It also identified areas to be explored with participants during interviews related to pain assessment. Consistencies and inconsistencies found in the quantitative and qualitative data were analysed to answer the first research objective.

4.7. Phase 2: Observations

Phase 2 of the study involved participant observation, specifically of clinical activities concerning medication management by staff. The overall purpose of the observations was to gather data from a natural setting that would inform about

staff activities and staff-resident interactions associated with medication management. When undertaking participant observation, Burgess (1984, p. 79) states the researcher can:

“construct an account of a social situation on the basis of the various accounts that are obtained from informants... there is an opportunity to collect the different versions of events that are available... compare these accounts with each other, and with other observations that the researcher has made in the field of study.”

Collectively the medication review and research data obtained have the potential to inform about the context in which PRN decisions were made and the involvement of residents in those decisions. But used in conjunction with phase 3 interviews, the data could enable more purposeful and probing interview questions and provide vital data triangulation to determine the culture of PRN medication decision-making.

4.7.1. Observations

Seventy-four observations were conducted by the researcher between 29-Jun-2010 and 19-Mar-2011. The complete period of observation sought to capture a comprehensive pattern of 24-hour, 7 days per week activities and as such observations were conducted during both day and night hours (08:00 – 00:30) on week days and weekends.

Observations were also conducted on the ground (n=27), first (n=37), and second (n=10) floors, which are designed for nursing and social care, and in a variety of settings, for example dining rooms, bedrooms, lounges, and nurses' office. An inequity of observations per floor occurred as some activities were confined to or occurred more frequently on one floor; for example 08.00 handover occurred on the first floor only, surgeries concerning residents on the ground floor were conducted on the first floor, and all controlled medication was stored on the ground floor. Each observation viewed staff until the clinical activity carried out concluded, ranging between 5 minutes and 2 hours 20 minutes. A record of observations undertaken was maintained (Appendix Q – Record of Observations).

Participant observation has been referred to by Savage (2003) and McGarry (2007) as the cornerstone of qualitative research and it is established as a prime method of data collection in ethnographic research (Parahoo, 2014). Previous care home research successfully utilising participant observation has been conducted by Bland (2007) to address resident comfort, Wilson (2009) to understand the formation of relationships in care homes, and DeForge, van Wyk, Hall and Salmoni (2011) to explore care home culture. A limitation of observations as a method of data collection is the effect of the observer on the observed, which may change the participants' behaviour and consequently bias and invalidate the research (Parahoo, 2014). In an aim to reduce the potential occurrence of this effect, researcher and participants met frequently before observations commenced, some observation periods were prolonged, and repeated observations of staff practice occurred.

When conducting observations, the researcher's role as observer was aligned to Borjesson's (2014, p. 408) description that the participant observer "*is an active member of the social setting, and the other members are aware of the identity of the observer and his/her presence as a researcher*". Street clothes were worn by the researcher to avoid identification as a nurse or carer by residents and visitors (Lambert, Glacken, & McCarron, 2011). During observations the researcher was positioned in a vantage point nearby, as advocated by Hennink, Hutter and Bailey (2011). To reduce any threat felt by the participants, the researcher did not generally participate or interact. In later observations a brief interaction between the participants and the researcher did occasionally occur and was duly recorded. For example, resident R130 was keen to converse with the researcher during observation of medication administration at breakfast time (41/DR-2ndF/S018/1). To simplify data collection during observations, the activities and speech of all staff and residents were documented. But non-consenting residents who inadvertently become involved in observations were not identified.

A standardized observation schedule, as recommended by Bruggess (1984) and Creswell (2009), was designed to ensure consistent data collection was adopted during each observation (Appendix R – Observation Schedule). The schedule was

structured to include demographic information, descriptive notes, and reflection (Creswell, 2009) as explained in Table 4.6. The demographic information contained observation context and the temporally annotated descriptive notes chronologically captured the participants' actions, behaviour, expressions and interactions, as recommended by Hennink, Hutter and Bailey (2011).

Table 4.6 Data Collected from Observations

Type of data	Data recorded	Rationale for data collected in the care home (nursing)
Demographic	Date, time, place, main participants and additional participants present, short description of field setting where observation took place and clinical activity	<ul style="list-style-type: none"> To assign reference features, identify coded participants involved, provide an account of the care home (nursing) setting, and supply a record of activities observed to ensure diversity (participants, settings, activities) and 24-hour/7 day variations (different times, days) of care home life
Descriptive	Portrait of participants, reconstruction of dialogue, physical setting, account of events and activities	<ul style="list-style-type: none"> To give a robust account of the PRN medication management observations undertaken in as much detail as possible. Describing participants persona, recording direct quotations of participants' speech, to identify relationships between participants, documenting characteristics of the setting and events (that may influence the activity observed) To substantiate events and activities observed for future analysis To identify potential nurse and carer interviewees for phase 3 of the study
Reflective	Researcher's thoughts – speculation, feelings, problems, ideas, hunches, impressions, and prejudices	<ul style="list-style-type: none"> To record personal and professional impressions of what was witnessed as a participant observer for later analysis and identification of themes To inform the semi-structured interviews in phase 3

Reference: Creswell (2009).

During each observation, the collected data was handwritten into a pre-prepared form. Pre-set codes were used for geographic locations in the care home, participants, and type of clinical activity (Table 4.7); for example, 41/DR-2ndF/S018 denotes observation number 41, in the 2nd floor dining room with staff member S018 as the main participant completing a routine drug round. Short conversations and other verbal interactions between participants were

recorded verbatim when possible, for instance during observation of handover 24/GF-DR/S028/S051:

S028 – “XX sleep – very sleepy. Son visited. Took tablets, eating but very sleepy”.

S051 – “I will not give to him the syrup. Withhold from yesterday.”

S028 – “S002 gave it to him. Sleeping because of condition. If you don’t give it he becomes more aggressive. Stop for 3 days.”

Table 4.7 Location and Activity Identification Codes used in Observations

Location		Activity
Room	Floor	
Bedroom (BR)	Ground (GF)	Routine drug round (1)
Day room (DayR)	1 st (1stF)	Medication review (2)
Dining room (DR)	2 nd (2ndF)	Dispensing (3)
Hall (H)		GP visit (4)
Main lounge (MLG)		Storage of medicines (5)
Small lounge (SLG)		Handover (6)
Nursing office (NO)		Individual administration (7)
		Prescribing (8)
		Reordering (9)
		Pharmacist visit (10)
		Clinical discussion (11)
		Other (12)
		Personal care (13)
		Discussion with relative (14)
		District nurse visit (15)
		Specialist nurse visit (16)

Data collection and data analysis were conducted concurrently, so that insight from the data was taken into the next research situation (Parahoo, 2014; L. Richards, 2009). Post-observation, the handwritten field notes for each observation were transcribed verbatim and collated into a single electronic file to allow searching the narrative collectively, annotation, and memo writing. Participant profiles were constructed for staff involved in the observations based on data collected during the recruitment process and observations; the profile included the professional status of each participant and the country of initial registration of each nurse in order to aid consideration of professional differences during data analysis.

Chapter 4. Methodology

Conventional content analysis was chosen to analyse the data generated from the observations. This inductive approach to content analysis begins with the data being prepared and then organised through coding, categorisation and abstraction to themes, before reporting the results (Cho & Lee, 2014; Elo & Kyngäs, 2008; Vaismoradi, Turunen, & Bondas, 2013). Content analysis as a method of data analysis is often used in qualitative research (Elo & Kyngäs, 2008; Graneheim & Lundman, 2004; Vaismoradi et al., 2013) for making replicable and valid inferences from data to their context. Lee (2010) used content analysis in a doctoral study exploring cultural environments of nursing homes. Conventional content analysis, whereby there is no preconceived categories or theoretical perspective to start, is specifically used when existing knowledge on a phenomena is limited (Hsieh & Shannon, 2005) as is the case in this study of PRN medication.

Based on the concepts described by Graneheim and Lundman (2004), each observation transcription was identified as a unit of analysis. During the preparation stage, the units of analysis were divided into 5 groupings: medication rounds, nursing handovers, practitioner surgeries, provision of residents' personal care and individual events. The groupings represented sets of observations involving comparable activities and participant behaviour. Repeated reading to achieve a sense of the whole enabled immersion in the data.

To organise the data, a manual process of coding was adopted, as opposed to a CAQDAS (Computer-Assisted Qualitative Data Analysis Software) programme; this allowed maximum visual text for analysis (Saldana, 2013). The first observation transcripts were searched to identify content areas that generated a meaning unit (Coffey & Atkinson, 1996). Words, sentences and paragraphs containing related aspects, through their content and context, were classified as a meaning unit and subsequently a code applied. Coding meaning units identified links in segments of the data to explain what the data was about. The purpose of coding in this manner enabled the size of the data set to be reduced or condensed, while preserving the core (Coffey & Atkinson, 1996).

Coding was open, hence the labels used in coding the meaning units were not predefined and were instead generated from the meaning units. Open coding, of

writing labels in the text as it was read, enabled a systematic and objective approach (Elo & Kyngäs, 2008; Merriam, 2009). Table 4.8 provides a sample of a unit of analysis where meaning units were coded; the data is part of a 20-minute medication round undertaken in the dining room on the ground floor on 29-Jun-2010. The codes identified in early transcripts were applied to the remaining transcripts and new codes were given when data did not fit an existing code. A total of 52 codes were applied to the complete observation data set.

Table 4.8 Sample Orthographic Transcription of Unit of Analysis and Applied Codes

Observation	Unit of analysis	Codes
1/GF/NO/S014 13.00h Registered nurse in nurses' office.	Opens Treatment Room (unlocks). Gets out the drug trolley. Trolley marked "Property of Total medicine Group". S014 unlocks trolley in the nurses' office. S014 looks at the MAR sheets.	Professional medication standards
Drug trolley left in Nursing Office – not taken to dining room.	S014 dispenses one tablet for R116 and gets a drink from the dining room. R116 is eating her dinner. R116 has water. S014 – "I have antibiotic for you darling". R116 – "You have what?" XX – "Do you good." S014 – "Gone?" R116 – "Horrible." R116 has difficulty in swallowing. Does not like drink. Tablet not swallowed. R116 spits tablet out – S014 picks up drug from plate and returns it to the medicine cup then empties drug in receptacle in "refused and destroyed" in Treatment Room (unlocked/locked).	Assisting Terms of endearment Simplified grammar Refusal of medication
	S014 confirms to me that medication are administered "morning lunch, teatime and night".	Professional medication standards

Reference: Aguinaldo (2012)

Once all the data was coded, the organisation process concluded with category creation and abstraction to main themes. A category is a group of content or codes that shares a commonality that conventionally "*flow from the data*" (Hsieh & Shannon, 2005). Related and linked codes were organised into clusters enabling groups of codes to form sub-categories and be defined (Coffey & Atkinson, 1996). Sub-categories with similarities were grouped together as generic

categories and these subsequently grouped and abstracted into a main category or theme. An example of abstraction achieved through analysis of the study data and arrival at a main category is demonstrated in Table 4.9.

Table 4.9 Example of the Abstraction Process

Code	Sub-category	Generic category	Main category
Nurse and resident discussion	Partnership	Shared decision-making	Person-centred care
Nurse checking with resident			
GP assessing/re-assessing with resident present	Resident involvement		
Choice of flavour of borderline substances			
Refusal of medication	Resident independence		
Self-administration of medication			
Questions and answers between GP and resident/family	Consultation		
Listening			
Physical examination of resident (GP)			
Individual conversing/encouragement	Individualised care		
Knowledge of resident likes/dislikes/history			
Safeguarding/guardianship	Evidence based care	Knowledge and skills	
Nurses & carers sharing information of resident changes			
Non-administration/withholding routine medicines			
Improving and changing practice	Person-centred dementia care		
Dementia training			
Advocacy			

A theme can be explained as a recurring regularity developed within categories or across categories (Polit & Beck, 2004). Graneheim and Lundman (2004, p. 107) explain a theme as a “*thread of an underlying meaning through condensed meaning units, codes and categories, on an interpretive level*”. Themes formulated expressed an interpretation of the underlying meaning of the social action within the setting (P. Atkinson, 2015) or simply an expression of the latent content. Across all of the observations, 3 main themes were found to explain the majority of the data and these are presented in Chapter 7.

4.7.2. Observation Field Notes

Field notes were recorded post observation to retain the context of the participant observation (Ross, 2012). Making field notes after the recorded participant observation has also been used by Bourbonnais and Ducharme (2010) in a care home environment to “*obtain a more accurate representation*”. New information, drawing on the environment, subsequent events, and researcher’s reflective accounts were recorded to capture a richer and deeper depiction of each unit of analysis.

4.7.3. Phase 2 Impact on Phase 3

The written records of observations provided staff profiles and data on medication management clinical activities by nurses, senior carers, and carers. Aspects of the social context and working culture were recognised and the interactions between nurses and carers and staff and residents (visual and aural) were documented and interpreted. The analysis identified aspects to be explored further and were used as prompts during interviews. The observational field work captured vignettes to explore during interviews (Hertogh et al., 2004) to identify the perspective of the participants. For example, observation 71/1stF/BR/S057/S026 recorded S057 asking “*Has she (R1134) had her bowels open today?*” S057 replied “*I do not know.*” During interviews, an understanding of roles and responsibilities of nurses and carers was achieved, by using bowel care as an exemplar.

4.8. Phase 3: Interviews

During phase 3 of the study, interviews were conducted with care home staff, namely management, nurses, and carers. DiCicco-Bloom and Crabtree (2006) advise:

“The purpose of the qualitative research interview is... based on the meanings that life experiences hold for the interviewees.”

For example Hertogh et al. (2004) explored truth telling and truthfulness of nursing staff with residents with dementia in nursing homes, where in-depth interviews were used to elicit “*what is meant by ‘truth’ and ‘lies’... in the perceptions of*

nurses”. The interviews conducted in this study encouraged the nurses and carers to reflect on their clinical practice with the purpose of gathering data about the experiences and perceptions of registered nurses and care workers regarding their role in the management of PRN medication in the care home. This information would give insight into the influences affecting nurses’ decision-making when providing person-centred care.

4.8.1. Interviews

Seventeen interviews were conducted by the researcher between 1-Sep-2010 and 5-Apr-2011. Interviewees were the Manager and Deputy Manager, who had overall responsibility for medication management at the care home (nursing), 5 nurses, 3 senior carers, 8 carers, and 1 return to practice student. All participants had been observed in medication management activities and agreed to be interviewed. To assist in obtaining individual personal experiences (emic perspective), each interview was individual and face-to-face. Interviews lasted between 17 and 67 minutes. A register of interviews conducted was maintained (Appendix S – Record of Interviews).

All interviews but one were conducted following completion of an observation period to ensure that prior reflection did not change individuals’ observed behaviours. The first interview was conducted on 1-Sep-2010, during the observation period, as the interviewee (Deputy Manager) had resigned but was seen as a key participant. The researcher conducted interviews at agreed times during the interviewee’s shift, with the Manager’s agreement.

As Burnard (2005, p. 4) states, interviews are perhaps “*the most frequently used method of gathering data in qualitative research*”. Interviews have been used to good effect in large scale care home (nursing and residential) studies (Netten et al., 2010) and small scale studies (Hewison, Badger, Clifford, & Thomas, 2009). Researchers have interviewed care home managers (Froggatt, Vaughan, Bernard, & Wild, 2009), care staff (Manthorpe, Samsi, Heath, & Charles, 2011), nurses (Hertogh et al., 2004), residents (Bland, 2007), and relatives (Hockley et al., 2005).

According to Hennink, Hutter and Bailey (2011), the core process of in-depth interviews involves a semi-structured guide and probes, rapport between

interviewer and interviewee, open questions asked empathetically, and encouragement to support story telling. With the requirement of gathering in-depth information from staff, these approaches were adopted in this study as detailed below.

Semi-structured interview methods were used, with each interview composed of an introduction, opening questions, key questions, and closing questions (Hennink et al., 2011). A set of short open questions and prompts were constructed to guide the interviews based on findings from the medication review and practice observed by the researcher. An example of the interview structure used in this study is given in Table 4.10. Semi-structured interviews have been used in ethnographic studies in nursing homes in conjunction with observation before (Bland, 2007; Bourbonnais & Ducharme, 2010). Bourbonnais and Ducharme (2010) believe that if prolonged observation is used in conjunction with interviews the number of interviewees required may be small. Van Maanen (2011) states that the lengthy period of observation and participation in the social setting enables the cultural description of ethnographic inquiry and that intensive work with a few participants is sufficient. This corresponds with the design of this study.

The researcher took the role of an active listener, while ensuring the interviewee remained focussed on the topic. Verbal techniques to aid clarity advocated by Gillham (2005) were used such as asking for more information, explanations, examples, opinions, by rephrasing, summarising, suggesting hypothetical questions and playing devil's advocate. It was considered necessary to appear natural and engaged with participants on an equal basis by interacting to maintain rapport and encourage further discussion. Interviews were conducted in a mutually agreed private quiet place in the care home to avoid distraction or disturbance and promote the interviewee's feeling of safety and ability to answer freely and openly. Care was taken to avoid leading questions or suggesting outcomes.

The first interview allowed the questions in the interview schedule and prompts and probes to be tested (Gillham, 2005). No changes were made to the questions/prompts/probes, language used, phrasing, or length. To assist in

achieving natural and responsive discussions, the question order changed according to responses from the interviewee.

Table 4.10 Example of the In-depth Interview Structure

Structure	Interview content recommended	Study interview questions and probes
Introduction	<p>Introductions, purpose of the research, what will be done with data collected, outline outcome of research, article/report written/intervention.</p> <p>Ethics issues, confidentiality of interview/anonymity of data.</p> <p>Permission for audio-recording what will happen to recording, Re-confirm willing to be interviewed and ask for consent.</p> <p>General questions – background of the interviewee (build rapport with interviewee).</p>	<p>Asked if interviewee was comfortable. Reiterated research was to explore management of PRN medication. Data analysis will lead to doctorate submission and care home will receive a report.</p> <p>Confirmed recording would be heard by researcher and transcriber. Code will ensure anonymity. Request permission to use audio-recording. Security of recording and transcription. Ask if willing to be interviewed and request consent to proceed.</p> <p>General questions – length of employment, previous work experience, medication experience in other nursing environments, training in the EU, adaptation programme.</p>
Opening questions	General questions	Induction, training, NVQs, team support from more experienced staff.
Key questions	Essential questions on the research topic	<p>Medication training. Administration and use of PRN medication. Nursing/carer role and medication management.</p> <p>Vignettes from observations. Teamwork. Person centred (dementia) care.</p> <p>Involvement of residents and relatives.</p> <p>Use of home remedy box.</p>
Closing	Plans for the future	Training, higher education. Ask if interviewee has questions. Thank interviewee.

Reference: Hennink et al. (2011)

Interviews were recorded on a digital audio player (MP3 player) and the recording equipment reliability was tested prior to each interview. Two nurse interviews were unrecorded due to recording equipment malfunction; the first was not repeated as the interviewee left that day to commence maternity leave so detailed field notes were kept in lieu and the second was repeated and successfully recorded.

Interview recordings were transcribed by a professional transcriber and the accuracy of the transcribed content was checked against the interview recording. The transcription adopted a consistent style. The researcher and staff member

were termed interviewer and respondent respectively, with each interviewee identified by a code only. Interview duration, questions asked by the researcher or respondent, inaudible periods on tape (for example [??? 0:10:30.4]), and over speaking were identified and page numbers and line numbers were included, as recommended by King and Horrocks (2010).

Conventional content analysis was used to analyse the data generated from the interviews, as in phase 2 for the observational data. The inductive process of preparation, organisation and reporting, already explained (Elo & Kyngäs, 2008; Graneheim & Lundman, 2004; Vaismoradi et al., 2013), was replicated to obtain information from the interview data. Preparation commenced with the transcripts repeatedly read. Organisation included open coding, categories and abstraction (Elo & Kyngäs, 2008). Each transcript represented a unit of analysis that was coded. Text that appeared to capture key concepts were underlined and codes were written to the right of the text. In total 61 codes were applied to the data set. Codes were sorted into meaningful categories and then higher-order categories dependent on their inter-relationships (Elo & Kyngäs, 2008). Three main themes were found to explain the data and these are presented in Chapter 8. Data reporting participants' qualifications, length of service at the home, and English as a first language provided participant profiles.

4.8.2. Interview Field Notes

Brief field notes were hand written following each interview. Each new entry was dated, the time written, and the participant code stated. To ensure completion of data collection, the field notes were expanded later when transferring them to an electronic file. The social context, environment, interviewee's non-verbal language, and reactions to the questions and probes were detailed and the interviewer's initial thoughts on the discourse were recorded.

4.9. Trustworthiness

Research studies must be rigorous in the conduct of the investigation. According to Merriam (2009, p. 210), regardless of investigation type "*they need to present insights and conclusions that ring true to readers, practitioners, and other researchers*". There

are multiple opinions regarding the appropriateness of extending rigour from quantitative to qualitative research. Likewise for internal and external validity, reliability, and objectivity, which are traditionally used criteria for measuring the quality of process and outcomes in quantitative research (Merriam, 2009; Morse, Barrett, Mayan, Olson, & Spiers, 2002; Porter, 2007; Rolfe, 2006; Sandelowski, 1986, 1993).

For qualitative research, trustworthiness is considered the equivalent to rigour (Schneider, Whitehead, & Elliott, 2007). To judge trustworthiness (Graneheim & Lundman, 2004; Guba, 1981; Lincoln & Guba, 1985), the qualitative paradigm traditionally substitutes credibility, dependability, transferability, and confirmability as criteria to measure the quality of process and outcomes (Birks, 2014; Morrow, 2005). This substitution is known as the parallel methodological criterion (Lincoln & Guba, 2000) and it was selected for use in ensuring trustworthiness was achieved in this study.

The 4 criteria and steps taken to meet them in this study and submission are summarised in Table 4.11 and discussed in detail in Sections 4.9.1 to 4.9.4.

4.9.1. Credibility

Credibility is achieved when the study “*findings are faithful descriptions or interpretations of the lived experience*” (Fain, 2009b, p. 211). Participant verification of findings is recommended (Parahoo, 2014) to confirm an accurate representation of their experience. But the length of this study, residents lacking mental capacity or deaths, and staff attrition made participant verification unachievable and, therefore, alternative approaches were taken to ensure credibility.

Early and prolonged engagement with the participants assisted to ensure the researcher gained an adequate understanding of the care home (nursing) culture and participant experience. Additionally, the length of engagement through recruitment and data collection helped to establish relationships of trust between participants and the researcher that were likely to yield more reliable data.

Data triangulation was core to achieving credibility of the study research findings; the collection of data using a variety of methods and sources enabled the

generation of comprehensive and confirmed findings. Furthermore, a substantial volume of data was available for triangulation with 33 resident care records reviewed and 74 observations and 17 nurse and carer interviews conducted.

Table 4.11 Criteria for Judging Trustworthiness

Criteria	Characteristic	Achieved in study and submission
Credibility (internal validity)	Truth of findings judged by participants and others within the discipline	<ul style="list-style-type: none"> • Early familiarity with culture before data collection commenced • Data triangulation • Substantial participant pool sampled over time • Thick descriptions of context in which phenomenon occur • Negative case analysis • Debriefing with peers • Presenting findings to peers • Comparison with similar research
Dependability (reliability)	Accountability judged by adequate information leading from research question and raw data through steps of analysis to the interpretation of findings	<ul style="list-style-type: none"> • In-depth explanation of research design and implementation • Operational detail of data collection • Reflective appraisal of the project • Achieving confirmability
Transferability (external validity)	Faithful to reality of participants, described in sufficient detail to enable others to evaluate importance for their own practice, research, and theory development	<ul style="list-style-type: none"> • Sufficient contextual information provided about study site and participants • Thick descriptions of context and rich verbatim quotations from which findings derived • Clear description of data collection methods • Discussion of the findings in relation to relevant research
Confirmability (objectivity)	Findings reflect implementation of credibility, dependability and transferability	<ul style="list-style-type: none"> • Meeting all other criteria of trustworthiness • Keeping reflexive records

Table adjusted and content modified from Schneider et al. (2007) and Noble and Smith (2015).

Rich verbatim quotations obtained through observations and interviews are presented in tandem with the interpretation of the data in Chapters 6 and 9 to give sufficient evidence and context that the study findings are grounded in the participants' lived experience under study.

Negative case analysis was conducted by acknowledging data when variations were found in the data against the norm (Gibbs, 2007). For instance, only one

example of a nurse asking a resident if they required PRN pain relief, during a medication round, was observed.

Debriefing and discussion of emerging themes with peers who had care home and qualitative research experience allowed the researcher to uncover personal bias and assumptions. For example, observed breakfast medication 'rounds' involved nurse administrators feeding residents, which appeared to the researcher to address person-centred care. Through reflection and peer debriefing it was identified that nurses had to interrupt the medication 'round' as the carers who normally fed residents were engaged with personal care. Nurses feeding residents breakfast was necessary to maintain the routine of the care home. Reflection and peer review were further supported through the presentation of findings to peers and experts at international and local professional conferences.

Comparison of the study findings with existing research is presented in Chapter 5 to Chapter 8. Congruent findings are highlighted and assist in demonstrating the credibility of those specific findings in this study. Given that the same research design, data collection, and analysis was used for both congruent and conflicting results, confidence in credibility can be extended to any conflicting findings too.

4.9.2. Dependability

In quantitative research, reliability refers to the degree to which repetition of the context, methods, and participants yield the same results. In qualitative research such repetition is problematic and instead dependability is considered, as in the degree to which the study findings can be seen to follow from the research design and implementation.

An audit trail, conceptualised by Lincoln and Guba's (1985) seminal work, has been provided in this submission to demonstrate a clear decision path from the processes that generated the key decisions to the conclusions reached (Gillham, 2005; Parahoo, 2014). Chapter 3 highlighted gaps in existing literature and the subsequently derived research question and objectives of this study, while this chapter has clearly stated the research design and data collection and analysis processes. Chapter 6 to Chapter 8 provide details of how the decisions regarding the data lead to the study findings.

Reflective appraisal of the research project was conducted by maintaining a record of challenges and issues that arose during the study implementation. Many of these are outlined in this chapter, for example in relation to informed consent of residents lacking mental capacity. Further reflections are presented in Chapter 9 in the form of study limitations. This information can assist others to evaluate the effectiveness of the inquiry process and, therefore, the dependability of the research findings.

Furthermore, dependability has been strengthened by undertaking the measures listed in Section 4.9.1 that were used to achieve credibility (Shenton, 2004).

4.9.3. Transferability

Transferability relates to the extent to which others can determine the applicability of the research findings to their own context. This requires describing in sufficient detail the study setting and participants, context of the origin of the findings, and findings in relation to other studies. Transferability is further promoted by providing accurate and rich descriptions of the analysis processes that lead to the research findings, since according to Fain (2009a, p. 212) *“fittingness [or transferability] is the extent that study findings fit the data”*.

Rich details of the care home (nursing) setting are provided in Chapter 5, while participant characteristics are given in Chapter 5 and Chapter 6. This contextual data identifies aspects that reflect the typical and atypical elements of this experience. The inclusion of thick verbatim quotations from observation and interview transcripts in Chapter 7 and Chapter 8 provides crucial context to the findings. Together, this information enables others to determine the degree of transferability of the context and hence findings to their own situation.

As in the case of promoting dependability, a clear description of the data collection methods has been provided in this chapter to enable others to apply the same methods of data collection and analysis in different settings.

Discussion of the study findings in relation to relevant research and applicability to other care homes (nursing) are considered in Chapter 9 and the study conclusions detailed in Chapter 10.

4.9.4. Confirmability

When conclusions are considered to be formed from the data collected, and not from the researcher's bias, then the research is judged as achieving objectivity or confirmability (Angrosino, 2007). Some researchers consider confirmability is achieved when credibility, dependability, and transferability are met (Annells & Whitehead, 2007; Noble & Smith, 2015), the details of which have been provided in Sections 4.9.1, 4.9.2, and 4.9.3. Additionally, the researcher has acknowledged predispositions by detailing the origins of interest in this research topic and research paradigm stance in Chapter 1 and Section 4.1 respectively. In conjunction with the measures for achieving the other trustworthiness criteria, these predispositions can be reviewed and judged by the reader as to the degree of confirmability achieved.

To further limit researcher bias, reflexive records were kept throughout the study. These provided an ethnographic account, which Van Maanen (2011) refers to as in the main a realist tale (author almost absent), that includes elements that are confessional (author's views included) or impressionist (author recounts events as stories). The records recorded emerging ideas and themes at all stages of the study and enabled the researcher to self-check that findings were indeed born from the data and not unduly influenced by researcher bias or predispositions.

4.10. Summary

This chapter provided comprehensive details of the research methodology, the methods used, and aspects of ethics considered with particular reference to participants who may lack mental capacity. Data analysis for the 3 phases of the study and research trustworthiness were addressed in detail. The rationale for choices made have been explained to demonstrate the exacting standards of ethnographic research. The results of phases 1, 2 and 3 are reported in Chapter 5 to Chapter 8 respectively.

Chapter 5 The Care Home (Nursing)

As already detailed in Chapter 2, each care home has a unique context and culture. This uniqueness has the potential to impact medication management processes and the people conducting those processes. Given the research question under investigation in this study, it is therefore important to present a detailed insight into the study site care home (nursing).

Chapter 4 details how the study site care home (nursing) was selected and the process by which consent was achieved to collect data from the site. This chapter provides an overview of the care home (nursing) under study using information that was prior known and gathered from the study documentary review and field notes recorded during observations and interviews.

5.1. Governance

The care home (nursing) was located in an urban area of North London. It was independently owned and managed by a company that owned 7 private (for profit) care homes (nursing) in southeast England. The home was registered with the CSCI in 2006. The home had received favourable CSCI and CQC inspection reports and a 2 star rating. A CQC inspection in October 2011 reported the home was considered to be compliant with all essential standards of quality and safety (Care Quality Commission, 2011). Reviews in January and September 2015 considered the service was safe, effective, caring and responsive (good) but leadership required improvement (Care Quality Commission, 2015a, 2015b).

5.2. Facilities

The purpose-built 77-bed home was designed to accommodate people with nursing and dementia needs. It covered four floors as follows:

- Lower ground floor with main kitchen, laundry and staff room

Chapter 5. The Care Home (Nursing)

- Ground floor with 25 ensuite bedrooms for residents with nursing needs
- First floor with 26 ensuite bedrooms for residents with nursing and dementia needs
- Second floor with 26 ensuite bedrooms for residents with dementia needs

A dining room with kitchen or serving area, large lounge, small dayroom or sitting area, sluice, nurses' office, toilets, and storage areas were located on each floor. Three staircases and 2 lifts interconnect floors. Main entrance doors, doorways to stairs and lifts were security coded for resident safety. The care home (nursing) also included day rooms, cinema, grooming salon, sensory room, a courtyard garden and laundry.

The mission statement of the care home was to provide a homely environment and meet the “*care, social, spiritual and psychological needs*” of residents. Residents were treated as individuals with a right to “*air their views, voice their opinions and make choices*”. Uppermost was “*respect, privacy and the dignity of the individual*”. “*Involvement of friends and families*” was encouraged. “*It is an important part of the philosophy to provide quality*”, “*sensitive and conscientious care*” from “*competent, committed and well trained staff who understand the needs of elderly people.*” (----- Care Home, 2007, p. 4). Practices observed to address the mission statement included resident entertainment, daily activities, outings, religious services, one-to-one discussions between residents and staff, resident and family groups led by Managers, ‘dementia’ and ‘end of life’ staff training, and the involvement in care of community and NHS health care practitioners.

The care home (nursing) was specifically designated for residents over the age of 65, with special permission required from the CQC for people below the age of 65 years to become residents.

Equal opportunities were offered to staff in compliance with relevant legislation (*Disability Discrimination Act 1995 c.50; Race Relations Act 1976 c.74; Sex Discrimination Act 1975 c.65*)(*Disability Discrimination Act 1995 c.50; Race Relations Act 1976 c.74; Sex Discrimination Act 1975 c.65*). The care home encouraged anti-discriminatory practices in terms of race, religion, age and gender. Under the care

home ‘Charter of Rights’ residents had a “right to a key worker”, “representation in the absence of family or friends”, and “the right to complain and access to the complaints procedure” (----- Care Home, 2007, pp. 6, 7). The care home quality management systems were externally audited and there was a commitment to staff training and development.

Pet dogs, cats, or birds could accompany a resident on admission. During the period of the study, 2 cats lived with residents and family dogs visited occasionally. Field notes written during the recruitment of residents and observational phase identified aspects of the unique culture of the community studied (see Figure 5.1). The care home (nursing) captured the “feel of the home” reported by Davies and Nolan (2003, p. 441) as important to relatives and necessary for residents to live life as normal (Department of Health, 1989).

Figure 5.1 Unique Culture of the Community Studied

During field visits photograph prints were displayed on walls capturing staff and residents enjoying recent parties, events or outing. Plain dining room and lounge walls were decorated with repeat patterns. Soft furnishings in vibrant colours, plastic and silk flowers (21-Nov-2009/Field notes), and knick-knacks often gifted by relatives captured a homely environment perhaps representative of many of the residents’ own homes. Film star pictures reminiscent of the 40s and 50s (for example Audrey Hepburn, Rock Hudson and Fred Astaire) hung in the cinema room (17-Mar-2010/Field notes).

In the refurbished landscaped ‘Sunshine garden’ (23-Oct2009/Field notes) residents planted vegetables in raised beds (13-Apr-2010/Field notes) and roses were planted by relatives to commemorate deceased residents. Garden tables, seating and parasols enabled use during good weather and supported the ‘breath of fresh air’ policy for all residents to regularly spend time outdoors (3-Jun-2010/Field notes).

A summer fete and Christmas fair were annual open days. Staff dressed in colourful costumes as Halloween witches, Christmas Santa or elf and St Patrick’s day leprechaun (17-Mar-2010/Field notes), while residents carved pumpkins for lighting at Halloween (30-Oct-2009/Field notes) or wore themed home-made hats and accessories. Singing and dancing to live music occurred on celebration days (17-Mar-2010/Field notes). Religious services (21-Jan-2010/Field notes) baking, tea parties (22-Jan-2010/17-Mar-2010/Field notes) and bingo (13-Apr-2010/Field notes) were conducted weekly.

Birthday celebrations observed included a dinner with friends in the small dayroom, dinner with family and/or staff at a restaurant and a family party to which residents and staff were invited. A centennial birthday included a visit from the mayor.

Positive friendships between residents (21-Jan-2010/Field notes) and among families were observable in how staff and residents interacted, and conversations on topics of common interest with staff developed. Post funeral teas were held at the care home (nursing) in recognition that it was the resident’s home (23-Feb-2010/Field notes). Following attendance by staff and residents at a carer’s registry office wedding a breakfast was hosted and an evening reception was held for a nurse on the day of her marriage. These two celebrations appeared to demonstrate that staff saw residents as their extended family and a substitute for kin living abroad.

The 'homely environment' was safe and secure, the past represented by possessions, a place people felt attached to and included personal space (Peace & Holland, 2001). Family, friendships and relationships known to aid resident well-being were also observed (13-Nov-2009/21-Nov-2009/Field notes) (Edvardsson, Fetherstonhaugh, & Nay, 2010).

Resident funding was multi-sourced and could change dependent on health and social care needs. Residents assessed as having a 'primary health need' were funded solely by the NHS. Residents who did not meet this criteria received NHS funding for any 'health needs' and were means tested to establish private and social services (SS) contributions to pay for personal care needs (Department of Health, 2012e; Thompson, Cook, & Duschinsky, 2015). Of the 33 residents who were recruited to the study, 7 participants were entirely privately funded and 24 were NHS and/or SS funded (Table 5.1). The funding for the remaining 3 residents recruited was unrecorded.

Table 5.1 Resident Funding Sources

Funding source as recorded in residents' care notes	Number of residents
Private	7
NHS only	3
SS only	16
NHS and SS	1
NHS and/or SS	4
Not recorded	3
TOTAL	33

5.3. Residents

A total of 34 (44%) residents were recruited to the study. One resident died before data collection commenced and therefore the sample represent 33 residents. As consent to access resident records was not obtained from 43 care home (nursing) residents it was not possible to consider how representative the participant sample were to the care home (nursing) overall.

The information about the 33 participating residents presented in this section was obtained from their care records. It presents a snapshot of the residents' demographic and medical profiles at the start of the phase 1 data collection period

(21-Dec-2009), or for 3 late recruited resident participants when they joined the study.

The sex, age, nationality and length of stay of resident participants were recorded to assess if they were similar to samples in related studies conducted in care homes or national trends. Knowledge of residents' physical and mental health conditions was required to provide a context for medication prescribing and use identified in the medication review and observations to be undertaken.

5.3.1. Demographic Profiles

The participants consisted of 24 females and 9 males, giving an overall sex ratio of female to male participants as 2.7:1.

The ages of participants ranged from 61 to 98 years. Table 5.2 provides detailed age information using the classification developed by Uhlenberg (2009), which represents three ages of older people (young old, old old, and oldest old). This age classification is widely used because it provides a more detailed breakdown of age, which is necessary due to the increase in people reaching 60 and longer life expectancy (Endo et al., 2011; French, Sargent-Cox, & Luszcz, 2012; Nygren, Norberg, & Lundman, 2007; Zizza, Ellison, & Wernette, 2009). The most populated age category for participants was oldest old (≥ 85 years), with 42% of the total number of participants. The mean age was slightly higher for female than male participants, with 82.0 and 76.4 years respectively.

Table 5.2 Age of Residents

Age	Number of residents by sex			Mean (\pm SD)
	Female	Male	Total	
60-74 young old	5	5	10	68.1 (\pm 4.7)
75-84 old old	7	2	9	80.1 (\pm 2.6)
≥ 85 oldest old	12	2	14	89.6 (\pm 3.5)
Total	24	9	33	80.5 (\pm 9.8)
Mean (\pm SD)	82.0 (\pm 8.6)	76.4 (\pm 11.5)	80.5 (\pm 9.8)	

Nationality was recorded in the care notes for all but 2 residents, as listed in Table 5.3. More than two-thirds ($n=23$) of the participants were recorded as British

and, from researcher observation, had a Caucasian appearance. Religious identity was not documented.

Table 5.3 Nationality of Residents

Nationality	Number of residents
British	23
Indian	1
Irish	3
Kenyan	1
Scottish	1
Spanish	1
Welsh	1
Not recorded	2
Total	33

5.3.2. Admittance and Residency

Length of residency was calculated from the recorded date of admission in each resident's care notes for 30 residents (Table 5.4); the 3 resident participants whose data is omitted for this calculation were admitted during the review (MAR periods 1, 5, and 6). The length of residency for residents ranged between 1 month and 42 months (mean $19.6 \pm \text{SD } 13.9$, median 15 months). The mean length of residency was substantially longer for residents aged 60-74 years (23.6 months), and decreased for residents aged 75-84 years (20.1 months), and again for residents aged ≥ 85 years (16.2 months); this appears to indicate that increasing age is a factor in decreasing length of residency. There was little difference in the mean length of residency for female and male residents, with $20.1 (\pm \text{SD } 14.1)$ and $18.3 (\pm \text{SD } 13.1)$ months respectively.

The place from where each resident was originally admitted was recorded in the care reports for only 19 residents. Transfer to the care home occurred from the community (n=5), a care home or warden controlled environment (n=6), or hospital (n=8).

Table 5.4 Length of Residency

Length of residency (R) in months	Number of residents by age			Total
	60-74	75-84	≥85	
R < 3	0	0	1	1
3 ≤ R < 6	2	2	3	7
6 ≤ R < 12	0	2	0	2
12 ≤ R < 24	3	0	5	8
24 ≤ R < 36	0	0	3	3
36 ≤ R	5	3	1	9
Total	10	7	13	30
Mean (± SD)	23.6 (± 14.6)	20.1 (± 15.9)	16.2 (± 11.0)	

5.3.3. Long-term Medical Conditions

The incidence and types of long-term medical conditions for residents was determined from residents' records. General trends are presented here.

A long-term medical condition was recorded for every resident, with 73% (n=24) of residents recorded as having 3 or more co-morbidities (mean $3.4 \pm \text{SD } 1.3$; Table 5.5). The highest number of co-morbidities was 6 and occurred for a single female resident. Co-morbidity affected residents in every age group and the mean number of long-term medical conditions was marginally higher for females ($3.7 \pm \text{SD } 1.2$) than males ($2.4 \pm \text{SD } 1.2$).

Table 5.5 Co-morbidity of Residents

Number of long-term medical conditions per resident	Number of residents by age			Total
	60-74	75-84	≥85	
1	2	1	0	3
2	0	3	3	6
3	5	1	4	10
4	1	2	2	5
5	1	2	5	8
6	1	0	0	1
Total	10	9	14	33

In total, 42 individual long-term medical conditions were recorded in participant case notes as the leading cause of morbidity, with dementia and mental health illness (88%, n=29) and cardiovascular disease (54%, n=18) as the most frequently occurring morbidities.

It is acknowledged that Alzheimer's disease is the most common cause of dementia and that dementia is a set of symptoms (Alzheimer's Society, 2014). Care home nursing notes recorded Alzheimer's and dementia as separate diagnoses, thereby creating a false distinction. Of the 29 residents recorded with mental health conditions, 30% (n=10) were recorded as Alzheimer's and 45% (n=15) had dementia. A specific diagnoses of depression, schizophrenia, and epilepsy was recorded for 4 resident participants but it was unclear if these were enduring mental health conditions or secondary to ageing. The sample demonstrated a greater proportion of male residents (89%, n=8) with Alzheimer's/dementia than females (67%, n=16; Table 5.6). Despite the overall large number of residents recorded with mental health illness, residents' cognitive state and behavioural and psychiatric symptoms of dementia (BPSD) were recorded for only 4 participants.

Table 5.6 Incidence of Alzheimer's/Dementia

Age	Number of residents with Alzheimer's /dementia by sex		Total
	Female	Male	
60-74	4	4	8
75-84	5	2	7
≥85	7	2	9
Total	16	8	24

Of the 18 residents recorded with cardiovascular disease, 67% (n=12) had hypertension, 22% (n=4) had suffered a cerebral vascular accident, and 17% (n=3) had atrial fibrillation. In addition to the overall incidence of cardiovascular disease, the small sample demonstrates an equal proportion of residents affected by cardiovascular disease in each age category but a greater proportion of female residents (63%) with cardiovascular disease than males (33%; Table 5.7).

Table 5.7 Incidence of Cardiovascular Disease

Age	Number of residents with cardiovascular disease by sex		Total
	Female	Male	
60-74	4	1	5
75-84	4	1	5
≥85	7	1	8
Total	15	3	18

5.3.4. Level of Dependency

The dependency profile of each resident was assessed after admission using a pre-printed care dependency rating scale based on the Activities of Daily Living (ADLs) (Roper, Logan, & Tierney, 1996). This scale identifies the level of dependency a person has on others in order to complete everyday tasks. All participants were identified with some level of dependency: 0 with low levels, 18 with medium levels, and 15 with high levels.

Within this study population, the proportion of residents with a diagnosis in their care notes of Alzheimer's disease with high dependency levels (70%) was greater than the proportion of residents with a recorded diagnosis of dementia with high dependency levels (47%) or residents diagnosed with other causes of psychiatric and cognitive impairment with high dependency levels (20%; Table 5.8).

Table 5.8 Dependency Levels of Residents with Psychiatric or Cognitive Impairment

Dependency level	Number of residents by psychiatric or cognitive impairment				Total
	Alzheimer's	Dementia	Other	None	
Medium	3	8	4	3	18
High	7	7	1	1	16*
Total	10	15	5	4	34*

* One high dependency level resident is counted twice as they were recorded as having both Alzheimer's and dementia diagnosis.

Three further tests were specified as having been used in the care records: the Mini-mental state examination (MMSE) to assess degree of mental impairment (n=3) (Folstein, Folstein, & McHigh, 1975), the Cornell scale for depression in dementia (CSDD) (n=1) (Alexopoulos, Abrams, Young, & Shamoian, 1988), and the Abbey pain scale (n=1) (Abbey et al., 2004).

5.3.5. Medical and Social Needs of Residents

The ground and first floor residents were continuously managed by 2 nurses. The residents' medical and psychological health status and care needs determined what floor of the care home they lived on. The ground floor residents required high levels of nursing care (i.e. insulin administration, percutaneous endoscopic gastrostomy (PEG) administration of enteral feeds, oxygen therapy, EoLC) while the first floor residents had need of both nursing care (mobility limitations) and

care related to behaviours associated with dementia (swallowing, wandering, communication difficulties, insomnia, incontinence, behaviour that challenges). The second floor was categorised as residential care and was managed by a senior carer during the day and night with registered nurse support. The residents had dementia with memory loss and required practical care and support associated with activities of daily living.

5.4. Workforce

Employed at the care home (nursing) in September 2009 were 11 registered adult nurses (FTE), 43 care and ancillary staff (FTE), and an activities co-ordinator. The registered Manager and a Deputy Manager, who was also a registered mental health nurse, lead the 9 nurses who were responsible for day-to-day care of the residents.

The care home (nursing) Manager was registered with the Care Quality Commission having undertaken a level 5 diploma in health and social care leadership and management and being able to demonstrate the knowledge, skills and experience required. The Manager and the registered provider *are “legally responsible and accountable for compliance with the requirements of the Health and Social Care Act 2008”* (Care Quality Commission, 2013e, p. 3).

To ensure 24-hour coverage, nursing and care staff were allocated to 2 shifts 08.00 to 20.00 and 20.00 to 08.00. The number of staff on duty varied between day and night shifts. During the day, 3 or 4 nurses and between 15 and 18 carers were split between the 3 floors. At night, 2 nurses and 6 or 7 carers were working.

Staff were predominantly female (1 male nurse Manager and 8 male carers) and ages ranged from 20 years to over 65 years. Ethnicity/nationality and contractual details were not collected from staff recruited as these were not considered necessary at the time.

All nurses worked full-time. Four nurses trained in Europe and 5 nurses trained in India and were required to undertake an adaptation programme to register with the Nursing and Midwifery Council. Of the registered nurses 10 spoke English as a second language.

The Manager held a Master of Science degree while all other nurses held certificate and diploma level qualifications. Annual mandatory training, professional development courses, and study days were attended by staff regularly. The principles of 'Dementia Care Matters' taught by David Sheard (University of Surrey, 2015), on a course attended by the Manager (Field notes: 29-Jan-2010) was delivered to staff at the time of data collection (Field notes: 18-Jun-2010).

Senior carers and carers held National Vocational Qualifications at level 2 and 3 (replaced in 2010/2011 by Qualification and Credit Frameworks (QFC) that measure occupational competency (Robson, 2011).

All nurses, senior carers, and carers are named key workers allocated to specific residents. This carries the responsibility of ensuring that regular assessments are conducted in accordance with the resident's care plan.

The home was a placement centre for students. Nurses were Stage 1 mentors (n=9) or stage 2 mentors (n=2) and assisted pre-registration nursing students and return to practice students who were hosted at the care home (nursing) (Nursing and Midwifery Council, 2008d). Students studying BTEC health and social care courses at local colleges and school leavers requiring work experience also attended the care home (nursing).

5.5. Medication Services

NHS primary care and secondary care services (nurses, therapists) and independent practitioners (dentist, optician, physiotherapist) also provided care to residents. The care home (nursing) residents were all register with a preferred GP practice that was paid a 'retainer' to provide regular surgeries and visits on request (Jacobs, 2003; National Care Forum, 2013). Residents also attended National Health Service (NHS) and private consultations at local hospitals and clinics. Visiting pharmacists, dentists and nurse prescribers referred resident medication concerns to the GP, while prescribing at hospital or clinic appointments were notified to the GP in writing.

Prescribing, supply, and review of routine and PRN medication were the responsibility of the serving general practitioners (GPs), independent and

community pharmacists and nursing staff. A general practice at the neighbouring medical centre provided resident services when needed on a daily basis. One of the 8 GP practice partners oversaw the healthcare of all residents, holding a weekly surgery at the care home. For medical emergencies, out of hours GP deputising services were used.

The care home (nursing) was served by independent pharmacy services that controlled, stocked, dispensed, and distributed medication supplies in accordance with legal and professional regulations (NHS Careers, 2013). The pharmacy service was contracted to teach medication management to the nurses and senior carers at the care home (nursing). Training and the care home medication policy (-----, 2008) was based on OPUS Pharmacy Services medication training publications (2014a). The OPUS PRN medication protocol (2014b) that guided decision-making (including reason for medication, dose criteria, decision on how and when to give, circumstances for reporting to GP) was not adopted but basic aspects of the content were reflected in the care home medication record of PRN administration. New prescriptions were faxed from the care home to the supplier and delivered on demand. Repeat prescriptions were delivered on a regular 4-week basis. A local community chemist provided medication required urgently, such as analgesia, antibiotics, antiemetics. A supermarket with 24-hour opening was used during the night by relatives to collect medication required urgently.

5.6. Medication Management Documents

The care home (nursing) structures and networks, policies and guidance and details of staff training on medicines management were examined to inform of processes, documentation and education in relation to clinical practice. The Deputy Manager had responsibility for medication management, overseeing all stages (prescribing, dispensing, delivery, storage, administration, record keeping, monthly audit, destroying of medicines, staff training). Details of the training content, including the administration of PRN medication, and a medicine administration policy were based on professional guidelines (BMA & Royal Pharmaceutical Society of Great Britain, 2008; Nursing and Midwifery Council, 2008c).

5.7. Summary

An outline of the care home (nursing) where the research study was conducted has been provided in this chapter. Details of the building structure and floor layouts provide an image of the residents' home. The care home mission statement represents holistic, ethical care provided by professional staff. The various means of resident funding is also identified, with the majority paid by social services.

Residents' demographic characteristics (sex, age, nationality) long-term-medical conditions, comorbidities and medium to high dependency levels have been identified. A brief profile of the care home (nursing) workforce has been given (gender, qualifications, employment responsibilities).

NHS and independent practitioners provided health and medication services. A local medical centre with a practice of 8 GPs oversaw the healthcare of all residents. An independent community pharmacy service provided all prescribed items and were contracted to teach medication management to nurses and senior carers.

Chapter 6, Chapter 7 and Chapter 8 present findings from the medication review, observations and interviews, respectively.

Chapter 5. The Care Home (Nursing)

Chapter 6 Medication Review

During phase 1 of the research study, a range of documents was reviewed: resident participants' case records, MAR sheets, and care home documents. The review purpose was to obtain baseline data about the resident participants, identify PRN medication prescribed and administered, and have knowledge of nursing practice affected and recorded by care home (nursing) documents. This information would give insight into the use of general and PRN medication and help to contextualise the work of nurses.

This chapter presents the findings derived from these documents primarily relating to the first research objective: to identify the drugs prescribed for PRN use in the care home (nursing). Findings are also presented relating to the context surrounding the use of PRN medication in the care home (nursing) under study. Findings are presented in three areas: routinely prescribed medication, PRN prescribed medication, and medication management. The chapter concludes with a summary and discussion of how these results were used to inform data collection during phases 2 and 3 of the research.

The information presented in this chapter about medication prescribed to 33 participating residents was obtained from MAR sheets for each resident. It presents a changing picture over time, with each MAR sheet covering a period of 4 weeks (28 days) and 6 consecutive MAR sheets analysed for each resident over the period 21-Dec-2009 to 6-Jun-2010. For 3 late recruited resident participants, MAR sheet analysis commenced when they joined the study (periods 1, 5 and 6) and ended on 6-Jun-2010 also. Note that 2 residents died after commencement of the MAR sheet collection (periods 1 and 4) and their data is included in the analysis.

6.1. Routinely Prescribed Medication

Prescribed medication includes drugs and preparations that are prescription-only medicines (POMs) and over-the-counter (OTC) medicines. For routinely prescribed medication, frequency of administration varies from daily, twice a day (BD), 3 times a day (TDS), and 4 times a day (QDS).

Between 260 and 299 separate prescriptions for routine use were issued each MAR sheet period (Table 6.1). For the participant population as a whole, the mean number of routinely prescribed medication per resident varied little over the six MAR periods, ranging between 8.7 and 10.0.

All residents were prescribed at least 2 medication for routine use during the review phase (Table 6.1). The maximum number of medication prescribed for routine use to any one resident was 23 and occurred in MAR period 1. The number of routinely prescribed medication varied for the majority of residents across the review period, with just 2 residents prescribed the same number of medication in all 6 MAR periods.

Table 6.1 Routinely Prescribed Medication Measures by MAR Period

Measure	Routinely prescribed medication by MAR period					
	P1	P2	P3	P4	P5	P6
Total	299	261	274	260	288	295
Minimum for a single resident	3	2	2	2	2	2
Maximum for a single resident	23	17	20	19	21	21
Median	8	8	7.5	8	9	8
Mean (\pm SD)	10.0 (\pm 5.4)	8.7 (\pm 4.0)	9.1 (\pm 4.6)	8.7 (\pm 4.4)	9.6 (\pm 4.5)	9.5 (\pm 4.9)

Polypharmacy (≥ 5 medication), which increases the risk of adverse drug reactions (Pharmacy and Prescribing Team, 2006), affected between 24 and 27 residents in MAR periods 1 to 6 (Table 6.2). Just 3 residents were unaffected by polypharmacy for the entire review period.

Medication prescribed, according to individual drug class (BMA & Royal Pharmaceutical Society of Great Britain, 2008), showed variability among the residents. The most frequently prescribed medication for the review period were

cardiovascular medication, psychotropic drugs, dietary supplements, laxatives, and dermatological preparations. The prescribing of each medication group is considered in further detail below.

Table 6.2 Number of Routinely Prescribed Medication by MAR Period

Number of routinely prescribed medication	Number of residents by MAR period					
	P1	P2	P3	P4	P5	P6
0-4 (non-polypharmacy)	3	4	5	6	4	4
5-9	14	16	13	12	12	13
10-14	5	7	8	10	10	8
15-19	6	3	3	2	3	5
≥20	2	0	1	0	1	1
Total*	30	30	30	30	30	31

* Variability in total participant numbers over the six MAR periods due to residents joining (new to home) and leaving (death) the study.

6.1.1. Cardiovascular Medication

Cardiovascular medication (C01-C10, Table 6.3) (World Health Organisation, 2012) were prescribed to 20 residents, of which 80% (n=16) had recorded cardiovascular disease. Four residents prescribed cardiovascular medication without a recorded cardiovascular disease all received aspirin or diuretics or both, while 2 residents with recorded cardiovascular disease were not prescribed cardiovascular medication. These latter 2 and 1 further resident had recorded hypertension but were not prescribed treatment for the condition.

Application of the Screening Tool of Older Persons' Prescriptions (STOPP) criteria identified residents (n=9) receiving aspirin as a prophylactic antiplatelet without a histamine H₂ antagonist (except cimetidine) or a proton pump inhibitor. This is considered inappropriate as it increases the risk of gastrointestinal bleeding (Gallagher et al., 2009).

6.1.2. Psychotropic Medication

Long-term (>1 MAR period) psychotropic drugs (antipsychotics, anxiolytics, hypnotics and sedatives, antidepressants) were prescribed to half the residents (n=17). The hypnotic temazepam (n=8), antipsychotic quetiapine (n=7), and antidepressant citalopram (n=6) were most frequently prescribed.

Table 6.3 Prescribed Medication Associated with Cardiovascular Disease

ATC category	Prescribed medicines	Medical condition (morbidity)	Pharmacological product	Number of residents*
C01	Cardiac glycoside	Heart failure, supraventricular arrhythmias	Digoxin,	2
C02	Antihypertensive	Hypertension	Indoramin, Perindopril erbumine	2
C03/C07	Diuretics	Fluid retention	Fruzemide, Spironolactone, Bendroflumethiazide,	10
C05	Vasoprotector	Haemorrhoids	Anusol	1
C05	Nitrates	Angina	Glycerol trinitrate, Isosorbide dinitrate,	2
C07	Beta-adrenoceptor blocker	Hypertension, angina, myocardial infarction, arrhythmias, heart failure	Atenolol,	3
C08	Calcium-channel blockers	Hypertension, prophylaxis angina	Amlodipine, Adalat retard	12
C09	ACE inhibitor	Heart failure, hypertension, prophylaxis of cardiovascular events	Ramipril, Perindopril erbumine, Enalapril,	7
C09	Angiotensin-II receptor antagonists	Heart failure, hypertension, diabetic nephropathy	Irbesartan,	1
C10	Antiplatelet	Cerebrovascular disease myocardial infarction, ischaemia	Aspirin, Clopidogrel, Dipyridamole,	17
C10	Statins	Hypercholesterolemia	Simvastatin, Atorvastatin,	9

* Residents counted more than once when prescribed medication in multiple categories.

Of the residents prescribed psychotropic drugs, 10 were prescribed antidepressants long-term but only 5 had recorded depression. STOPP criteria screening for potential inappropriate prescribing (PIP) identified 4 residents given antipsychotics throughout the review. Only 2 residents had a recorded diagnosis of schizoaffective disorder/schizophrenia but 10 were prescribed antipsychotics. Further screening identified 1 resident prescribed a combination of an anticonvulsant, antipsychotic, a hypnotic, 2 dopaminergic drugs, and 2 antidepressants (lithium and an SSRI) increasing the risk of adverse drug interactions (Karalliedde, 2010).

Using the Anatomical Therapeutic Chemical (ATC) Classification system (World Health Organisation, 2012), medication were divided into 4 groups according to

their sedation effect (Table 6.4). Group 1 comprised psychotropics, Group 2 drugs with sedation as a prominent side effect or a sedating component, Group 3 medication with sedation as a potential adverse effect, and Group 4 all other drugs (Linjakumpu et al., 2003). PRN medication were excluded. One third of residents (n=11) used Group 1 primary sedative medicines, over half of residents (n=19) used Group 2, and over two thirds (n=23) used sedatives (Groups 1 and 2).

Table 6.4 Prevalence of Medication Use by Sedation Effect

Group	Medication	Number of residents
1. Primary sedatives (sedative load 2)		
Conventional antipsychotics	Priadel, Pipprtil depot	2
Anxiolytics	Clonazepam	1
Hypnotics	Temazepam, Nitrazepam, Zopiclone	9
2. Drugs with sedation as a prominent side effect or with a sedating component (sedative load 1)		
Atypical antipsychotics	Amisulpride, quetiapine	8
Selective serotonin reuptake inhibitors	Citalopram, fluoxetine, sertraline	7
Other second generation antidepressants	Mitrazapine, trazodone	4
Opioids	Buprenorphine, dihydrocodeine, fentanyl, tramadol, fentanyl, co-codamol	6
Antiepileptics	Carbamazepine, epilim, phenytoin, pregabalin, sodium valproate, tegretol, gabapentin	3
Other drugs with sedative score	Metoclopramide, hyoscine, cyclicine	3
3. Drugs with sedation as a potential adverse effect (sedative load 0)		
Alimentary	Lansoprazole, omeprazole, cimetidin	12
Cardiovascular	Spironolactone, amiloride, atenolol, enalapril, ramipril, simvastatin, atorvastatin	15
Musculo-skeletal	Ibuprofen	2
CNS (N)	Co-careldopa, stalevo, donepezil, galantamine	5
Antiprotozoals	Metronidazole	2
Respiratory	Loratadine	1

* Residents counted more than once when prescribed medication in multiple categories.

A higher proportion of females (75%, n=18) was prescribed sedatives than males (56%, n=5). A smaller proportion of those aged 85 years and over (57%, n=8) was prescribed sedatives than those aged 60 -74 years (80%, n=8) or 75-84 years (78%, n=7).

Sedative loads were calculated for each MAR period for residents prescribed psychotropic and sedative medication in accordance with the model developed by Linakumpa et al. (2003). Group 1 and Group 2 medication were given sedative loads of 2 and 1 respectively, Groups 3 and 4 had a sedative load of 0 (Parsons et al., 2011; Taipale, Bell, Soini, & Pitkälä, 2009). Less than a third of residents (n=9) used no sedatives (sedative load 0), a further third (n=12) used some sedatives (load of 1 or 2), and the final third of residents (n=12) had a high sedative load (≥ 3 ; Table 6.5).

Table 6.5 Sedative Load of Routine Medication for Residents

Sedative load	Number of residents by MAR period					
	P1	P2	P3	P4	P5	P6
0	11	13	13	13	15	15
1	4	4	4	4	3	3
2	7	6	6	6	6	5
3	3	2	2	2	2	3
4	2	2	3	3	3	3
5	1	1	0	2	2	2
6	1	1	1	0	0	0
7	1	1	1	0	0	0
Total*	30	30	30	30	31	31

* Variability in total participant numbers over the six MAR periods due to residents joining (new to home) and leaving (death) the study.

6.1.3. Dietary Supplements

Dietary supplements were prescribed for routine administration to just over half (n=17) the participant residents. Of these, 9 residents were 85 years or older. Most frequently prescribed were calcium and vitamin D, folic acid and iron (ATC codes A11 vitamins and A12 minerals; Table 6.6). Prescribing length varied from 1 to 6 periods but on average dietary supplements were prescribed for 137 days, nearly 5 whole periods.

Residents with recorded anaemia (n=1), folate deficiency (n=1), and impaired renal function (n=3) received iron, folic acid, and vitamin D treatment respectively. Vitamin D deficiency affects more than 50% of the world population but particularly the elderly (Timpini, Pini, Tantucci, Cossi, & Grassi, 2011). Deficiency can affect the function of organs such as the muscle–skeletal, cardio-vascular systems and kidney, and is associated with type II diabetes, cancer

and cognitive decline (Holick, 2007). Replacement therapy was prescribed to residents (n=6) diagnosed with type II diabetes (n=1), cancer (n=1), muscular-skeletal disease (n=3), and cardio-vascular disease (n=4). Over half of the residents (n=7) diagnosed with these diseases did not receive vitamin D. Length of prescribing of supplements varied from a single 28-day period (n=3) to the full 168 days (n=20).

Table 6.6 Dietary Supplements Prescribed for Routine Use

Medication prescribed	Number of participants by prescription length (1 MAR period = 28 days)						Total
	1 period	2 periods	3 periods	4 periods	5 periods	6 periods	
Adcal-D3, Calcichew-D3. Calcium carbonate + vitamin D3	1	0	0	0	0	6	7
Ascorbic acid	0	0	0	0	0	1	1
Borderline substances	2	1	1	0	1	5	10
Cod-liver oil	1	0	0	0	0	0	1
Cyanocobalamin	0	0	0	0	0	1	1
Ferrous fumerate, Ferrous sulphate	0	0	0	0	0	5	5
Folic acid	0	0	0	1	0	5	6
Vitamins	0	1	0	0	0	1	2
Vitamin B	1	0	0	0	0	0	1
Zinc sulphate monohydrate	0	0	0	0	0	1	1
Total	5	2	1	1	1	25	35

* Residents counted more than once when prescribed medication in multiple categories.

Borderline substances regarded as drugs (Build Up, Complian, Clinutren, Ensure, Forticreme, Resource) were prescribed routinely (n=9) and PRN (n=1). Feed thickener was prescribed routinely (n=1) and PRN (n=2) for continuous use to residents with dysphagia.

6.1.4. Laxative Medication

Eighteen residents were prescribed laxatives for use during at least 1 of the 6 MAR periods, composed of 63% (n=15) of the female and 33% (n=3) of the male residents. Three different laxatives were prescribed (Lactulose, Movicol, Senna) and Lactulose was prescribed most commonly (Table 6.7). Prescribing of multiple

laxatives occurred for 8 residents, with 7 prescribed 2 laxatives and 1 prescribed 3 laxatives.

Laxatives were most commonly prescribed to residents for routine use only (n=12), but they were prescribed to a small number of residents for PRN use only (n=1) or routine and PRN use (n=5; Table 6.7). In the case of PRN prescriptions, prescribing involved the same laxatives but the dose of PRN lactulose was reduced for 2 residents. There was substantial variation in the number of days laxatives were prescribed PRN (mean 95.7 ± SD 64.9) and the number of occasions administered PRN (mean 9.0 ± SD 10.6). Eleven residents were administered laxatives for the entire 168-day MAR review period.

Table 6.7 Prescribed Laxatives and Prescription Type

Prescribed laxatives	Number of residents by prescription type			Total
	Routine	PRN	Routine and PRN	
Lactulose only	4	1	0	5
Movicol only	1	0	2	3
Senna only	2	0	0	2
Lactulose and Movicol	1	0	0	1
Lactulose and Senna	2	0	1	3
Movicol and Senna	1	0	2	3
Lactulose, Movicol and Senna	1	0	0	1
Total	12	1	5	18

Of the 30 residents affected by polypharmacy, over half (n=17) were prescribed laxatives; only 1 of the residents prescribed laxatives was not affected by polypharmacy (Table 6.8). The number of total prescribed medicines for residents prescribed laxatives ranged from 3 to 23 (mean 11.7 ± SD 4.9). Seven residents prescribed laxatives were prescribed constipation inducing drugs (Table 6.8); medication involved included analgesics (Buprenorphine, Codein phosphate, Dihydrocodeine, Fentanyl, Tramadol), oral iron (Ferrous sulphate), and calcium-channel blockers (Adalat retard).

There was little difference in the overall laxative prescribing for each floor of the care home (Table 6.9), with between 50% and 58% of residents prescribed laxatives per floor. But PRN prescribing of laxatives occurred solely on the first and second floors; this corresponds to residents with nursing needs on the ground

floor not receiving PRN laxatives and residents with dementia on the first and second floors receiving PRN laxatives. In fact, of the 18 residents prescribed laxatives for routine and/or PRN use, two thirds (n=12) had dementia. This may be accounted for by less physical activity and difficulty with eating and drinking associated with dementia (Alzheimer's Society, 2010).

Table 6.8 Number of Prescribed Medication for Residents Prescribed Laxatives

Maximum number of prescribed medication in any one MAR period	Number of residents prescribed laxatives by other prescriptions		Total
	Constipation inducing drugs	Non-constipation inducing drugs	
0-4 (non-polypharmacy)	0	1	1
5-9	1	5	6
10-14	3	2	5
15-19	2	3	5
≥20	1	0	1
Total	7	11	18

Table 6.9 Number of Laxatives Prescribed by Care Home (Nursing) Floor

Floor (number of resident participants)	Number of residents prescribed laxatives by number of			Total
	1 laxative	2 laxatives	3 laxatives	
Ground (10)	2	3	0	5
First (11)	3	3	0	6
Second (12)	5	1	1	7
Total (33)	10	7	1	18

6.2. PRN Medication

Between 35 and 44 separate prescriptions for PRN use were issued each MAR sheet period (Table 6.10). Over the entire review period, PRN medication prescribing contributed 12.7% of all medication prescribed, with a range for the 6 MAR periods of 11.8% to 13.6%. As in the case of routinely prescribed medication, the mean number of PRN prescribed medication per resident varied little over the 6 MAR periods, ranging between 1.2 and 1.5 (Table 6.10).

Unlike routinely prescribed medication for which all residents were prescribed at least 2 medication in each MAR period, a small number of residents (n=3) were prescribed no medication for PRN use during the review phase. These residents

(R129, R136, R143) all lacked mental capacity and were not involved in medication decision-making. The maximum number of medication prescribed for PRN use to any 1 resident was 7 and occurred in MAR period 6. This resident (R106) had mental capacity and was involved in medication decision-making. The PRN medication prescribed were an anti-inflammatory analgesic, dermatological preparation, bronchodilator, food thickener, antiemetic, and analgesics. The number of PRN prescribed medication per resident had less variability across the review period in comparison to routinely prescribed medication, with 8 residents prescribed the same number of PRN medication in all 6 MAR periods.

Table 6.10 PRN Prescribed Medication Measures by MAR Period

Measure	PRN prescribed medication by MAR period					
	P1	P2	P3	P4	P5	P6
Total	40	38	43	35	44	44
Minimum for a single resident	0	0	0	0	0	0
Maximum for a single resident	6	5	5	4	6	7
Median	1	1	1	1	1	1
Mean (\pm SD)	1.3 (\pm 1.5)	1.3 (\pm 1.3)	1.4 (\pm 1.4)	1.2 (\pm 1.2)	1.5 (\pm 1.4)	1.4 (\pm 1.5)

Polypharmacy by PRN prescribed medication alone affected a far smaller number of residents in MAR periods 1 to 6 than by routinely prescribed medication alone (Table 6.11); just 3 residents were affected by polypharmacy in at least 1 MAR period. The three residents unaffected by routinely prescribed medication polypharmacy, continued to remain unaffected by polypharmacy when considering the combination of routinely and PRN prescribed medication since these 3 residents were in fact not prescribed PRN medication in any MAR period.

As with routinely prescribed medication, medication prescribed for PRN use showed variability among the residents. Prescription-only medicines (POMs) prescribed PRN were antiemetics (A04), anti-inflammatory analgesia (M02), analgesics (N02), and a bronchodilator (R03). Over-the-counter (OTC) medicines and items involved ACT categories A02, A04, A06, A07, C01, C05, D02, D08, D09, D011, M02, N02, S01 and V06 (Table 6.12).

Table 6.11 Number of PRN Prescribed Medication by MAR Period

Number of PRN prescribed medication	Number of participants by MAR period					
	P1	P2	P3	P4	P5	P6
0	10	10	9	10	9	8
1-2	15	15	15	15	18	16
3-4	3	4	5	5	3	6
≥5 (polypharmacy)	2	1	1	0	1	1
Total*	30	30	30	30	31	31

* Variability in total participant numbers over the six MAR periods due to residents joining (new to home) and leaving (death) the study.

Table 6.12 Three Most Frequently Prescribed PRN Medication Categories

ATC category	Pro re nata medicines	Prescribed medication	Number of residents*
A06	Laxatives	Senna, Movicol, Lactulose	8
D02	Dermatological preparation (emollients, barrier)	Oilatum gel, Sudocrem, Aqueous cream, E45	9
N02	Analgesia	Paracetamol, Codeine phosphate, Co-dydramol, Morphine Sulphate, Ibuprofen/ I-Profen, Paramax	18

* Residents counted more than once when prescribed medication in multiple categories.

The 3 PRN medication most frequently prescribed to residents were analgesics (N02, n=18), dermatological preparations (D02, n=9), and laxatives (A06, n=8). These medication accounted for 26.8%, 13.4%, and 11.9% of PRN orders respectively. The prescribing of each medication group is considered in further detail below, with laxatives already discussed in Section 6.1.4.

6.2.1. Analgesic Medication

23 residents were prescribed analgesics (N02) for use during at least 1 of the 6 MAR periods. No shared associations with residents' medical histories were made. Case notes identified 11 residents prescribed PRN analgesics lacked mental capacity (10 dementia, 1 cognitive impairment) and a further 6 residents had mental capacity. 9 residents experienced symptomatic pain due to leg ulcers (n=2), osteoporosis (n=2), osteoarthritis (n=5), sciatica (n=1), and/or cancer (n=3). Analgesia was most typically prescribed to residents for PRN use, but prescribing for routine use only and combined routine and PRN use also occurred (Table 6.13). Of the residents prescribed analgesia, 17.3% (n=4) were routinely prescribed and 39.1% (n=9) PRN prescribed for all 6 MAR periods.

Table 6.13 Number of Residents Prescribed Analgesic Medication by MAR Period

Analgesic prescription type	Number of residents by MAR period					
	P1	P2	P3	P4	P5	P6
Routine only	3	4	4	4	4	5
PRN only	10	10	11	8	11	12
Routine and PRN	2	2	2	4	2	1
Total	15	16	17	16	17	18

Eleven distinct analgesic medication were prescribed, with Paracetamol prescribed most commonly (Table 6.14). There was greater variation in the medication prescribed for routine use (n=8) in comparison to PRN use (n=7).

Table 6.14 Prescribed Analgesia and Prescription Type

Prescribed analgesia	Number of residents by prescription type			Total
	Routine	PRN	Routine and PRN	
Buprenorphine	1	0	0	1
Co-codamol	1	1	0	2
Codeine phosphate	1	1	0	2
Co-dydramol	0	2	0	2
Dihydrocodein	1	0	0	1
Fentanyl	2	0	0	2
Ibuprofen/ I-Profen/ Brufen	2	2	0	4
Morphine Sulphate	0	1	0	1
Paracetamol	1	15	0	16
Paramax	0	1	0	1
Tramadol	1	0	0	1
Total	10	23	0	33

* Residents counted more than once when prescribed medication in multiple categories; for example, Paracetamol and Ibuprofen, Paracetamol and Paramax, or Paracetamol and Morphine Sulphate.

Fifteen residents were prescribed PRN paracetamol during the review. Six prescriptions were repeated for the length of the review (168 days), 2 with no paracetamol administered (Table 6.15). Thirteen residents received paracetamol on 257 occasions (mean $19.7 \pm$ SD 26.9) with dose and frequency of administration the same as routine prescribing. Four further residents without a prescription were administered paracetamol from the home remedy box at nurses' discretion. Administration was recorded on a Carers Medication Notes sheet. One stated "R138 complained of back pains given TPCM (2 paracetamol) 1g from home remedy box". Used to treat migraine, pyrexia, pain (including osteoarthritic and

rheumatic) paracetamol is a valuable medication for PRN administration (BMA & Royal Pharmaceutical Society of Great Britain, 2008; Derry & Moore, 2013).

Table 6.15 PRN Prescribing and Administration of Paracetamol

Analgesic prescribed	Number of residents prescribed	Prescribing period – days	Continuous administration – doses	Intermittent administration – doses
Paracetamol	15	1,355	161	96

6.2.2. Dermatological Preparations

Twenty residents were prescribed dermatological preparations (D02) for use during at least 1 of the 6 MAR periods. This class of medication were more frequently prescribed to residents for routine use than PRN use or combined routine and PRN use (Table 6.16). Of the residents prescribed dermatological preparations, approximately the same proportion was routinely prescribed (37.5%, n=6) and PRN prescribed (36.4%, n=4) for all 6 MAR periods.

Table 6.16 Number of Residents Prescribed Dermatological Preparations by MAR Period

Dermatological preparation prescription type	Number of residents by MAR period					
	P1	P2	P3	P4	P5	P6
Routine only	6	6	7	3	9	7
PRN only	1	1	3	2	5	3
Routine and PRN	4	5	4	4	4	7
Total	11	12	14	9	18	17

Five different dermatological preparations were prescribed (Table 6.17). Aqueous cream was prescribed to residents PRN (n=2) and routine (n=1) but is now considered inappropriate for atopic eczema (Danby et al., 2011).

Emollients are considered therapy for all dry-skin conditions, including eczema, asteatotic eczema and psoriasis, and should be used continuously (Moncrieff et al., 2013). But, while routinely prescribed dermatological preparations were regularly administered, PRN prescribed preparations were administered intermittently despite application instructions of once or twice daily being identical for PRN and routine prescriptions. Sudocrem is a treatment for dermatitis

(Hodgkinson, Nay, & Wilson, 2007). Nursing expertise and resident involvement are required to identify the intermittent symptoms and treat when present. PRN use was intermittent for residents (n=5) but BD for routine prescriptions (n=7).

Table 6.17 Prescribed Dermatological Preparations and Prescription Type

Prescribed dermatological preparations	Number of residents by prescription type			Total
	Routine	PRN	Routine and PRN	
Aqueous cream	1	2	0	3
E45	5	1	0	6
Oilatum gel	0	1	0	1
Sudocrem	7	5	0	12
Dermol cream	1	0	0	1
Total*	14	9	0	23

* Residents counted more than once when prescribed medication in multiple categories.

PRN prescriptions for emollients and Sudocrem were for either 56 days (2 periods) or 168 days (6 periods).

6.3. Medication Management

Medication management covers prescribing, dispensing, delivery, storage, administration, record keeping, monthly audit, destroying of medicines, and staff training. In this section findings identified from the documentary review are presented with respect to a number of these medication management tasks.

6.3.1. Prescribing Practices

The number of routinely prescribed medication changed for almost all residents (85%, n=28) at some time during the review period. For 8 residents, the number of routinely prescribed medication changed at every new MAR period while only 3 residents saw no change across the whole review. Note that 2 residents were resident for only one MAR period of the review and therefore no data relating to medication changes is provided for them.

For the majority of residents (n=26), the numbers of routinely prescribed medication both increased and decreased during the review timeframe, with just 5 residents seeing no increase. These changes indicate medication reviews were taking place. Overall, approximately the same number of increases, decreases and

no changes occurred over the entire review period (Table 6.18), so none of these actions was notably more prevalent.

Table 6.18 Changes in Number of Routinely Prescribed Medication Between MAR Periods

Change to number of medication	Number of residents by MAR period changeover					Total	Mean (\pm SD)
	P1 to P2	P2 to P3	P3 to P4	P4 to P5	P5 to P6		
Increase	9	13	8	11	9	50	10.0 (\pm 1.8)
No change	6	8	10	14	11	49	9.8 (\pm 3.4)
Decrease	14	9	12	4	10	49	9.8 (\pm 2.7)
Total*	29	30	30	29	30		

* Variability in total participant numbers over the six MAR periods due to residents joining (new to home) and leaving (death) the study.

Three residents were hospitalised during the review resulting in medication changes. On hospital discharge the changes were reversed by the GP. Five residents saw substantial changes in number of routinely prescribed medication, with 1 increase by 5 medication, 2 increase by 6 medication, 1 decrease by 5 medication, and 1 decrease by 11 medication. Consecutive increases or decreases in numbers of routinely prescribed medication were identified for 10 residents.

MAR sheet records indicate PRN medication were prescribed for varying lengths (1-6 periods, Table 6.19), prescriptions were changed, and administration occurred regularly, intermittently or never. Of 67 medication prescribed PRN almost two thirds (n=44) were repeat prescriptions. Medication for short-term use (n=23) included analgesics, laxatives and anti-motility, local preparation, dermatological preparations, and night sedation. The same medication together with skin disinfectant and eye drops were prescribed to residents for 2 (n=11) or 3 (n=6) periods.

Table 6.19 PRN Prescribing Pattern

Length of prescribing	1 period	2 periods	3 periods	4 periods	5 periods	6 periods
Number of PRN prescriptions	23	11	6	2	2	23

Prescribing patterns indicated PRN medication changes (n=187) occurred during the review (mean 5.1, range 0-7). Almost all PRN medication stopped (n=82) were replaced by new prescriptions (n=80). Table 6.20 identifies the actions taken. Decision-making processes and involvement, other than the GP or specialist clinics, were not identified.

Table 6.20 Changes in PRN Medication Prescribing

MAR sheet dates	Medication stopped	New prescription	Change from PRN to routine	Alternative medication or item prescribed	Administration frequency or time changed or form changed	Dose change	Total
21.12.09 – 7.6.10	82	80	3	2	11	9	187

Use of a pain ladder (non-opioids, mild opioids, strong opioids) and increasing doses were recognised (World Health Organisation, 1996). For example when PRN analgesia use became established as routine, medicine was changed to a stronger analgesia and regular administration (paracetamol 500MG QDS and Fentanyl 25MCG changed to Fentanyl 50MCG). The common prescribing of paracetamol PRN without other analgesia suggested use as a first stage treatment. Changes should be directed by residents' altering treatment needs and is the primary responsibility of the GP (Desborough et al., 2011) although nurses should have an influence on therapy (Dilles, Elseviers, Van Rompaey, Van Bortel, & Stichele, 2011).

6.3.2. Administration Practices

Routine medication not administered were recorded on the MAR sheet using a code system (A to G) as indicated in Table 6.21. A total of 483 (MAR period mean 14.6) non-administered doses were recorded. The highest rate of non-administration (n=280) was due to hospitalisation between December 2009 and February 2010 and involved short stays for 2 residents (1 and 4 days) and repeat admissions for 1 resident (5, 6 and 20 days).

Table 6.21 Reasons for Non-administered Routine Medication

Non-administration code	Number of non-administered doses by MAR period						Total
	P1	P2	P3	P4	P5	P6	
A refused	43	2	27	4	5	3	84
B nausea or vomiting	0	0	0	0	0	0	0
C hospitalised or clinic visit	89	172	19	0	0	0	280
D social leave	0	0	0	0	0	0	0
E refused & destroyed	2	22	6	5	40	0	75
F other (define)	14	0	4	1	4	1	24
G see note over	0	10	8	2	0	0	20
Total	148	206	64	12	49	4	483

The code G refers to a record on a Carers Medication Notes sheet comprising the date, time, initials of administrator, medication, dose, and reason.

Table 6.22 provides examples of decisions made by nurses and senior carers to withhold medication.

Table 6.22 Entries on Carers Medication Notes Indicating Non-administration of Routine Medicines

Resident	Medication	Carers Medication Notes entry	Result
R106	Fentanyl patch	Not given because she was drowsy	
R106	Ferrous sulphate	Makes her sick	
R127	Movicol	Has got loose bowels	Omit it
R134	Nitrazepam	Not given – not required	
R135	Lactulose	Didn't give due to loose bowels	

One hundred and fifty-nine medication doses (resident mean 4.8) were not administered due to refusal by residents (A and E). Carers Medication Notes recorded resident involvement in decision-making (Table 6.23).

Administration of PRN medication is expected to be intermittent. If not administered it should be discontinued, but if used regularly the resident requires reassessment and the PRN medication changed to routine use or discontinued and replaced with a more effective medication.

Table 6.24 demonstrates that most medicines (n=36) were given for 1 period and intermittent use (n=42) was the most common form of administration with repeat prescriptions reducing over time. PRN medicines administered regularly (n=11) were either stopped at 1 period or at 3 periods. This may suggest medication

reviews were undertaken, although a large number of the PRN medication (n=31) were repeatedly prescribed without administration for up to 6 periods. The same medication were administered intermittently, routinely or not used (A06, D02, N02, N05).

Table 6.23 Entries on Carers Medication Notes Indicating Resident Involvement in Medication Administration Decision-making

Resident	Medication	Carers Medication Notes entry
R106	Senna	She doesn't need it – she said.
R106	Lactulose	Refused as she thinks she doesn't need it.
R133	Omeprazole	Refused to swallow – disposed
R137	Aspirin	C/o nasal bleeding (Lt)
R149	Paracetamol	C/o ear pain
R150	Anusol	She had today enough – she said it
R150	Prochlorperazine	C/o sickness
R150	Glycerine Trinitrate	Requested for chest pain
R151	All medications	Because _____ (<i>name of resident</i>) said no
R153	All medications	Refused to take it
R153	All morning tablets except omeprazole and bendroflumethiazide	Makes her sick (pain in the stomach)
R155	Hydrogen peroxide ear drops	_____ (<i>name of resident</i>) says not required

In addition to completion of the MAR sheet, the rationale for administering a PRN medication and efficacy was recorded on the Carers Medication Notes sheet by the nurse or senior carer, as illustrated in Table 6.25.

Table 6.24 PRN Medication Administration Frequency

Type of usage	Number of PRN medication by length of administration						Total
	1 period	2 periods	3 periods	4 periods	5 periods	6 periods	
Non-use	5	6	2	5	5	8	31
Intermittent	23	13	3	1	2	0	42
Regular	8	0	3	0	0	0	11
Total	36	19	8	6	7	8	84

Some resident involvement was recorded in respect of PRN medication use but no record of residents' self-administration of over-the-counter medicines was found.

Records accessed failed to identify any use of complementary or alternative medication or therapies. The care home sensory room was not identified as used

by residents with dementia although this may be due to the lack of supporting evidence for its use (Nocon, 2008). Music therapy was not recorded although it is known to be effective for residents with reduced cognitive state, depression and anxiety levels of Alzheimer's patients (Ozdemir & Akdemir, 2009). Aroma therapy has also shown mild effects on people with dementia (F. Holt et al., 2009) but was not recorded as used.

Table 6.25 Entries on Carers Medication Notes Indicating Administration of PRN Medicines

Resident	Medication	Carers Medication Notes entry	Result
R106	Salbutamol Inhalor	R106 was wheezy	Relief
R108	Paracetamol	Complain of back pain	
R119	Paracetamol	Temp	reduced
R127	Paracetamol	Temperature = 38c	
R139	Paracetamol	Pain leg	
R149	T. Paracetamol	C/o headache	Felt better
R149	T.p.c.m (paracetamol)	C/o ear pain	Feel better
R150	Prochlorperazine	C/o sickness	Fine
R150	Paracetamol	C/o pain on stomach	
R151	Paracetamol	Complained of pain on the left leg	good

6.3.3. Recording

The majority of MAR sheets were completed appropriately and accurately. Medication administration and recording errors (n=959, resident mean 29) were identified (Table 6.26). These are described by Ferner (2012) as mistakes (errors in planning), slips (action-based errors), and lapses (memory based errors). Twenty-seven (3%) administration slips were identified by the nurse or senior carer and recorded "error". Omission of initials or a code on the MAR sheet to indicate administration or non-admission (n=819) accounted for the majority of potential errors (85%). Recordings were not as stringent for the 'Use as directed by your doctor' medication, items administered by district nurses and care home nurses (insulin, dressings, and wound irrigation solutions), and PRN dermatological medication administered by carers.

Table 6.26 Medication Administration Record Errors

MAR period	Acknowledged errors	No initials or code entered for dose	Dose given at wrong time	PRN added to routine prescription	Double entry	Dose/time / changes on MAR sheet	Total
P1	5	23	1	1	7	9	46
P2	3	157	0	2	3	3	168
P3	6	86	4	2	6	11	115
P4	6	101	0	1	5	5	118
P5	6	131	8	3	15	9	172
P6	1	321	0	3	6	9	340
Total	27	819	13	12	42	46	959

6.3.4. Audits

MAR sheets were audited internally by the Manager or Deputy Manager on a 2-3 month basis and externally by the CQC during inspections. The aim was to ensure professional and legal standards were maintained and adverse events recorded when appropriate (Care Quality Commission, 2008; Nursing and Midwifery Council, 2008c). The audit, which assessed all aspects of medication management, provided constructive feedback for nurses and senior carers on their clinical competency. This aspect is reported further in Chapter 7.

6.4. Summary

This chapter has examined the data collected from the medication review undertaken. The majority of residents had 3 or more co-morbidities and associated polypharmacy. Admission from hospital was associated with increasing rates of medication. Cardiovascular, psychotropic medication, and dietary supplements were prescribed most frequently as routine medication. Routine and PRN prescribing of dermatological preparations and laxatives were high and analgesics, particularly paracetamol, were the most common PRN medication.

PRN formed 12.7% of all prescribing events with two-thirds repeated for up to 6 periods without use. The next stage of the study focuses more closely on the nurse's role in prescribing decisions and administration practices. Resident

involvement was examined and complementary and alternative therapies were explored further to identify if they were used.

The MAR sheets and Carers Medication Notes indicated non-administration of routine medication, decisions taken by nurses or senior carers, and the involvement of residents in decision-making regarding medication management. The potential for medication errors were also identified.

The review suggests a care home culture where risks associated with inappropriate prescribing and adverse events are present. These elements were explored further in phases 2 and 3 and the findings presented in Chapter 7 and Chapter 8.

Chapter 6. Medication Review

Chapter 7 Observations

During phase 2 of the research study, participant observations were conducted. The observations specifically centred on clinical activities concerning medication management by staff. Phase 1 medication review findings indicated PRN medication management occurring (Chapter 6) and thus the purpose of the observations was to gather data from a natural setting that would inform about nursing practices, carers' contribution and residents' involvement relating to PRN medication management.

This chapter presents the findings derived from inductive content analysis of the observation transcriptions relating to the second, third, fourth and fifth research objectives:

2. To examine the social context in which the use of PRN medication has evolved.
3. To examine the extent to which care home activities, customs and the working culture influence the registered nurses' clinical practice in relation to PRN medication management.
4. To understand how ancillary staff and members of the primary care team influence PRN medication management in the care home (nursing).
5. To investigate the involvement of older residents with the registered nurse in relation to PRN medication management.

An overview of observation events is given, followed by a presentation of three main themes identified in the observations: person-centred care, speech accommodation, and pain and dementia. The chapter concludes with a summary and discussion of how these results were used to inform data collection during phase 3 of the research.

7.1. Observation Events

The findings presented in this chapter were obtained from 74 observations conducted between 29-Jun-2010 and 19-Mar-2011. The observations covered 5 distinct clinical activity types: medication ‘rounds’ (n=18), staff handovers (n=9), GP surgeries (n=12), personal care occurrences (n=32), and medication management occurrences (n=3). Each of these is described in Sections 7.1.1 to 7.1.5.

7.1.1. Medication ‘Rounds’

Medication ‘rounds’ were conducted routinely 4 times per day. MAR sheets examined at the care home (nursing) stated the hour of administration as M08:00, N13:00, T18:00, and B22:00 (morning, noon, teatime and bedtime). In reality, all but 1 medication ‘round’ observed coincided with mealtimes (breakfast, lunch, dinner) rather than at a strictly adhered to hour. The ‘protected meal time charter’ stated medication should be given after the main meal had finished although in practice the charter was not entirely preserved. One medication ‘round’ conducted at 20.10 (25/GF/L/S051) coincided with supper (tea, sandwiches).

Drug trolleys on each floor were stored securely in or near the nurses’ office but during rounds were moved to the dining room where administration of medication occurred from a stationary trolley. Folders containing MAR sheets included photographs of each resident to aid identification. Medication were checked against the sheet and after administration the sheet was initialled. One nurse or senior carer led the ‘round’.

Interactions with residents occurred throughout, communicating warmth (smiling, touching, eye contact, friendliness, kindness, affection), concern (asking questions, relating to residents), and caring (patience, encouraging conversation, letting residents speak for themselves). Similarities regarding practical aspects, adherence to NMC standards, assessing the residents’ ability to take medication and safety were noted between nurses on the nursing floors and senior carers on the residential floor. Rounds conducted at breakfast and dinner typically lasted longer than 1 hour (Table 7.1) as more medication were prescribed for administration at

that time. Newly employed nurses (S051 and S052) also took longer to complete rounds.

Table 7.1 Duration of Medication 'Rounds'

Nurse or carer	1 st observation		2 nd observation		3 rd observation	
	Duration	Time	Duration	Time	Duration	Time
S012	1h10m	Breakfast	1h45m	Breakfast		
S014	20m	Lunch	28m	Breakfast	20m	Lunch
S018	1h20m	Breakfast				
S022	35m	Lunch				
S024	37m	Lunch	20m	Breakfast	1h12m	Breakfast
S028	1h15m	Dinner	1h15m	Breakfast	55m	Lunch
S039	26m	Evening				
S041	50m	Dinner				
S048	1h22m	Dinner				
S051	2h00m	Evening				
S052	2h20m	Breakfast				

7.1.2. Staff Handovers

Staff handover meetings were conducted routinely twice a day (morning, evening). These coincided with shift changes and were used to convey necessary information between outgoing and incoming staff.

Morning staff handover meetings were held in the first floor day room. They commenced at 8:00 or shortly thereafter and lasted as long as was necessary to convey the necessary information between staff (range 20 to 60 minutes, mean 35 minutes). All nurses and the return to practice students were involved.

Evening staff handover meetings were held on the ground or first floor and involved two nurses. The start of the handover meeting varied significantly (between 19:25 and 20:10), due to readiness of the nurse on duty and punctuality of the nurse on night duty. The duration of the evening meeting was substantially shorter than the morning meetings (range 10 to 27 minutes, mean 22.25 minutes) as it focused on resident care as opposed to management aspects, and daily resident activities.

7.1.3. GP Surgeries

GP surgeries operated at the home every Wednesday morning. The first surgery started on arrival of the GP (9:43, 10:13, 10:20, 10:20) in the second floor day

room with a senior carer presenting health issues regarding residents on that floor. The GP then moved to the day room on the first floor for the second surgery where the health issues of residents on that floor were raised by the nurse on duty (10:27, 11:30, 11:08, 10:58). Finally the nurse on duty on the ground floor arrived at the first floor for the third surgery and reported on residents on the ground floor (11:35, 11:50, 11:35, 11:25).

The number of residents discussed and seen regarding medication related issues varied on each floor and weekly (Table 7.2). Overall, more residents on the ground and first floors were consulted about, fitting with their higher nursing needs.

Table 7.2 Resident Consultations at GP Surgeries

Floor	Number of resident consultations by GP surgery				Total
	8-Sep-2010	15-Sep-2010	22-Sep-2010	29-Sep-2010	
Ground	8	7	7	12	34
First	11	8	6	7	32
Second	6	7	6	6	25
Total	25	22	19	25	91

7.1.4. Personal Care Occurrences

The provision of personal care was observed during the week (Tuesday, Wednesday, Friday) and at weekends (Saturday, Sunday). Each observation involved two carers and a resident and occurred in the morning (n=26) between 8:10 and 11:40 or in the evening (n=6) from 20:35 to 22:30. Nurses were not involved in providing personal care during the observations.

Personal care undertaken in the morning occurred in residents' bedrooms and included transferring dependent residents from their bed to the ensuite bathroom, toileting, undressing, washing or showering, dressing, and attending to hair, teeth and footwear. Jewellery, glasses, hearing aid, lipstick, or perfume were addressed as required by the resident. Carers made the resident's bed, tidied the room, opened the window to air the room, and took the resident to the dining room for breakfast. The personal care tasks were approached in a routine format with each resident every day, suggesting the regularity of the care home was more important

than person-centred care. Occurrences of thoughtful care were observed, as illustrated in this simple act:

65/1stF/BR/S063/S043

S043 cleans glasses. S043 – “XX your glasses.”

Researcher’s reflection: Cleaning spectacles is so simple but so important to the person wearing them. Very important to me. Not usually appreciated by non-spectacle wearers.

The time taken varied between 9 and 47 minutes (mean 25.2) based on resident degree of dependency, type of care given (wash or shower), and carers involved. Evening personal care was shorter at between 5 to 17 minutes (mean 10.6) and involved toileting, undressing and dressing, and assisting the resident into bed.

The sequence of providing care to residents was determined daily on an individual needs basis and not by a pre-set order. Those who woke early or were bedridden were attended to by the night staff. During the morning, carers first selected awake residents, restless residents, or those who had early appointments to attend. Nurses were observed to intervene and instruct carers to attend a particular resident next if necessary, for example displaying BPSD.

7.1.5. Medication Management Occurrences

Self-administration of medication by residents was extremely rare. Resident R155 disclosed during the consent process that they held laxatives for covert self-administration. Resident R106 held her salbutamol inhaler for use PRN. Self-administration was observed during a medication ‘round’ when the resident stated “*I’m gasping for the breath.*”(25/GF/L/S051/R106).

Additional medication management activities by nurses observed in the care home related to controlled drugs (n=1), individual administration (n=1), and storage and distribution of routine and PRN medication (n=1). These occurrences occurred during the night at the care home (nursing) and are explained below.

Controlled medicines were stored securely in a cupboard in the locked treatment room inside the nurses’ office on the ground floor. Controlled medication administration must be checked by two registered nurses in accordance with

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relevant legislation and local procedures (Nursing and Midwifery Council, 2010b). Signing of the record for administration of Temazepam (night sedation) to a resident on the second floor was recorded in field notes:

30/GF/NO/S039/S051

Controlled drug record. Record being signed for temazepam given to residents on second floor. Drugs checked together when came on shift (S051 and S039).

A lot of residents prescribed and given temazepam. Each resident has a separate page in the record. Tablets kept in blister packs – blue night colour. Kept in treatment room on ground floor. Record – ‘CD checking chart’ completed by S039 and signed.

Administration of PRN medication can occur during or outwith medicine ‘rounds’. An occurrence on the first floor between a registered nurse and resident was observed. The resident would get up when put to bed, therefore they stayed in the lounge until showing signs of being tired and then were given night sedation and taken to bed. The field notes demonstrate care planned to meet the residents’ needs:

31/1stF/LG/S039

22:40 Carer asks S014 for tablet for XX. S039 gets tablet from drug trolley.

Tablet given with squash. Carer takes XX to bed. The carer calls S039 when she is ready for her to help with XX.

22:48 XX comes back – still dressed. Chatting, laughing. XX has chosen where to sleep – a chair in the lounge.

The pharmacy delivered medication on a 28-day cycle in individual crates for each floor. The medication were processed by a registered nurse on night duty during an observation. The occurrence is described here:

31/1stF/LG/S039

22:30 – Saturday night. End of 28-day cycle for medication. Drug cycle recommences tomorrow. Delivery from pharmacy on Thursday/Friday.

S039 – brings two boxes to the lounge.

Drug packet – R131 name written clearly on box of tablets with black felt tip pen.

Epilim liquid – 2 bottles. R134 – 28 day supply. Sudocrem – R134.

To aid accuracy, residents' names were written in black marker on each item in accordance with the pharmacy label. Room numbers were written on items to be kept in residents' rooms. Nutritional supplements were stored in the dining room. Waste cardboard containers were bagged following removal of name labels to ensure resident confidentiality.

Additional occurrences were included on the Observation Schedule (Appendix R). Some clinical activities occurred as part of the routine drug round (dispensing), the GP visit (medication review, prescribing, clinical discussion, discussion with relatives), and handover (clinical discussion). Re-ordering and visits by pharmacist, district nurses or specialist nurses were not observed.

7.2. Person-centred Care

The main category of person-centred care originated from 17 codes applied to the observation transcripts (Table 7.3). Person-centred care is a contemporary model of care, founded by Carl Rogers (1980), pioneered in long-term care facilities by W. Thomas and Johansson (2003), and in dementia care by Kitwood (1997). It contrasts with the biomedical model focused on efficiency, consistency and hierarchical decision-making (Brownie & Nancarrow, 2013).

Manley and McCormack (2008) state that the values of person-centred care are dignified, compassionate and personalised care, nurses with developed competencies and interpersonal skills, and continual development of practice. Additional values recognised are empowerment, participation and involvement (Barnes, 1999), well-being and quality of life (Crandall, White, Schuldheis, & Talerico, 2007).

Seven sub-categories were developed from the codes, which demonstrated nurses, carers and GP offered residents some choice and autonomy, nurtured relationships, had knowledge of the residents, and aimed to offer a supportive environment. Further analysis led to the development of 3 generic categories of

shared decision-making, engagement, and knowledge and skills and the main category of person-centred care (Table 7.3).

Table 7.3 Codes and Subsequent Categories Defining the 'Person-centred Care' Theme

Code	Sub-category	Generic category	Main category
Nurse and resident discussion	Partnership	Shared decision-making	Person-centred care
Nurse checking with resident			
GP assessing/re-assessing with resident present	Resident involvement		
Choice of flavour of borderline substances			
Refusal of medication	Resident autonomy		
Self-administration of medication			
Questions and answers between GP and resident/family	Consultation		
Listening			
Physical examination of resident (GP)			
Individual conversing/encouragement	Individualised care		
Knowledge of resident likes/dislikes/history			
Safeguarding/guardianship	Evidence based care		
Nurses & carers sharing information of resident changes			
Non-administration/withholding routine medicines		Knowledge and skills	
Improving and changing practice	Person-centred dementia care		
Dementia training			
Advocacy			

The codes forming person-centred care occurred in all types of observation events, but with the highest incidence of codes applied to medication ‘rounds’. The medication ‘rounds’ formed part of the care home (nursing) daily routine. It is a fundamental part of the nursing role that requires decisions to be made relating to the administration of medicines, assessment of residents, a good knowledge and skills base, and therapeutic engagement (Duxbury et al., 2010). The ‘rounds’ provided an opportunity to enable resident involvement in shared decision-making (Dy & Purnell, 2012) and to achieve person-centred care (Brooker, 2007; McCance, McCormack, & Dewing, 2011; McCormack, 2003;

McCormack & McCance, 2006). Opportunities to explore PRN medication requirements were observed once.

7.2.1. Shared Decision-making

According to Tingle (2012), shared decision-making involves partnership working, includes 'resident' involvement based on respect, and is undertaken through dialogue and meeting 'resident' preferences. Sandman and Munthe (2009) state it involves 'resident' autonomy.

Differences in the collaboration and interaction between senior carers and residents (second floor) and nurses and residents (ground and first floor) during medication 'rounds' were observed. Communication between senior carers and residents was less, in comparison with nurses and residents. Residents did not require encouragement, coaxing, or assistance as more residents were able to take oral and ocular medication independently. Partnership working, respect, resident involvement and independence are illustrated in the following quotations:

4/2ndF/DR/S024

S024 dispenses drugs for resident. S024 talks to resident. Waits for him to take tablets. S024 checks MAR sheets to identify medications due. S024 identifies medication required. From kitchen brings milk (may be food supplement) and tablets. Does not stay to check milk taken by resident. Resident choking after tablets. S024 talks to each resident as administers drugs. S024 asks resident to chew tablets. Residents take medication independently.

Researcher's reflection: The degree of independence the residents showed during the meal time surprised me.

9/2ndF/DR/S024

3 boxes of eye drops taken out of trolley. Walks over to resident and gives him his eye drops to self-administer. He puts drop(s) in right eye. Next box – drop(s) in right eye and left eye.

In contrast, most residents on the ground and first floors were physically dependent. From 8:00, organisational priorities involved carers providing personal care to residents. To expedite breakfast, the nurse administrator

prepared meals and drinks for residents as they came to the dining room, fed residents, and encouraged food/fluid intake in conjunction with the complexities of the medication 'round' (n=5). This routine focused on operational organisation and not resident-centred care. Communication between nurses and residents was greater (informing, instructing, encouraging) and nursing care (physically helping, ensuring medication taking) given to each resident often took more effort. The differences are demonstrated in the following quotations; the first quotation includes crushing tablets, which is allowed with GP and family authorisation, and both involve speech accommodation addressed further in section 7.3.

17/1stF/DR/S012

S012 getting tea for residents. Several tablets – bread and butter. Crushing tablets. Putting tablets in bread and butter. S012 (to researcher) “Some (medication) have to give with food. They won’t take it.” S012 sits down with resident. Looks reluctant to take bread and yoghurt with tablets in. S012 – “Hello XX. Is it nice XX?” Resident keeps her mouth closed. “Can you open up for me?” Gives XX tea. Gives more yoghurt. S012 gives XX bread and butter to hold – yoghurt finished.

39/1stF/DR/S052

S052 – dispenses next medication. S052 gets a dolly bib for R127. Tablets dispensed now given to R127 with her breakfast. S052 assists R127 with her breakfast. S052 – “Open your mouth R127. Okay, open your mouth now, okay?” S052 continues giving R127 her breakfast. S052 – “R127, R127 can you see me darling? R127 come. Nice porridge, R127, R127. Okay R127 a little bit more.” S052 makes a drink for R127. Some of the time is spent in silence. S052 – “Finished. R127. R127.” S052 gives R127 more to drink.

On only 1 occasion during the medication 'rounds' observed was PRN medication discussed by a nurse with a resident. The nurse knelt and made eye-to-eye contact with the resident.

13/GF/DR/S022

Resident approached to assess if she wants painkillers. S022 – “How are you?

You sure you do not need painkillers? I’ll let you off.”

Although involving the resident, the nurse used a closed question “*You sure you do not need painkillers?*” and the phrase “*I’ll let you off*” suggests the nurse is the decision maker. A further example of how power in the PRN decision-making process was exercised is illustrated in the following quotation when a resident requires PRN medication between ‘rounds’. The nurse promises to address the request but did not.

42/GF/NO/S012/R106

12:15 R106 – “Constipation medicine.” S012 – “You had prunes? Now or in the evening? I’ll get it for you now. I’ll take you to your room.” S012 –

“Can you give me a minute as I have to go to the first floor urgently?” R106 –

“Yes.” S012 – “I’ll not forget.”

13:00 – Medicine still not given.

Resident self-administration of PRN medication were identified (n=2). The first event involved secret self-medication (laxative) indicating resident led decision-making (R155) and the second (inhaler) prescribed for self-administration (R106). Both residents had mental capacity to make decisions although R155 chose sole control fearing confiscation if found out, while R106 had control that was granted by the prescriber.

17-Mar-2010/R155/Field notes

R115 is sitting in her room...sorting through paperwork. I wonder if this is the right time...she welcomes the company. ...her husband was at the home first, then she moved in and later he died. Her husband had a very good job (actuary) and it took them all over the world. She talked of a journey from America in rough seas when the ship listed to the side in the middle of the night. Between her talking I informed her of the research. I tell her the type of medication prescribed for PRN use. She tells me that she takes medicine for her bowels every day. Also she tells

me that tonight she will take a Senokot, she has her own supply that she takes when she needs to. I ask if she will tell the nurses, she replies “no”. She laughs.

25/GF/BR/S051

R106 calling.

S051 – “Now I have to give her the medication”.

R106 – “No my dear. I’m gasping for the breath”.

S051 – “You want me to help you. I will. Please take pain killers”.

R106 wants to go to the toilet. R106 takes inhaler (kept in handbag).

R106 – “Help me up to the toilet. Let me get my breath and go to the toilet.

Wait. Wait. Give me a moment. S051 I like you. I think those tablets make me sick. No I need to have a cup of tea.”

S051 looking for carer. Carer asks S051 to help. XX (carer) talks to R106.

Hoist found for procedure. S051 puts tablets back in trolley.

Facilitators and barriers to shared decision-making identified in primary care (Gask & Coventry, 2012; Gravel, Legare, & Graham, 2006) may be applicable to the care home (nursing). These are a belief of the applicability of engagement, the nurse/carer ability to conduct shared decision-making, communicating information to create understanding, [resident] competency and ability to make decisions, and time constraints.

7.2.2. Engagement

Published research refers to ‘social engagement’ of residents with dementia and focuses on barriers such as depression (van Beek, Frijters, Wagner, Groenewegen, & Ribbe, 2011) and facilitators, for example a household model of care (Morgan-Brown & Chard, 2014). In this study ‘engagement’ refers to resident interaction and involvement and to resident preferences reported by others relating to health care.

The engagement of residents was most often observed during personal care and during GP surgeries. Carers demonstrated knowledge of resident preferences and their social history. The field notes below illustrate carers aware of a resident’s visitor, individualised care regarding hearing loss, and engagement of the resident when offered a shave.

60/GF/BR/S060/S061

S061 – “XX (partner) is coming today.”

S060 – “I’ll put his hearing aid in because he cannot hear. Hello XX. That sounds a little bit better. I’m just changing your night bag and putting your leg bag on. 411 of urine.”

S061 – “... I need to shave you.” Resident – “No.” S061 – I know you don’t like it but XX is coming.” Resident – “No.” S061- “Okay.”

Engagement of a resident during a GP surgery observed is demonstrated below. The resident complained of knee pain and sore eyes. The knees were examined and the resident asked if they wanted to receive physiotherapy.

34/2ndF/LG/GP/S024

GP speaks to resident. “Physiotherapy for knee/shoulder. You have to do exercise they give you. Resident states “I’m worried about side effects. My eyes are sore.”

Resident moved to bedroom for GP to see. Resident talks to researcher. “Married at 18, a father at 19.” GP checks knees. Right knee hurts – hot. Frozen shoulder diagnosed. GP asks resident if they want to see physiotherapist for right shoulder and knee...to see if physio can help.

S024 – “Eyes.” Resident repeats “Very sore. Stuff used at night – got from chemist.” The GP tells the resident they look fine. Resident – “Very sore in morning. They get better in day.” The GP concludes - moisture drops (Sno tears eye drops administer at night) and physio for shoulder and knee. GP writes records.

During some GP surgeries, residents’ families were involved in consultations regarding diagnostic and haematological tests, and medical and pharmacological treatments. Requests and questions made to nurses or the GP were listened to and addressed. The dialogue below concerning blood tests illustrates engagement of a daughter, and then a family, on behalf of their parent.

6/1stF/L/S021

S021 – “XX blood test last week. Can you check result for me?” GP identifies the test result was abnormal, LFT (liver function test) and asks why it was done.

S021 – “Daughter asked.”

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8-Sept-2010/Field notes

“GP goes to nurses’ office (ground floor). Family ask “Has blood test result been received?” GP states it is too early but will see result and monitor as prostate cancer can be there for years. GP explains that the resident has urinary symptoms but blood tests are not high. Medication to shrink prostate to help symptoms not treatment. Frequency as not emptying bladder. May need to increase medication dose.

Physical examinations of residents were included during each surgery (n=12). This extract from field notes illustrates direct engagement of the resident but reveals direct and indirect communication by the GP, which is challenged by the resident.

8-Sept-2010/Field notes

“We (S012/GP/Researcher) all move to XX room. S012 has disposable gloves on. XX in hoist. GP tells resident they want to look at scrotum and they need antibiotics. XX – “Yes okay.” Flucloxacillin. GP instructs S012 to ask resident if that is okay. The resident responds “He is okay with that.”

Observed medication ‘rounds’ illustrated nurses focusing on administration of routine medication in accordance with MAR sheet instructions. Nurses characteristically spoke to residents while assisting them to take their medication, although resident engagement and decision-making relating to medication prescribed was not observed.

7.2.3. Knowledge and Skills

Occasionally during nursing handover, statements were made regarding prior administration of PRN medication (23/GF/DR/S028/S051) or night sedation to be changed from routine to PRN (18/SLG/1stF/S022/S027/S005/S039/S014/S048).

Aligned with the nurse’s decision to use PRN is the decision not to administer routinely prescribed medication. Resident refusal, hospitalization and medication contraindications were recorded as nursing rationale for non-administration, identified from the medication review. Observations (n=3) also highlighted

nurses' decisions not to administer routine medication. The clinical decision, illustrated below, included no resident involvement in the decision.

17/1stF/DR/S012

Next – several tablets. Yoghurt, dish spoon. S012 – “Hello XX.” Tablets put into yoghurt, fed to resident. Nystatin liquid/suspension shaken – administered by medicine spoon. Resident chewing yoghurt. Nystatin put into his mouth. Spoon washed. S012 recording missed calcium as resident has thrush. Calcium chewed – coats tongue. Not successful with nystatin.

This extract identifies nurse decision-making based on clinical knowledge. The nurse did not inform the resident that she had their medication and therefore putting tablets in yoghurt would be considered as concealment (Nursing and Midwifery Council, 2012), unless a management plan is agreed after a best interest meeting is held (National Institute for Health and Care Excellence, 2015b) with the GP and family.

7.3. Speech Accommodation

The main category of speech accommodation was derived from observations of medication ‘rounds’ by nurses and senior carers and during episodes of personal care. Most codes arose during personal care observation events. Interactions between staff and residents were observed, from which an understanding of their relationships were gained and insight acquired to address research objectives 2 to 5.

Sociolinguistics and speech accommodation theory developed to explain rules, norms, and language behaviour (Coupland, Coupland, Giles, & Henwood, 1988; Coupland & Giles, 1988; Giles, 1979). Over-accommodation can be explained as a pattern of speech modification used in communications with older people but generally associated with language-learning infants (Caporael, 1981; Edwards & Noller, 1993). Studied for over 30 years, it is associated with a common social stereotype of older people, long-term care facilities, including nursing home settings (Caporael, 1981; Caporael, Lukaszewski, & Culbertson, 1983; Cassidy, 1997; Sachweh, 1989) during the provision of personal care, with older people

with dementia and more frequently with women (Sachweh, 1989; Williams, Herman, Gajewski, & Wilson, 2009).

Stereotypical expectations, based on the evaluation of another's competence (A. Brown & Draper, 2003), result in speech being slower, higher pitch, intonation exaggerated, louder, and simplified grammar and vocabulary (Giles, Fox, & Smith, 1993). Research has found that older people resent being spoken to in this way (Giles et al., 1993). Generalisations should not be drawn that all older people have difficulty processing information, experience problems of recent verbal memory, or difficulty with comprehending or recalling prose text (Coupland et al., 1988).

During handovers (n=9) and weekly surgeries (n=12) residents' formal names of address were used (first, full, or title and last name). Similarly during medication rounds (n=18) and the provision of personal care (n=32) it was usual (but not constant) for nurses and carers to address residents by first names or in the case of male residents "Sir" (n=3). However, coded observational data revealed the use of speech accommodation.

The main category of speech accommodation originated from 15 codes applied to the observation transcripts (Table 7.4). Parental relationship was identified from data of nurses and carers supporting residents who had medium/high dependency levels with activities of daily living. Through speech, staff displayed familial relationships with residents, nurturing qualities of encouragement, affection, and simplified language including child-like speech. Table 7.4 provides a matrix of the analysis process.

7.3.1. Parental Relationship

In a minority of verbal communications between nurses (n=6) or a senior carer (n=1) with individual residents during medication 'rounds' inappropriate terms of endearment (n=11) (*dear, darling*) or childlike references (n=2) (*good girl, good man* or a pet name) were used. Pet names (*auntie and uncle*) were also recorded as terms of address between a resident and nurse and vice versa.

13/GF/DR/S022

S022 – “A little tablet for you. Thank you darling.” S022 – “XX how are you? Alright darling. Will you take this antibiotic? Yes it’s correct. How is it? All gone dear. Need to swallow. I’ll help with food. Open your mouth. Ready? Open. Oh well done.”

Table 7.4 Codes and Subsequent Categories Defining the 'Speech Accommodation' Theme

Code	Sub-category	Generic category	Main category
Assisting - medication, food, fluids	Supporting Activities of Daily Living	Parental relationship	Speech accommodation
Application - emollients/creams			
Care giving - personal care			
Terms of endearment - darling, sweetie, good girl	Familial	Parental relationship	
Pet names - auntie, uncle			
Familiarity -personal jokes	Encouraging	Nurturing	
Instructions - chewing, swallowing, drinking			
Patience			
Compassion	Cherishing	Patronising speech	
Affection			
Child like terms	Infantilization	Patronising speech	
Repeating speech			
Repeating residents' speech	Simplified language	Patronising speech	
Simplified grammar - short sentences			
Phrases - nice wash, nice shave, nice breakfast	Simplified language	Patronising speech	

Carers providing personal care regularly addressed residents by terms of endearment.

44/1stF/BR/S006/S055

“Alright sweetie – step backwards. Darling. Sweetheart”

“Sorry about that darling.”

“Precious, let’s take you for some tea.”

There was common use of endearing terms by staff with most residents, which suggests the task is the focus of their attention and rather than recognition of the individual resident they are seen as a group of people to be called by non-personal names. This does not promote the provision of person-centred care. Observation of a daughter (58/GF/BR/S060/S061/R113) using the same terms of endearment to her mother (*sweetheart, darling, love*) suggested the behaviour was a characteristic of this specific social setting.

7.3.2. Nurturing

Nurturing of mind, body, and spirit is part of holistic care and if absent it can deny residents a meaningful life with hope and purpose (Touhy, 2001). Touhy (2001) recognised that nurses and carers enter close relationships with residents and often substitute for family and friends.

Nurturing communications of encouragement, compassion and affection were identified in the analysed observational data and in reflexive field notes. Nurturing develops happiness and wellbeing in older people according to Butler, Fujii, and Sasaki (2012). Gillett and Dixon (2009) considered nurturing of older people with dementia through one-to-one communication develops empowerment and enhanced self-esteem, through feeling valued, involved, and connected.

12/1stF/L/S022/R106

R106 – Examined by GP. Legs swollen – red- skin breaking down. S022 and R106 instructed after lunch to sit in bed, sit in chair with legs up. Need antibiotics – both infected. R106 “Is that little white tablet for my water works?” R106 is told yes by the GP. R106 “It makes me go to toilet.” R106 has just been incontinent. R106 told by GP that’s how it works. R106 is hugged by GP and told they will outlive us all.

Field notes 15-Jan-2010/2ndF/S005

S005 reading newspaper to group of ladies. Stories in paper depressing but finding something to laugh about.

Field notes 15-Jan-2010/2ndF

One carer singing with 2 residents. They remember the words to 'old time' songs.

One resident half German. Carer speaking to her in German. Carer "I love you." Resident – "I love you too."

7.3.3. Patronizing Speech

Patronizing speech (E. Ryan, Hummert, & Boich, 1995) (also known as infantilizing speech, elder speak, secondary baby talk) is acknowledged to diminish personhood (Kitwood & Bredin, 1992) and create a negative effect on the wellbeing of older people (Draper, 2005). It is linked to ageism, stereo-typing, perceptions of incompetency, dependency, illness, and baby-like status (A. Brown & Draper, 2003; Caporael et al., 1983). Older people report feeling patronised, irritated, angry, and inferior (Giles et al., 1993).

Patronizing speech between staff and residents was identified in verbal communications contained in the observation transcriptions. This most frequently occurred with carers. The use of speech accommodation and over-accommodation in the care home (nursing) was considered and how this might affect resident involvement in decision-making relating to PRN medication use. Sensed negative attitudes and the perceived power of nurses and carers may create a barrier to residents communicating their needs.

The vocabulary of speech between staff and staff and residents from written records made during observations (n=74) in this study were examined for normal speech accommodation and over-accommodation speech (Edwards & Noller, 1993). Differences were noted between person-centred type communications (normal speech accommodation) as reported by Savundranayagam (2014) and patronizing speech (over-accommodation speech) (Caporael, 1981). An adaptation of categories used by Sachweh (1989) and a compilation of paralinguistic features of patronizing speech by Ryan, Hummert and Boich (1995)

were merged for analysis (Table 7.5). Phonetics were not examined (tempo, pitch, loudness, rhythm, and exaggerated intonation).

Childlike speech was used by nurses during medication ‘rounds’. Simplified speech, repetition, instructions or commands, and fragmented sentences were used. *Tummy, special drink, special medicine, and nice porridge* were common terms recorded. Form of address, vocabulary, complexity, and redundancy associated with patronizing speech are illustrated in the following extract:

8/GF/NO/S014

S014 – “*Wakey, wakey. Your tablets darling. Swallow it, swallow. Still there, still there. Open your mouth darling. Still there XX, swallow, swallow. Open your mouth.*”

Table 7.5 Characteristics of Patronizing Speech

Level	Features (examples)
Forms of address	Terms of endearment (dear, darling, precious) Childlike terms (good girl, good boy) Pet names (uncle, auntie)
Vocabulary	Simplified strategies (short sentences, child-like vocabulary) Duplications Diminutives (honey)
Complexity (grammar)	Simple clauses and sentences Repetitions Tag questions (haven’t you? Okay? Right?) Fillers (um, eh, well) Imperatives (advice or instruction, request or command) Fragments (phrase or incomplete sentence) Third person references (we, our, us)
Redundancy	Nurses repeating themselves Nurses repeating residents

Reference: E. Ryan et al. (1995); Sachweh (1989)

The use of patronizing speech by carers (n=12) during the provision of personal care to residents was more frequent. Terms of endearment (n=27), childlike names (3), and childlike speech were used frequently to address numerous residents during periods of personal care (n=26). *Nice wash, nice warm water, nice shave, and nice breakfast* were common phrases spoken. The quotations below demonstrate terms of endearment, simplified strategies, repetitions, tag questions and instructions associated with patronizing speech:

49/1stF/BR/S006/S055

S055 – “*Good morning sweetie.*” S055 - “*Come on.sweetie, nearly there.*”

S055 – “*Just going to you’re your face quickly. Alright sweetheart. Nearly finished now.*”

S055 – “*Deodorant. Good girl.*”

S006 – “*Come on love.*”

S055 – “*Okay darling let’s put your slippers on. Okay poppet. Okay lovely.*”

51/1stF/BR/S006/S055

“*So frail, bless her.*”

58/GF/BR/S060/S061

S060 – “*Going to put you to sit down. Well done.*”

S060 – “*Well done.*”

S060 – “*You are doing fine.*”

S060 – “*You are doing fine. Well done. You’re doing fine.*”

S060 – “*You’re doing fine R129 – doing fine.*”

S060 – “*Then I can get you up. Nice and tall R129 – nice and tall.*”

Elements of simplified vocabulary and grammar were spoken in the majority of verbal communications between staff. Examples are a nurse instructing a carer about a resident’s breakfast 2/GF/DR/S012 “*1 Weetabix, 1 toast, white toast. Yes she needs sugar*” or explaining to a GP how they know a resident has pain 5/2ndF/LG/S022/S024 “*he (resident) claims pain*” the nurse points to their chest.

Simplification may relate to English as a second language for immigrant nurses and carers from a non-English speaking background (Nichols & Campbell, 2010; Winkelomann & Winkelmann, 1998). Parry and Lipp (2006) confirmed language difficulties persist for non-European Union nurses working in the United Kingdom, despite achieving the International English Language Test (IELT) required by the NMC. O’Neill (2011) refers to internationally educated nurses (IEN) learning English language rules, nursing terminology, discourse of the nursing profession, culture of the health care system, and the language culture. Observations indicated English as a second language has the ability to interfere

with the nurse's or carer's skill to communicate and involve residents in decision-making.

The dichotomy between nurtured and patronised might explain limited resident involvement regarding PRN medication management. Residents who feel nurtured might delegate medication decisions to their carers to act in their best interest and those who feel inferior, undermined or powerless may consider they have no right to be involved.

7.4. Pain and Dementia

The main category of pain and dementia originated from 15 codes (Table 7.6).

Table 7.6 Codes and Subsequent Categories Defining the 'Pain and Dementia' Theme

Code	Sub-category	Generic category	Main category
CQC medication standards	Governance	Prescribing	Pain and dementia
Professional medication standards			
Medication audits	Regulations	Pain recognition	
Home policies and guidelines (Home remedy box policy)			
Carers picking up cues/resident characteristics			
Carers apologising	Symptom assessment	Pain recognition	
Carers asking resident if in pain			
GP prescribing for resident pain	Routine analgesia	Pain recognition	
Repeat prescriptions for analgesia			
Home remedy box (containing analgesia)	PRN analgesia	Pain recognition	
PRN prescribing of analgesia by GP			
Capacity/lack of capacity	Mental capacity	Ageism	
Belief that residents with dementia do not feel pain			
Non-administration of PRN medication	Old age	Ageism	
Non use of Abbey pain scale/ formal assessment			

Codes were generated from handovers and GP surgeries but mostly personal care provision. Analysis identified that nurses' practice followed internal and external governance and regulations and during GP surgeries nurses collaborated to ensure analgesics were prescribed for residents. Residents' pain was recognised by carers providing personal care but it remained untreated by staff. Table 7.6 illustrates the analysis process.

7.4.1. Prescribing

Nurses were responsible for ensuring that medication management was conducted in accordance with professional, legal, and ethics standards (Care Quality Commission, 2010b; Commission on Dignity in Care for Older People, 2012). CQC inspections of the care home (nursing) includes reporting on standards of medication management and identify areas for improvement. The published report, available publically, is a driver for nurses to meet all external and internal governance and regulation criteria. This was highlighted in the nursing handovers observed (n=9).

Daily handover at 8.00, when Managers and nurses met together, was an opportunity for professional discussion. General aspects addressed included improvement of verbal and written communications, ongoing dementia training at the care home, meeting professional standards of care, and general aspects relating to the management of staff.

EoLC for residents was a primary focus of discussion. Enhancing co-ordination of processes was reviewed to ensure good EoLC, including timely access to PRN medication. EoLC training for staff, provided by the nurse Manager and the Dignity Champion who had attended a 'Train the Trainer' programme, had commenced. Family and relatives were invited to assess EoLC provided and feedback was reported to staff and any area of concern or possible improvement considered. An application for a quality assurance accreditation relating to EoLC was submitted (Department of Health, 2008). The following extract illustrates a nurse explaining new processes introduced for improved communication and EoLC, relating to a system of colour coding A-D on residents' files:

Chapter 7. Observations

16/1stF/SLG/S012/S014/S005/S027/S039

S027 – Report for each 12 hour shift. Accreditation for Gold Standard (Framework). Coding ABCD End of life for discussion. On care plan. (A=12 months, B=6 months, C=3 months, D=final days).

Audits (Health & Safety, medication), policies (Home Remedy, PRN medication), medication training, and medication storage issues were also addressed during nurses' handovers.

32/1stF/SLG/S039/S028/S027/S054/S050

S027 – “Health and safety audit. First aid boxes responsibility of nurse to keep full. S054 and S027 conducted medicine audit. Treatment room...clean, tidy and wipe floors. Audit Home remedy policy for review. Get GP to see. Pharmacist coming for training.”

In the quotation below, nurse S027 reports the full findings of the medication audit to nurses at handover:

38/1stF/SLG/S027/S039/S010/S028/S052

S027 – “Did audit (medication) treatment rooms need to be treatment rooms. Treatment rooms need to be clean. Controlled drugs – nothing else in there. Book beside. Fridges – need to empty, clean and tidy. PRN medication protocol still had ‘_____’ we are ‘_____’. Policy needs to be signed by doctor every year. Home remedies – why have it if not used for two years. Book that goes with home policy. Paracetamol not used in home remedy. Paracetamol dispensed from another resident's tablets. Home remedy in downstairs clinical room. Now use paracetamol from box – use book to record. Went to each room. Creams from last year found (now October). When you sign for a cream you must know where it is put. Carers must be followed up. Some creams never been touched. Even if once a week – check creams being used. If on MAR sheet nurse must check. Do not pot up. Dispense and put name in pot. Do not do it. You will be struck off.”

This account reveals the pre-occupation and focus of the nurse. The audit findings indicate that the PRN medication protocol was out of date, nurses were dispensing PRN and routine medication inappropriately, and PRN medication use

had not been accurately recorded. The audit also identified poor practice by nurses relating to delegation of care to carers and use of dermatological preparations.

Carers received instructions from the nurse regarding type and use of dermatological preparations (for example 53/1stF/BR/S058). Observation records of personal care (n=32) provided to residents by carers identified extensive use (n=28) of routine and PRN dermatological medication in the form of emollients, antifungal products, and barrier creams. The following quotation illustrates general use of multiple products:

45/1stF/BR/S006/S055

Aqueous cream applied all over. Canistan cream used (to treat fungal infection and inflammation). Sudocrem used – application not observed by researcher.

Carers appeared familiar with the products but knowledge relating to use was not clear; for example Sudocrem was repeatedly used as a preventative not a treatment. The nurse providing directions for use of dermatological preparations was not observed. Medication for topical use, administered by the carer, did not appear to be considered a risk in contrast to medication administered by the nurse.

Nursing needs identified by carers (sticky eye, dressing, medication, prescriptions) were referred and dealt with by the nurse on duty. The quotation below illustrate this point:

48/1stF/BR/S006/S055

“Eye sticky. S050 (nurse) may want to come and look.” S050 arrives. S050 – “I am going to do his eye. Sorry XX, sorry sweet. Just need him to stay still for a moment so I can do his eye properly. I will tell the doctor”... E45 applied to legs...Bottom washed. Sudocrem applied.

Nurses contributed to the prescribing process during GP surgeries by reporting resident ‘changes’, as referred to above. Nurses also reported on medication use, medication concealment, and residents’ medication needs. In the example below, S014 discussed the medication of R106 with the GP, which involves these aspects.

The nurse expresses the resident's need for adequate pain control, the present medication is checked together, and a prescription for morphine written by the GP.

7/1stF/SLG/S014

S014 – “Using inhaler...Other 4 times a day – Salbutamol.” The nurse is informed 50mg is a paediatric dose. 100mg immediately, twice a day.

S014 – “Tamazepan. Not taking medicines. Hiding. Not sleeping. Wants to go to toilet.” Nurse told to be persuasive. S014 – “Shall we hide it?” GP confirms and then reviews resident's medication and deletes some not taken for a year. S014 – “Can we crush tablets? Needs adequate pain control.” Nurse and GP confirm R106 not on morphine but is on fentanyl patches. A small dose of morphine twice a day is prescribed.

7.4.2. Pain Recognition

During personal care, carers asked some residents if they were in pain (n=8) and/or residents expressed pain (n=6). Research conducted by Gilmore-Bykovskyi and Bowers (2013) identified suggestive, visible, and obvious characteristics of resident pain that were recorded in field notes (verbal complaints of pain, grimacing, negative vocalisation, visual injury, hip fracture). Using the characteristic descriptors, resident pain (n=14) was recognised in this study. Non-visible, not obvious, and uncertain characteristics, for example osteoarthritis, diabetic neuropathy, chronic back pain, and fibromyalgia were not considered but empathy and acknowledgement of the pain was demonstrated by carers who repeatedly said “sorry” to residents (n=10) as personal care continued, as illustrated in the quotations below:

61/GF/BR/S060/S061

S060 – moves right leg. Discomfort expressed. S060 – “Are you taking anything for the pain?” S060 – (Trying to be as gentle as possible). “You are in pain and we need to roll you to make you comfortable as possible.”

68/GF/BR/S063/S043

Resident's hands and feet swollen. Arthritis – painful? S063 – “Sorry XX. Sorry. Yes we know it's hurting. We will try and be fast.” S043 – “Be quick.”

S063 – “I’m sorry XX. Sorry. Okay that it. Sorry XX. Sorry.” S063 – “Is this shoulder hurting?” Resident indicates no. Left hand hurting. S063 – “I’ll give you a vest to keep you warm. I’m really sorry, really sorry.” Moving arms very painful for resident. S043 – “Once we have top it will be okay.” S063 – “Sorry XX, sorry.”

Carers lacked knowledge and understanding of pain experienced by a resident who had a severe facial injury. They focused on an arthritic knee alone. The carers lacked empathy and were disconnected from person-centred care associated with nursing, as similarly identified in research by Bell, Campbell, and Goldberg (2015).

65/GF/BR/S063/S043

Researcher notices sore eye. Bruised. Bloodshot. Damage from fall – received 35 stitches. XX complains of pain in right knee. S063 puts bandage support on arthritic knee. Feet put on foot rest. Right leg too sore/painful to bend to put on footrest. S043 – “Is it sore? Is it paining? I will let nurse know. Is it this one? Okay.” S063 – “Sorry XX, sorry.”

Researcher’s reflection: This was a distressing incident to observe.

Although the medication review identified PRN analgesia was commonly used, neither the medication review nor observation field notes identified the use of routine or PRN analgesic medication as a prophylactic to address resident pain prior to morning personal care being given.

7.4.3. Ageism

Remedial action in the form of nurse intervention, pain assessment or treatment was not observed. Research conducted by Savundranayagam (2014) similarly identified carers affirmed resident pain during routine care but did not take a person-centred approach to resolve it.

It appeared that these nurses and carers might accept pain and old age as synonymous, as in the study by Barry, Parsons, Peter, and Hughes (2012). Research has explored pain in care home residents with dementia: high prevalence (Barry, Parsons, Passmore, & Hughes, 2015; Zwakhalen, Koopmans, Geels,

Berger, & Hamers, 2009), under-recognition and under-treatment (Closs, Barr, Briggs, Cash, & Seers, 2003; Husebo et al., 2008; Weiner, Peterson, & Keefe, 1999), pain assessment methods (Lin, Lin, Shyu, & Hua, 2011), analgesic treatment (Closs et al., 2003; Gilmore-Bykovskiy & Bowers, 2013), and systematic approach to treatment (Husebo, Ballard, Sandvik, Nilsen, & Aarsland, 2011).

Research conducted by Husebo et al. (2008) identified residents with dementia do not suffer less pain intensity and even paracetamol use can reduce agitation and improve behaviour in care home residents with dementia (Husebo et al., 2011). During medication 'rounds', nurses and senior carers did not address resident pain or discuss analgesics with residents. In contrast, the nurses did address residents' pain during GP surgeries.

7/1stF/LG/S014/S012

S014 – "Resident...had a fall. Seen by doctor yesterday. Bending knee – do not send for x-ray. Today walking difficult, problem with hip needs support. Not complaining of pain but facial expression seen. Anything for pain?" GP asks nurse if resident has had paracetamol. S014 – "Yes. After she did not complain." GP advises regular paracetamol and provides form for X-ray today.

The event demonstrates a doctor was called, resident pain was acknowledged, PRN analgesia had been administered, and its effectiveness evaluated. This sequence reveals clinical decisions were taken by a nurse, although asking "Anything for pain?" suggested a lack of confidence in the judgment made to administer paracetamol PRN. GP surgeries provided a structured time to discuss a resident's needs, which led to a better outcome than the decision-making observed during the medication 'round'. A management plan was implemented by the GP but predisposing factors (disease, medication) and falls prevention were not discussed. It appeared to be accepted that in accordance with research findings (Kenkmann et al., 2010) old people in care homes fall.

Communication is a basic principle of nursing care (Department of Health, 2012b). Nurses and senior carers did not routinely inform residents of the medication they were given. This administrator demonstrates poor communication when handing this resident their medication.

9/2ndF/DR/S024

S024 – ...makes a drink...takes tablet to R128. “Here is your tablet. I’ll get your breakfast.”

Marx, Witte, Himmel, and Kühnel (2011) undertook a systematic review regarding medication adherence and found inadequate communication was a barrier to adherence in older people with mental capacity. The medication review and observations identified that resident refusal of medication occurred. This is illustrated in the following event:

1/GF/DR/S014/R116

S014 dispenses one tablet for R116. R116 is eating dinner. R116 has water.

Tablet not swallowed. R116 spits tablet out.

Cognitive ability can significantly affect medication adherence (Campbell, Boustani, Skopelja, & Gao, 2012). Barriers for older people with cognitive impairment include loss of memory (Vik et al., 2006), medication knowledge (Barat, Andreasen, & Damsgaard, 2001), and health literacy (Marx et al., 2011). Overlooking resident pain and communicating ineffectively has been identified in the data analysis.

7.5. Summary

This chapter has presented an analysis of the findings from observational data collected. Observational events of medication rounds, staff handovers, GP surgeries, medication management, and personal care occurrences are explained to illustrate aspects of the care home (nursing) culture and the context in which PRN medication management is conducted. Three main categories were extracted from the observation data: person-centred care, speech accommodation, and pain and dementia.

Differences in medication administration between senior carers and nurses were identified related to residents’ degree of independence/dependence. Organisational priorities and routine culture influenced the registered nurses’ activities. A minimal amount of resident involvement was identified in relation to

routine and PRN medication management decisions although staff had received person-centred dementia care training.

Speech over-accommodation was used by nurses and carers when communicating to residents, predominantly during the provision of personal care and medication 'rounds' and particularly with women. This could be interpreted in 2 ways. First as evidence of close relationships between staff and residents where terms of endearment were evocative of familial relationships. Second, and of more concern, is where it could be interpreted as evidence of patronizing speech. The former signifies a nurturing relationship with their carers that may help develop happiness and wellbeing and the other may render residents unable to participate in decision-making. In situations where English is not the first language of staff, caution should be exercised in distinguishing between learnt phrases that arise from a limited vocabulary rather than a lack of knowledge or awareness of the residents' feelings and needs, as demonstrated by carer awareness of residents' pain and discomfort. This knowledge was not always conveyed to the nurse in her role as the administrator of analgesia.

The frequent identification of resident pain by carers and a lack of formal assessment or treatment were observed. Findings suggest that preoccupations with governance and regulation surrounding medication management took precedence over person-centred care and linked activities of assessment and review of care. The administration of prescribed PRN medication was limited and opportunities to use analgesia in particular were not taken. There was, paradoxically, evidence of withholding prescribed medication based on residents' assessment of need. This offers a different interpretation of what has previously been categorised as administration error.

There is evidence of a hierarchy of decision-making regarding routine and PRN medication. Carers do not make decisions nor do they participate in the process even though they hold important information about the resident. Resident involvement in decision-making is very limited, although there was evidence of some residents taking the initiative and taking medication without staff knowledge. The nurses' role in clinical assessment and decisions regarding PRN

medication prescribing was complex. The complexity made explicit and competing priorities that influenced nurses' decision-making.

Chapter 8 considers analysis of interview data and will explore the contribution that nurses and carers consider they make to PRN medication management in the care home (nursing). Their views on the influence of GPs and pharmacists in medication processes and the role of the resident and family will also be examined.

Chapter 7. Observations

Chapter 8 Interviews

During phase 3 of the research study, participant interviews were conducted. The interviews with care home staff focussed on medication management. Phase 1 medication review findings established the PRN medication prescribed and level of administration (Chapter 6) and phase 2 observations identified the context and culture that affects PRN medication use and the limited involvement of residents in decision-making processes (Chapter 7). Thus the purpose of the interviews was to gather data that would inform about the experiences and perceptions of registered nurses and care workers regarding their role in the management of PRN medication in the care home.

This chapter presents the findings derived from inductive content analysis of the interview transcripts relating to the third and fourth research objectives:

3. To examine the extent to which care home activities, customs and the working culture influence the registered nurses' clinical practice in relation to PRN medication management.
4. To understand how ancillary staff and members of the primary care team influence PRN medication management in the care home (nursing).

An overview of the interviewee characteristics is given, followed by a presentation of 3 main themes identified in the interviews: medication governance and regulation, symptom assessment, and attitudes to aging. The chapter concludes with a summary of the results.

Narrative and quotations are used to report the findings. Quotations cited have a group code (N=nurse, SC=senior carer or C=carer) and their unique identification code/number, for example N/S022 denotes nurse participant S022. In addition, each quotation code contains a line number (for example N/S022/51) to identify where it occurs in the transcription. R denotes the

researcher. Bracketed words signify omitted vocabulary added by the researcher to clarify meaning.

8.1. Interview Participant Profiles

The findings presented in this chapter were obtained from 17 interviews conducted between 01-Sep-2010 and 05-Apr-2011. The interviews involved registered nurses (n=5), senior carers (n=3), carers (n=8), and a return to practice student (n=1). All interviewees were involved in the observation phase of the study.

Table 8.1 details the interview participants' characteristics as reported by the participants (qualifications, length of service at the care home (nursing), and first language).

Table 8.1 Interview Participant Characteristics

Participant code	Qualification	Length of service at care home (nursing)	English as first language
N/S022	Registered Nurse (Adult and Mental Health)	3-4 years	No
N/S039	Registered Nurse (Adult) Adaptation programme	6 years	No
N/S014	Registered Nurse (Adult) Adaptation programme Preparation for Mentorship	5 years	No
C/S006	National Council for Palliative Care (foundation) Train the Trainer pending	Not known	Yes
C/S060	NVQs 2, 3 and 4 pending	Less than a year	Yes
C/S061	Not known	3 years	No
C/S024	Qualified nurse outside EU	Not known	No
C/S041	NVQ 1, 2 and 3	7 years	Yes
C/S043	Not known	3 years	No
C/S018	NVQ level 3	7 years	No
C/S058	NVQ 2 & 3	5 years	No
N/S052	Registered Nurse	Less than 1 year	No
C/S053	Health and Social care A level	1 year	No
C/S057	Qualified nurse EU Return to nursing programme	1 month on placement	No
C/S059	BSc Computer Science (2 nd Year)	2 years	No
C/S062	Access course for nursing	Less than 1 year	Yes
N/S027	Registered Nurse (Adult), MSc. ENB 997, C&G 730	5 years	Yes

At the time of the interviews, 3 nurses held managerial posts and 3 carers were team leaders. One nurse and 1 carer were male.

8.2. Medication Governance and Regulation

The theme of medication governance and regulation originated from 19 codes applied to the interview transcripts (Table 8.2). Governance and regulation are strategies to eradicate uncertainties and manage clinical risk (Hillman et al., 2013), which have risen from the loss of public confidence in health professionals (P. Brown, 2008; P. Brown & Calnan, 2010). Systems of regulation include policies, protocols, procedures, and monitoring and performance measures to aid standardised practice. Interview data revealed a dominant preoccupation in the care home with professional, internal, and external regulators. This affected how participants understood their role in decision-making about dispensing PRN medication and arguably took precedence over resident wishes and concerns.

8.2.1. Professional Regulators

The nurse is professionally accountable for ensuring externally and internally imposed expectations are implemented (Nursing and Midwifery Council, 2015a). NMC standards for medication management (Nursing and Midwifery Council, 2010b), record keeping (Nursing and Midwifery Council, 2009c), and continuous professional development, which includes medication training (Nursing and Midwifery Council, 2015b), must be adhered to.

The medication review, reported in Chapter 6, identified nurses or senior carers who administered PRN medicines completed the Carers Medication Notes (date, time, initials, medication, dose, reason, result) on the reverse of the resident MAR sheet. The records kept were confirmed by a nurse during an interview:

N/S006/216 – "...we should always record it at the back of the MAR sheet, PRN medication was given and what they've been given. You sign the MAR sheet and state the reason why you've given PRN medication."

Fitness to practice requires nurses to have the skills and knowledge to do their job safely and effectively in accordance with their professional code (Nursing and

Midwifery Council, 2015a). Ongoing medication training was also confirmed by the same nurse.

N/S006/126 – “Training I do, I organise the pharmacy come and do training for...new member of staff...new senior carer...students...they are always attending the training programme...”

Table 8.2 Codes and Subsequent Categories Defining the 'Medication Governance and Regulation' Theme

Code	Subcategory	General category	Theme
Record keeping standards	NMC standards	Professional regulator	Medication governance and regulation
Safety of residents, practice			
Continuous professional development and training			
Medication management standards			
Accountability/responsibility	Fitness to practice	Internal regulators	
Delegation to carer use of creams, bowel care, records			
Decision-making			
Evidence based practice BNF, manufacturers' guidance	Company and managerial supervisors	Internal regulators	
Medication audit			
Medication storage	GP and pharmacist	Internal regulators	
Systematic processes of prescribing cycle			
Liaise/collaborative working	Family	External regulators	
Duty to inform family			
Involved in medication management			
Meet CQC standards/inspections	Care Quality Commission	External regulators	
Publish report on care home			
Adverse events recorded and reported	Legislation	External regulators	
Best interest			
Visiting professionals involved in resident care	Inter-professional team	External regulators	
District nurses, input			

The nurse is accountable for any decisions to delegate aspects of resident care to carers. Tasks must be within the carer's scope of competence, instructions given must be understood, supervisions and support must be provided and the nurse

must confirm the outcome meets the required standard (Nursing and Midwifery Council, 2015a).

Care staff who provided personal care to residents were delegated to address PRN medication needs on a daily basis. Nurses and carers reported processes followed for the use of dermatological preparations and topical treatments by carers, which are stored in residents' rooms. Prior to initial use the nurse "*explain...where and when...why...which cream should be applied...*" (N/S039/144). An experienced carer stated her approach, while another carer gave a slightly different account:

C/S060/36 – "...they are left in the bathroom...that is how we know which cream to use... It would be labelled and instructions would be there to follow."

C/S061/122/126/154 - "in the morning...we...look on the cream file...what cream they are listed with...so we follow all those instructions...If the rash disappeared, the nurse...we call...they tell us what to do..."

Carers 'applying' PRN 'creams' used during personal care recorded initials on a second resident MAR sheet to indicate use on that day. These "*second MAR sheets for the creams*" (N/S014/349) were kept in a separate file on each floor for ease of access and not locked away with the drug trolley, as primary MAR sheets were. A nurse explained the process below, focusing on the documentation that carers initialled to record administration. Resident 'changes' were not documented by carers.

N/S014/347 – "...they are putting the cream...so they are signing..."

R/351 – "They sign it themselves?"

N/S014/352 – "Yes, they sign it...because they are applying the cream, I'm not, so they will sign that one."

Dermatological and/or topical preparations did not appear to require the same level of surveillance and checking as other PRN medication. The carers were allowed to use the 'creams' and sign MAR sheets without attending medication training and without direct, or in some instances, indirect supervision. Nurses did not consider 'creams' as risk associated and therefore not requiring the same degree of decision-making. The administration of a PRN medication did not

appear to be used by the nurses as an opportunity to review the resident's condition.

8.2.2. Internal Regulators

Nurses had a responsibility to their employer for their conduct with regard to medication management and were required to work collaboratively with professional colleagues (Nursing and Midwifery Council, 2015a).

Medication audits are incorporated within clinical governance and aim to improve care and outcomes (Grainger, 2010). It is an examination or systematic review and evaluation of records and other data to determine the quality of the service and establish the extent to which a process or performance conforms to predetermined standards.

This nurse, reporting a recent medication audit, revealed the complexity and attention to detail that this involved:

N/S027/127 – “Where is the trolley? Is it sited? Is it locked? Who’s holding the keys? The BNF, is it in date...? ...drug fridge temperature, is that being monitored? ...the treatment room... sharp boxes... kidney dishes... blood bottles... drugs... returned... temperatures... locked cupboards... storage, the proper storage of your liquids... controlled drug books, are they kept properly? Are they audited properly? Are the signatures there... waste disposal... how it’s taken... books you have to sign. Return drug book... is it written down...the things you had to return...medication trolley...where is it situated...not left unattended...tablet counts...random number of MAR sheets...running total...state of trolley...administration...section on ‘potting up’...picture of the person? Is the allergies documented? ...residents’ medication checked? ...self-administration of medicines...oxygen...sign on door...nebuliser been checked? ...looked at the concentrator? ...mask been washed...home remedy policy...[content]...drugs out of date...audit...how often did you use it...particular book...administration of medications...”

Other nurses spoke of “three monthly scripts in the cycle...controlled drugs...not allowed to prescribe far too many” (N/S006/11/37), “order the medicines ...monthly” (NS039/28),

“...checking the medicine...getting prescriptions, photocopying, even marking up the pots to go in the room...second week...tick... the MAR sheet...send...to the pharmacy” (N/S014/436).

Nurses interviewed were involved in monthly or bi-monthly auditing of all medication management aspects to ensure the care home met legislation, governance, and professional standards. Medication management activities, including audits, training, and ‘rounds’ were considered by nurses to be very time consuming. Nurses indicated medication audits and training took a day, as stated in the quotations below, and ‘rounds’ observing varied in time from 20 minutes to 140 minutes:

N/S027/172 – “It would take you a whole day to do the medication audit.”

N/S027/3 – “It’s like a whole day and a pharmacist comes over and he’s actually got a test paper and knowledge paper at the end of it and you’ve got to pass that...”

The nurses’ interviews provided a detailed account of internal medication management systems. The activities and timeframe related to prescriptions are explained in Table 8.3 below. Documentation for each stage of the process is maintained. Additional written records include controlled drugs, home remedy box, medication returned, waste disposal, adverse events, and audits.

When asked, this nurse considered “*advantages*” in an NHS hospital.

N/S006 – “You’ve got a pharmacy...you can discard your medicine ...you can return it to the pharmacy immediately... ask them to...collect... Also...midnight you want medicines...call them... they come and do it...”

Part of the prescription cycle involved the nurses reviewing stock quantities, returning unwanted routine and PRN medication to the pharmacy, and stopping prescriptions. The nurses described how they incorporated a review of residents’ medication needs and health status into their administrative work and stock control; the governance and ongoing audit processes could be the trigger to consult with the GP.

N/S014/52 – “...checking the amount we are returning to the pharmacy and...we are assessing the resident’s need to continue that medicine...sometimes we need to stop that medicine with the GP...”

Table 8.3 Care Home Prescription Cycle Managed by Nurses

Prescription cycle	Daily	Week 1	Week 2	Week 4	12 weeks
<ul style="list-style-type: none"> • Prescriptions for new residents, medication changes and additional prescriptions collected from medical centre. • Prescriptions photocopied • Prescription faxed to community pharmacy 	✓				
<ul style="list-style-type: none"> • Night doctor provides prescription 	✓				
<ul style="list-style-type: none"> • Prescription for urgent medication taken to local pharmacy • Dispensed medication collected 	✓				
<ul style="list-style-type: none"> • New MAR sheets commenced Monday 		✓			
<ul style="list-style-type: none"> • Nurses calculate all medication held • Re-order repeat prescriptions • New prescriptions obtained for controlled drugs 			✓		
<ul style="list-style-type: none"> • Medication delivered from pharmacy • Medication checked and stored 				✓	
<ul style="list-style-type: none"> • GP reviews repeat medication 					✓

8.2.3. External Regulators

Care homes (nursing) are required to demonstrate that the CQC standards of care are met. Therefore they must ensure all aspects of medication management are in accordance with statutory and regulatory requirements and best practice recommendations.

Medication training was identified as something that was completed in order to meet external and internal regulatory requirements. The emphasis was on following procedure.

N/S027/3/19 – “Medication training. Well obviously with the Care Quality Commission you have your statutory training, which they’ve [staff] completed. ...but then it’s ongoing as well through our medication audit that we’ve got to do for the company, which is quite lengthy.”

The nurses’ views and the emphasis on making sure that medication management must meet standards set by external and internal regulators affected decision-making, as their priority was to be able to demonstrate that they had adhered closely to procedures. This was work that was done apart from the resident and was shaped by procedure and protocol; for example the home remedy box PRN medication and policy review was identified as important, but assessment of resident symptoms and its use were not considered.

N/S027/195 – “We did the home remedy policy last year, it should be reviewed every year so it’s coming up for renewal now...So there was something like...Senokot, paracetamol, simple linctus and...two more...”

These processes could mean that PRN related decision-making and administration processes could be used to inform nurses’ decision-making and conversations with visiting health care professionals. It was not grounded in an ongoing review of a resident’s health or related medication needs. The importance of meeting governance requirements and regulations and the amount of time managing medication affected nurses’ reported and observed involvement in actively addressing residents’ PRN medication needs.

8.3. Symptom Assessment

The theme of assessment originated from 27 codes applied to the interview transcripts (Table 8.4). Codes arose from the interviews with both nurses and carers. Analysis identified that carers played a role in the identification of residents’ symptoms when providing personal care but that nurses remained responsible for formal assessments. These findings were supported by the observational data analysis. Relatives and residents were reported by respondents to contribute in identifying symptoms to carers and nurses.

Table 8.4 Codes and Subsequent Categories Defining the 'Symptom Assessment' Theme

Code	Subcategory	General category	Theme
Changes in resident's condition	Identifying symptoms		
Constipation, diarrhoea			
Infection			
Use of dermatological creams	Recording by carers		
Daily bowel movements			
Key workers		Carers' role in symptom assessment	
Inform nurses and senior carers of 'changes'	Reporting changes		
Protect yourself			
Knowledge and skills not known/identified	Barriers to participation		
Limited communication, no handover			
Not considered part of role			
Monthly assessments of resident nutrition/weight	Formal assessment		Symptom assessment
Administer pain scale			
Conduct vital signs			
Nurses do routine assessments		Nurses' and senior carers' role in symptom assessment	
Assess effects of medication and reduce/withhold	Expert		
Record PRN rationale			
Physical examination			
Clinical opinion			
Nurses make decisions			
Nurses talk to family			
Resident reporting feeling unwell	Resident involvement		
Reporting minor condition/symptoms			
Demonstrate cues		Resident and relative involvement in symptom assessment	
Family identify symptoms			
Buy OTC products	Relative involvement		
Administer OTC medicines			

Continuous assessment of residents' health is a fundamental criteria of nursing care. People with dementia may not be able to report their symptoms because of their memory problems therefore, as Brooker (2007) states, it is mandatory that those providing care are vigilant in identifying changes in physical health

symptoms. Analysis of interview data identified that nurses, senior carers, carers and relatives were all involved in the symptom assessment of residents' health.

8.3.1. Carers' Role

Analysis of the interview narrative, supported by the observational data, identified the carers' extensive role in the assessment of residents' symptoms. In addition to identifying symptoms and reporting 'changes' to nurses, carers were responsible for assessing and recording bowel movements of residents.

Carers spoke of signs and symptoms recognised when residents have pain "...expression on their face..." (C/S043/136), temperature "...she was having rigor really bad..." (C/S006/367), and constipation "...she'll refuse to eat...(C/S006/550). Carers routinely assessed the skin for pressure symptoms "...I check to see if it is broken down...if it is red... beginning to peel...it cracks..." (C/S060/41) or eczema "...feel the skin and it's so dry...itchy...red..." (SC/S024/288).

They used their clinical knowledge, awareness of the residents, care experience and senses (sight, touch, smell, hearing) in the assessment of residents, as illustrated in these quotations:

C/S060/147 – "...show it (pain) in their face...won't be able to turn...signs of discomfort...might scream...shout...push you off."

SC/S024/705 – "I've got one client who always get chronic infection...eardrum is... Perforated. ...when she get infection I can smell it..."

C/S060/155/178 – "...I would feel the tummy...if the tummy is really hard...something is wrong." "I said "are you constipated?"...she nodded her head. I could hear her straining..."

Carers interviewed were as familiar with pain behaviour in residents with dementia (Downs & Bowers, 2008; Hadjistavropoulos, Herr, Prkachin, & Craig, 2014; Napp Pharmaceuticals Limited, 2014) as nurses. Changes in facial expression was most commonly cited, with vocalisation and change in mental status (agitated, mood) also highlighted. Carers also noted changes in interpersonal interactions (not wanting to be touched).

Nurses reported a reliance on carers to identify “change” when new symptoms arose or treated conditions did not improve or even worsen. This nurse stated her expectation of the carers to report symptoms associated with minor conditions and serious illness:

N/S039/202/216/247/248 - “They would come ...to us and say...skin problem...temperature...one side weakness...stroke...Chest infections, pain.”

Nurses stated carers were instructed that observational symptom assessment applied to newly admitted residents too, as stated by this nurse.

N/S014/358 - “...if you notice anything...pain, bruises or any pressure sore, just let us know..”

Carers were responsible for charting resident bowels open (BO) or “NO” (not open) (C/S060/210) each day and identifying constipation. On each floor a folder of resident bowel charts was available for the nurse/senior carer to assess the need for PRN laxative administration. Carers were trusted with the maintenance of the written records in this area of care when an omission or error could lead to medication administration/non-administration and adverse effects. Goodman, Davies, Norton, and Fader (2013) stated the benefit of clinical assessment and nursing input for faecal abnormalities in their recent study.

Inconsistencies between the nurses “trust” in the carers’ competency were also found (C/S006/339). One carer reported that while one nurse might expect the carer to report a resident’s pain, another nurse would instruct them to make a formal assessment.

C/S006/415 - “...go and do an Abbey [pain scale] and we’ll see”. There was no shared expectation between the staff that there should be a systematic approach to the assessment of pain or its elimination.

8.3.2. Nurses’ and Senior Carers’ Role

Senior carers in charge of the second floor, like nurses, did not provide personal care to residents. Their decision-making was informed by care staff reporting symptoms and in response the senior carer would assess the resident, as shown in

the following excerpts. The decision to administer a PRN medication was not always based on a systematic or comprehensive assessment of the resident.

SC/S024/290 “the carers tell me”

SC/S024/301 - “assess...I can feel where...pain...then I give some paracetamol...”

This senior carer explained analysis of the benefits and disadvantages of antipsychotic medication use for behaviour and psychological symptoms of dementia (BPSD) in a resident who was ultimately found to have a urinary tract infection:

SC/S024/355 – “...kicking them and shouting and calling different names...she is confused...not settling. ...I review with the GP...start Quetiapine 25mg...she was so drowsy...withdraw the medicine...urine dipstick...urine infection. ...I can’t withdraw because of her condition...daughters are happy to give half...if she is still drowsy I need to stop. ...it’s not safe...if they are drowsy...don’t eat and drink...can’t walk...can fall...”

There was a division in how residents’ needs were assessed. Care workers observed residents and reported ‘changes’ in residents and nurses and some senior carers would then make the clinical assessment. The nurses and “*some senior carers*” (N/S039/269) would perform temperatures, blood pressures, pain assessment, and blood glucose. Basic clinical skills were not the domain of carers, even when they had the ability.

(C/S060/242) – “...simple blood pressure, I went...to [a] nurse oh I know how to do this...they said no, it’s not your job to do it.”

Boundaries of the carer’s role were very well defined. It was the role of the nurse to identify the probable diagnosis and decision to administer PRN medication and/or contact the GP.

N/S039/240 – “We are the expert and we have to identify what’s the problem...UTI or chest infection...”

Nurses' decisions to administer, or not administer, PRN medication were based on 'changes' in residents' behaviour or knowledge of individual habits rather than a systematic assessment approach.

N/S039/379 – "...any small changes you see you have to identify and then you have to make the decision that you give a PRN drug or not."

N/S014/246 – "You know that _____ (name of resident), whenever she's complaining of pain she is grinding her teeth."

PRN medication use was identified from the medication review reported in Chapter 6, though not observed. The nurses' expectation that the carers would identify 'changes' and report to them may indicate nurses considered symptom assessment and PRN medication use as a separate activity to medication 'rounds'.

A symptom assessed constantly by senior carers and nurses was 'drowsiness' in residents, which subsequently affected their participation in medical decisions. This was judged in relation to medication sedative load and underlying ill-health. Altering medication doses and decisions by nurse administrators to withholding sleeping tablets are illustrated in these extracts:

SC/S041/281 – "...50ml dose and she's a bit sleepy...25ml less...resident not so drowsy."

N/S027/281 – "...she started on Temazepam...this lady was actually doped...we told the doctor we are not giving her any Temazepam...she is alert today...but she also had a chest infection, so she could have been drowsy from the infection as well..."

Staff reviewed the alertness of residents and reduced antipsychotics and night sedation when it was considered in the best interest of the resident. Weekly surgeries with the GP were the opportunity to review medication. SC/S018 spoke of "tablets that make them sleep" and her concern that it "felt like you're taking their life away from them." A senior carer reported the use of an anxiolytic (British Medical Association and Royal Pharmaceutical Society, 2014) medication (Lorazepam) given PRN for BPSD assessed; No prescribing of Lorazepam was found during the medication review period.

SC/S018/241 - "Yes, we have one resident who is on... Lorazepam, we only give it to her when she's really agitated because one thing is you'll give it to her and she goes into this sort of...she can't cope. It makes her drowse. Also we don't want to see that...you have to look after their safety as well, especially when she's agitated and she's sort of a threat, especially to those vulnerable ones or to herself, then we need to calm her down at some sort of state. So we use it as a PRN, not regularly because we wouldn't want a human being sitting the whole day sleeping."

Nurses and carers expressed knowledge of the susceptibility of people with dementia to display behavioural changes related to ill-health, such as urinary and chest infections, constipation, over-medication and sedation (Brooker, 2007). Despite the knowledge and experience of identifying adverse effects of medication sedative load and decisions made to withhold medicines, no interviewee spoke of challenging initial prescribing. On admission, residents arrived with prescribed medication. This was administered until adjusted according to resident specific requirements following collaborative assessment by the nurses and carers and medication review by the care home (nursing) GP.

A further aspect of carer responsibility in resident assessment that could influence prescribing of dietary supplements was monthly weight measurement (SC/S018/373, N/S039/795, C/S059/511), daily food charts, and food intake.

SC/S018/374 - "...we weigh them quite often to see how much they lose, how much they gain. If we feel their weight is...steadily and they're eating well...we tell the doctor "This client is...picked up", so there's no need of putting them on supplement."

Weight loss has been associated with dementia and resident malnutrition in care homes (Jesus, Desport, Massoulard, & Villemonteix, 2012; Suominen et al., 2005). Associated symptoms of dementia are aphasia, hyposia (decreased ability to smell), hypogeusia (decreased ability to taste), and eating dependency (Meijers, Schols, & Halfens, 2014). The medication review identified dietary supplements prescriptions to half of resident participants (n=17). The importance of addressing weight loss and gains in residents was evident during surgeries observed (22/1stF/L/S014, 35/1stF/LS050, 36/1stF/L/S028).

8.3.3. Resident and Relative Involvement

The involvement of family in symptom assessment was acknowledged by nurses and carers. They stated that family identify subtle changes in the resident appearance and raise their concerns of *“Why is she sleeping?”* (SC/S018/335).

N/S039/384 – S022 - “...they say “Is there any change with my mum because I can see her face is a bit flushy and is she a bit drowsy, is there any reason for that?”

Concerns regarding resident sedation relate to inappropriate prescribing of antipsychotic medication to manage BPSD when symptoms may relate to unmet need (Alzheimer's Society, 2011; Dementia Action Alliance, 2011; Department of Health, 2009a).

PRN medication (Choline salicylate dental gel, emollients, cold and flu remedy containing paracetamol and phenylephrine, proprietary mouthwash) were sometimes provided by the resident's family. This carer indicated that the products would remain in the resident's room and use would be decided by the family.

R/476 – “And then who would identify that the resident needed the Lemsip?”

C/S006/476 – “The family, I expect...”

Lemsip contains paracetamol and must not be taken with any other medication containing paracetamol (British Medical Association and Royal Pharmaceutical Society, 2014) yet it was unclear if monitoring took place. Over-the-counter medication did not seem to be considered a risk or ranked as highly as prescribed medication by staff. S024 commented *“Bonjela is okay because you can get from the pharmacy”* (SC/S024/588).

Many residents were unable to voice their symptoms but those able to communicate verbally informed nurses and carers when feeling unwell (C/S062/182) and asked *“What's that for, what's this for?”* (C/S059/328). As identified when observing staff speaking to residents, information was over simplified. Explaining medication was considered *“too complication to explain”* or avoided *“Oh it'll help you...”* (C/S059/329/338).

8.4. Attitudes to Aging

The theme of attitudes to aging originated from 15 codes applied to the interview transcripts (Table 8.5). The term ‘attitudes to aging’ is an expression of the attitudes of a person to the process of aging (Laidlaw, Power, & Schmidt, 2007). In Western society a negative stereotype exists of older people being frail and decrepit rather than mature and wise (*Equality Act 2010 c.15; Equality Act, 2010 c.15*). Cultural and ageist attitudes were identified and coded during analysis of the interview transcripts, as illustrated in Table 8.5. In practice, ageism can result in failure to offer older people respect, choice, and control and involvement in decision-making. Attitude towards, language about, and labelling of older people are also identified as discrimination (D. Oliver, 2013).

Table 8.5 Code and Subsequent Categories Defining the 'Attitudes to Aging' Theme

Code	Subcategory	General category	Theme	
Preferred name used	Respect	Cultural attitudes (personal and environmental)	Attitudes to aging	
Limited autonomy				
Social care involvement	Choice			
Non-involvement in treatment decisions				
Nurse accountability				
Mental capacity and speech	Control			
Family, GP and nurse collaboration				
Belief systems	Attitudes			
Older person not considered				
Family as primary carers				
Tender loving care	Language			Ageism
Euphemisms				
Lacking communication	Labelling			
Pain free				
Treatment unnecessary				

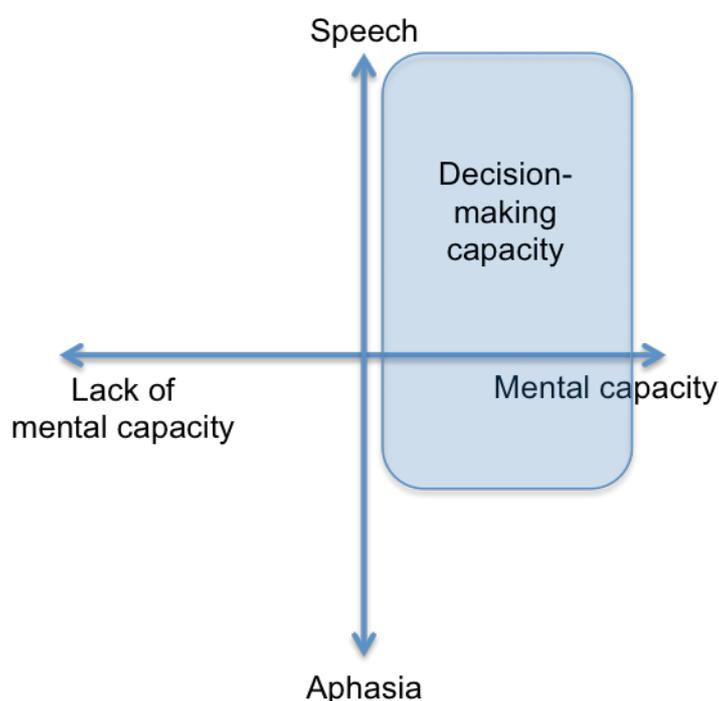
8.4.1. Cultural Attitudes

The interview transcripts provided evidence of nurses and carers respecting residents and displaying positive professional attitudes towards older people, as well as differing cultural attitudes. During the interviews residents were called by

their preferred name and identified as individuals. Respondents described residents involved in general care decisions “*tell you what they want to wear, what they feel like eating, what they feel like drinking...*” (C/S061/340) but not medication need, choice, and use. Although the respondents were keen to emphasise the importance of the person’s individuality, it was apparent that residents had limited involvement in decision-making about treatment.

Respondents made distinctions between residents who had speech and residents with primary progressive aphasia, and residents with capacity and residents with dementia who were perceived to lack mental capacity. This directly influenced how carers and nurses involved residents in decision-making about medication. Figure 8.1 Resident Participation in Decision-making Based on Speech and Mental Capacity illustrates how only residents who possess both speech and mental capacity may be perceived by staff as able to participate in decision-making.

Figure 8.1 Resident Participation in Decision-making Based on Speech and Mental Capacity



Despite the 3 floors of the care home (nursing) categorised according to residents’ health and social care needs (nursing, nursing with dementia, dementia), the

opinion of nurses and carers was contradictory regarding residents' involvement and ability to act independently.

Second floor residents were “*mobile...need less help*” (C/S062/454) and able to speak but lacking mental capacity. This nurse explains how residents engage:

N/S014/282 – “...some of the residents in the residential unit (2nd floor) they are saying we are in pain, we want that medicine...I want to see the doctor for the pain, I want this medicines, that medicine. Some of the residents know which medicine they are taking...”

Despite their involvement, these residents were not considered able to make decisions regarding medication, although it could be a 3-way process that involved family and GP as illustrated by a senior carer on the second floor:

SC/S041/406 – “We have to get the decision from the next of kin because most of them (residents 2nd floor) can't make a decision about their medication by themselves so we sit with the next of kin...to have a meeting with the GP...”

First floor residents included “*wanderers*” (C/S062/462) and those exhibiting the full range of BPSD, aphasia, and lack of mental capacity. A carer asked to describe the residents' involvement in medication made the following statements:

C/S006/544/562 - “On this floor non-existent...Ground floor...much more able...to say what's going on.”

However, the higher rate of residents with capacity on the ground floor was not evidenced during observations conducted by the researcher. Respondents believed that they were involving residents wherever possible in decision-making but this was not apparent from the observations.

A carer based on the first floor stated her opinion was that residents were not involved with medication decisions and instances during GP surgeries where residents were included was tokenism. In contrast, involvement of ‘next of kin’ as advocate was identified as important.

C/S062/264 – “...what I find in dementia is they are confused, they need help and they need us to decide for them. Like the medication, I think the nurses and

the doctors, the GPs may want to decide for them...

R/268 – *“I have observed the doctor and the nurses talking together about the medication and often the doctor will ask for the resident to be brought in and she will sit and talk to them.”*

C/S062/271 – *“Yeah, but in my opinion I think in a case of dementia, when they bring them in, they’re just trying to tell them what they’re going to do. But at the end of the day the doctor and the nurse will make the final decision and with the next of kin.”*

At the time of the study most residents on the ground floor were observed to have speech but lacked mental capacity; this was ascertained during the recruitment phase.

8.4.2. Ageism

Age discrimination has been acknowledged to exist among healthcare workers (Tadd, 2000; Wade, 2001). Nurses from Europe spoke of their cultural attitudes towards older people, which they perceived as more positive. Carers also identified different cultural attitudes in nurses towards PRN medication use for residents as part of EoLC.

A return to practice student expressed her cultural norm of obligation and expectation of family as primary carers, shame, and little alternative to family care:

RPS/S057/252 – *“In _____ (name of country) children don’t like to give their relatives in the home, it’s not good for their dignity. If somebody give his parents into a home and other people say “Oh, look at him, he don’t like his mother, he throw her away...”*

This respondent had worked for “20 years as a general nurse” (RPS/S057/6) in Europe. Person centred care and user involvement and choice appeared unfamiliar concepts, UK medication regulations and processes were new, and medication prescribed were different. The respondent held firm beliefs that “sleeping tablets” (S057/182) and “Sudocrem” (S057/291) should be prescribed for all residents for regular use irrespective of resident need.

One European nurse interviewed spoke of *“the daughter...she wants her mother to go to physiotherapy.”* (N/S052/360). The nurse’s response below suggested her belief that age is a barrier to receipt of treatment:

N/S052/345/363 – “...oh my god... She’s very old, she doesn’t need this physiotherapy...”

A carer reported that overseas trained nurses’ attitudes towards the use of PRN morphine in EoLC was perceived differently to UK trained nurses working at the care home:

C/S006/161 – “...nurses in _____, _____ ...seem to see what we do [end of life care] as being euthanasia in some way. They are reluctant, they think that morphine is like the last resort and that we’re too free with it...”

Withholding of PRN medication at end of life may link to underuse of PRN analgesia for resident pain. It is known that older people with dementia suffer untreated pain and this was observed when personal care was delivered by carers. One senior carer provided a rationale for her decision to withhold PRN pain relief; Her decision was based on her assumptions and not on any attempt to assess whether the person was in pain or not.

SC/S018/420 – “...if you feel the client doesn’t need them, things like paracetamol, co-codamol...you’re drugging them...give it when it is necessary...don’t just give for the sake of...“I think she’d need paracetamol” when you don’t know whether they need it or not...”

Labelling residents as not in pain and the side effect of drowsiness associated with analgesia affected this senior-carers’ decision-making. Systematic assessment using the Abbey pain scale would provide evidence of the degree of pain a resident who is unable to communicate is experiencing.

In relation to resident pain relief, staff used language that has been associated with care of the dying. A nurse spoke of *“tender loving care”* (N/S039/650) *“as making the pain reduce”*. Others identified anticipatory PRN medication not in place for *“end of life care”* (C/S006230) and *“euthanasia”* (C/S006/161) as contained in the quotation above.

8.5. Summary

This chapter has considered the professional, personal and cultural views of nurses and carers in relation to aspects of medication management.

Analysis of the interview data has identified that medication management in a care home (nursing) environment is complex. Governance and regulation dominate clinical practice and may affect the assessment of residents' needs for PRN medication, particularly during 'rounds'.

Nurses rely on carers to assess symptoms and observe changes in resident behaviour. It was not always based on systematic assessment of need and carers did not have the authority to act on what they had observed. There was a hierarchy of responsibility where it was the nurse in charge who would diagnose and/or contact the GP.

Regulation and governance were important for some but not all PRN medication. PRN dermatological preparations administered and signed for by carers, without consultation or review by the nurse, appear not to be considered a risk in comparison with other medication.

It was evident from the interviews that nurses, based on their observations of residents, were informally taking decisions to withhold some medication. The state of drowsiness in residents was constantly assessed by nurses, resulting in the decision to reduce the dose of antipsychotic medication prescribed or change Temazepam to PRN if necessary prior to discussion with the GP. Drowsiness as an indicator also assisted in detecting underlying medical conditions known to affect older people.

Respondents identified resident involvement in general care but not in relation to medication decision-making. Finally, the interview data identified nurses trained overseas do have differing cultural beliefs and values that may unintentionally affect their clinical practice especially in relation to pain management and EoLC.

Chapter 9 considers the findings from Chapter 5, Chapter 6, Chapter 7, and Chapter 8 in relation to the study research question and objectives and discusses the relationship of the conclusions to present empirical evidence.

Chapter 9 Discussion

This chapter draws together the individual findings from the 3 data collection phases to answer the study objectives and research question regarding the role of the registered nurse' daily practice in a care home (nursing) examined through the lens of PRN medication management. Multiple factors were found to impact on nurses' decision-making. The staff and residents who participated in the research will be considered first and the transferability of the findings. Existing literature is drawn upon to analyse and conceptualise the study findings and demonstrate how this work has contributed to new knowledge about nursing roles in care homes and carers' and residents' involvement in decision-making.

9.1. The Study Participants

Three groups participated in the research: residents, nurses, and carers. The participant groups are considered below.

9.1.1. Residents

The profiles of the residents were very similar to those found in other care home studies and national trends, with regard to higher ratio of women and age range (Cusack, Day, Wills, & Coffey, 2012; Halvorsen, Granas, Engeland, & Ruths, 2012; Lievesley et al., 2011; Office for National Statistics, 2012a; Parsons et al., 2011). Similarities in sex (76.7% female), mean age (83.2 years), dependency levels, and most frequent morbidities were found with the health status of care home (nursing) residents reported by Gordon et al. (2014) but length of residency was shorter and co-morbidities higher (mean 5.5).

The majority (n=23) of residents were British with white Caucasian appearance. It has been suggested that national groups may support possible health similarities between residents (Office for National Statistics, 2005). Interestingly, the proportion of Caucasian British did not reflect the profile of the local adult

population where the care home (nursing) is geographically situated, who were of non-White British (46%) or other descent (Office for National Statistics, 2012b). The densely populated region is known for tightknit communities of migrants (MacInnes, Parekh, & Kenway, 2011). Census 2011 recorded less than 5% of care home (nursing) residents in England and Wales were BME although the incidence rose to 11.5% in outer London due to a greater ethnic diversity. The national rate of 5% was reflected in the study participants (n=2) but not the higher incidence given the location in outer London.

Median length of residency was 15 months for the participants, which matched the length of residency in studies by Gage et al. (2010) and Forder and Fernandez (2011) who reported 16 and 15.5 months respectively. Duration of residency is important as long residency without medication review has been associated with increased risk to residents (Zermansky et al., 2006). Place admitted from can also indicate differences in medication management. When admitted from a hospital, medication can be changed unintentionally by the GP (Pharmacy and Prescribing Team, 2006) and can mean higher resident medication rates when hospital prescribing is not reviewed after discharge (Pharmacy and Prescribing Team, 2006; Task Force on Medicines Partnership and The National Collaborative Medicines Management Services Programme, 2002). Care records were incomplete for 14 residents but 8 residents were identified as admitted from hospital.

Activities of daily living (ADLs) and dependency level are affected by decline in levels of functioning and cognitive capacity (Marshall, Amariglio, Sperling, & Rentz; McKhann et al., 2011) but assessments of the resident's cognitive state and behavioural and psychiatric symptoms of dementia (BPSD) were recorded for only 4 participants. Literature states assessment is important to ensure prescribing appropriateness (Gallagher et al., 2011; Lang et al., 2010).

Case records did record care dependency levels of medium (n=18) or high (n=15) for resident participants. A study by Tabali, Ostermann, Jeschke, Dassen, and Heinze (2013) in Germany involved low, moderate and high care dependent

residents. Care homes have heterogeneous and changeable populations therefore dependency levels may vary.

Of note is that participants with dementia caused by Alzheimer's disease had slightly higher dependency levels than those with dementia due to other causes. To date there is no comparative data in existing studies.

Twenty-four residents had 3 or more co-morbidities, which was reflected in the polypharmacy rates of approximately 8 medication affecting between 24 and 27 residents during the medication review. Polypharmacy is associated with ADEs, drug interactions, medication nonadherence, reduced functional capacity, for example cognitive impairment, increased falls, urinary incontinence, and reduced nutritional intake.

The high level of co-morbidity among residents is not surprising given that advancing age is associated with high morbidity rates (Eviden & Gesty, 2007). Case records identified mental health illness (n=29) and cardiovascular disease (n=18) as the highest morbidities. The health status of UK care home residents was studied by Gordon et al. (2014). They also found the most common diagnoses included dementia (62%), essential hypertension (45%), cerebrovascular disease (31%) and atrial fibrillation/flutter (14%). The Gordon et al. (2014) sample was larger and included nursing and residential care home residents, which may account for differences in diagnosis rates.

The most common mental health disorders in older people are dementia and depression (Faculty of Old Age Psychiatry, 2006), which can occur separately or as co-morbidities (Department of Health, 2009a). Residents with a history of depression, physical disability, or mental health problems should be screened (National Collaborating Centre for Mental Health, 2009). Case notes did not identify that all residents were assessed. The Royal College of General Practitioners (2011) states 40% (2 in 5) of care home residents may have depression. The research setting appears typical with 11 (2 in 6) residents prescribed antidepressants.

The relationship between increasing age and the incidence of cardiovascular disease is well established in the general population; coronary heart disease increases with age (British Heart Foundation, 2012). In contrast, the study sample does not illustrate the general population relationship between sex and cardiovascular disease (British Heart Foundation, 2012); cardiovascular disease was higher in women (62%) than men (33%).

9.1.2. Nurses

The registered Manager held a higher degree and demonstrated sound knowledge and skills regarding care of older people in the care home setting. Nine nurses were trained overseas (India, Eastern Europe). None had a degree but they were registered with the NMC. Migrant employment in care services, specifically with older people, is common (Cangiano & Shutes, 2010; Johansson & Ahnlund, 2013). Karstadt (2012) identified, during an educational visit to India, nursing practice is traditional, nurses are directed by doctors, and they make very few autonomous decisions in contrast to UK nurses. The European nurse participants were more confident, demonstrated by their support of pre-registration student nurses on placement.

Employment of higher educated nurses has been associated with improved patient outcomes by research in European countries, including the UK (Aiken et al., 2014). To meet the increasing challenges in nursing, the NMC recommend an all graduate workforce in the UK (Nursing and Midwifery Council, 2010c). Care homes (nursing) are a specialist area requiring nurse-specialists in gerontology involvement. Spilsbury et al. (2015) claim nurses have not been trained to work in this area, but rather the hospital or community. Placement of nursing students in the study care home (nursing) provides learning opportunities about the care of older people and the development of nursing skills. The placement could accommodate students throughout the 3 year pre-registration programme as the complexity of health and social care provided meets the NMC standards for nurse education (Nursing and Midwifery Council, 2010c).

Concerns of the quality of care (Care Quality Commission, 2013d) and the status of the workforce have been raised. NICE state nursing staff knowledge, attitude

and approach, competency, appreciation of the sector, and knowledge of how to promote quality care are important for employees (National Institute for Health and Care Excellence, 2015c). Spilsbury et al. (2015) also identifies that nurses in care homes (nursing) are available 24 hours a day and supervise the work of a large carer workforce. This affects care delivery as well as the professional development and learning needs of these nurses. Figure 9.1 identifies 16 key areas of need reported from a literature review conducted by Spilsbury et al. (2015). Only EoLC and dementia care were being addressed by the care home (nursing) at the time of the research study.

Figure 9.1 Literature Themes Related to Care and Professional Development Needs of Nursing Staff in Care Homes (Nursing)

End of life care (EoLC)	Dementia care	Resident safety	Quality of care
Care home relationships	Personal care	Staff well-being and safety	Long-term condition management
Tissue viability	Delirium	Depression	Hospital admissions
Nurse education/training	Staff development	Support for care homes	Nursing roles

Reference: Spilsbury et al. (2015)

A decade ago, Spilsbury and Meyer (2005, p. 73) identified that hospital nurses had moved away from the bedside, were attending to care related activities, and “*relinquishing their traditional perspective on what constitutes important care for patients*”. The findings of this study underline that carers are providing care and are defining nursing care. The nurse participants did not see themselves as providing health care in terms of assessment or review. The role of the nurse, in respect of resident care, was to do what carers cannot do as specified by the regulator.

Overseas registered nurses and carers, with English as a second language, used speech over-accommodation with residents and simplified vocabulary and grammar with staff. Spilsbury et al. (2015) recognised language barriers exist between overseas registered nurses and residents in care homes but considers

practice standards are more important and a period of supervision to assess their competency is required.

Nurses interviewed described themselves as ‘experts’ in clinical assessment when carers reported ‘changes’ in residents. A role division was evident as clinical skills were the domain of the nurse, although skin treatment and bowel care were delegated to carers. NHS specialist practitioners and GPs, pharmacists, and independent specialist nurses were depended on to support the nurses in their role. Observational and interview data recognised decision-making by nurses was mediated with care staff and the inter-professional team. Inter-professional working is advocated for the care of older people with multiple and complex needs (Department of Health, 2010a) although overall there is weak evidence of efficacy and cost effectiveness (Trivedi et al., 2013).

9.1.3. Senior Carers and Carers

The carers did conform to the stereotypical care worker who is migrant, female, poorly paid, and of low status (Cangiano & Shutes, 2010; Somerville, 2006). According to Cangiano and Walsh (2014) they fill the care deficit in a labour market that is considered disadvantaged and unable to recruit indigenous care workers (P. Smith & Mackintosh, 2007). A decline in the level of education of carers employed in dementia care has been reported in some European countries (Vernooij-Dassena et al., 2009). Hussein and Manthorpe (2012) refer to carers working in dementia care in England as being less qualified than carers in other areas of social care, with NVQ level 2/2+ average, and few possessing higher qualifications.

In contrast, the interviews identified a more experienced, skilled, and formally educated workforce of carers than was apparent from their pay grade and responsibilities. Vernooij-Dassena et al. (2009) identify negative contact with superiors, lack of educational opportunities, and insufficient job prospects decrease job satisfaction of carers in dementia care. This could limit evidence based practice, lower standards of care, and affect recruitment of a knowledgeable and skilled workforce.

It is known that carers are knowledgeable and have complex care skills (Somerville, 2006). Senior carers were recognised for their knowledge and skills and conducted medication management activities and led the second floor. However carers' competencies were largely unrecognised. Pender and Spilsbury (2014) have examined the role of nursing assistants in the community, which reflects the role of the carer. The carers' importance was "termed routine care" and meeting "basic care needs", freeing up the nurses to focus on more complex nursing care (Pender & Spilsbury, 2014, p. 88). Carers reported that they did not receive handovers (C/S006/586, C/S060/296), attend medication training (C/S043/12, C/S059/42, C/S062/27), assess pain (N/S039/266), or undertake basic vital signs (C/S053/281). These activities are considered exclusively the role of the nurse and senior carer.

In a culture where knowledge is respected regardless of status (Killett, Burns, Hyde, & Poland, 2013), the carers become a utilized resource in providing information about health status and needs of residents. The findings demonstrate little opportunity for carers to work collaboratively with nurses. Handover at 8.00 and 20.00 should be floor based and include nurses and carers to enable all resident information to be communicated. Recognition of carers' knowledgeable contribution is key and could lead to their involvement in additional assessment skills and improvement in resident care. Involvement in teamwork and collaboration with nurses would provide more job satisfaction for carers and ensure resident pain is addressed and PRN medication needs are met.

9.2. Medication Prescribing

The medication review has addressed research objective 1: to identify the medication prescribed for PRN use in the care home (nursing). Analysis of the most frequent medical conditions of residents and routine medication prescribed provided the context in which to consider PRN use.

9.2.1. Prescribed Routine Medication

The review of medication found that there were prescribing anomalies in both the regularly dispensed medicines and those written up as PRN. This was despite

pharmacist dispensing involvement, evidence of medication review by a visiting GP, a reported preoccupation with governance and regulations, and an experienced nursing workforce. Feedback to nurses on the medication audit informed them of irregularities regarding care home (nursing) processes but prescribing anomalies were not part of the audit framework and therefore not identified or discussed. This omission implies nurses did not deem medication prescribing as their responsibility or their role. They did not interpret their work as sharing information with colleagues as a method to identify and reduce risk or harm of residents and preserve their safety (Nursing and Midwifery Council, 2010b, 2015a). The complex processes of medication management interfered with nurses reviewing and reflecting on their practice. Procedures hindered them taking a responsibility for linking PRN medication administration to decision-making based on their knowledge of the residents and the information that they received from the carers.

The most frequently prescribed routine medication to residents were cardiovascular medication, psychotropic drugs, dietary supplements, laxatives, and dermatological preparations. A medication review by Furniss et al. (2000) also identified cardiovascular, psychotropic and laxatives as the most commonly prescribed. The study demonstrated the value of screening tools that support medication review.

Using STOPP (P. Gallagher et al., 2008) the study identified anomalies in prescribing associated with prophylactic aspirin for residents who were not prescribed a histamine H₂ antagonist (except cimetidine) or a proton pump inhibitor. Inappropriate prescribing of psychotropic medication was also found where prescribing did not match residents' medical records (antidepressants, antipsychotics). The ATC classification system (World Health Organisation, 2012) was used to identify that residents (n=12) had a high sedative load (≥ 3).

Replacement therapy for vitamin D deficiency was given appropriately to some residents (n=6) but not others (n=7). Borderline substances were prescribed to 11 residents. During observations and interviews the rationale for use of borderline substances relating to resident weight loss became apparent. Residents'

weights were measured 'often', successive weight loss was reported to the GP during surgeries, and supplements were prescribed to ensure adequate nutritional intake. Vitamin A, B, C, or multi-vitamins that have been found to have no effect on cognitive function and vitamin D that may have limited effect on dementia (Gestuvo & Hung, 2012) were not prescribed.

As significant as the drugs prescribed PRN were those that were administered regularly but arguably could have been PRN and based on residents' symptoms. Carers assessed and recorded daily bowel habits of residents as 'BO' or 'NO' to inform nurses' decision-making. Half (n=17) of residents were prescribed laxatives for regular as opposed to PRN symptom related use. Laxatives are considered of value in drug-induced constipation (BMA & Royal Pharmaceutical Society of Great Britain, 2008). Seven were prescribed constipation inducing drugs, but 10 residents with routine prescriptions were not. Gage et al. (2010) identified slightly more than half (58.9%) of residents in some care homes (residential) were prescribed laxatives and their study highlighted the problem of laxative induced diarrhoea. The study found increased prescription rates for female residents and those with Alzheimer's/dementia were higher. It is reported that constipation disproportionately affects older people with a prevalence rate of up to 74% in care homes (nursing) (Rao & Go, 2010). These factors, together with polypharmacy, lack of mobility, diet, and inadequate fluids add to the potential risk of constipation and could account for prophylactic prescribing. A study by Goodman et al. (2013) using the Bristol Stool Chart (Lewis & Heaton, 1997) found that, in addition to constipation, bowel patterns also included faecal incontinence and diarrhoea in 66% of residents. Some laxative administration was not related to frequency or grade of stool and there was evidence of laxative-induced diarrhoea. NICE practice guidelines (National Institute for Health and Care Excellence, 2000; Peticrew, Watt, & Sheldon, 1997) state that, despite the risks, listed above, there is no evidence to support laxative use in the absence of constipation or as a preventative treatment in the elderly. Additionally, the National Prescribing Centre advise that prolonged use is considered only occasionally necessary to older people (MeReC, 2011). Due to work structures in the care home (nursing), carers rather than nurses had the responsibility of

monitoring bowel patterns and maintaining resident records. This appeared to be an example of nurses knowing residents by proxy. The division of tasks and the separation of personal care from nursing care worked against the optimum use of PRN medication. Whilst a key area of resident comfort and dignity, none of the observations found that nurses were actively checking residents' patterns of elimination.

The analysis of MAR sheets identified medication omissions, resident refusals, and PRN administration of medication that was written up for regular use. During a recent visit to the care home (nursing) the CQC examined service safety, which includes medication management, (storage, disposal, MAR sheet, controlled drugs, fridge temperature, room temperature, medication round, administration and policies, and practice of the home to guide nurses and carers) (Care Quality Commission, 2015b). Despite nurses' concern with meeting regulations, they made decisions not to administer medication that induced drowsiness but did not decide to withhold routine laxatives that could induce diarrhoea. Discretionary administration suggests that nurses had a hierarchy of what was more important and what was not.

Barber et al. (2009) reported in the CHUMS study that half (49.1%) of the administration errors were medication omissions. This study has identified that medication omissions are not necessarily errors. The decision to omit a prescribed medication is a conscious decision by the administrator based on the resident's symptoms and the nurses' knowledge of what was normal for them. The Carers Medication Notes sheet also documented resident involvement in the decision-making process. Resident wishes not to take a medication or to request a PRN medication were respected by the administrator. When this occurred frequently the nurse sought GP advice.

The majority of the medication was not administered at the prescribed time, which Szczepura et al. (2011) also consider an administration error. Szczepura et al. (2011) reported medication too early or too late were the most common forms of error due to set times for medication 'rounds'. Some medication must be given before, during or after food and some conditions, for example Parkinson's, can

only be controlled with very precisely timed doses (Royal Pharmaceutical Society of Great Britain, 2007). In the care home (nursing) environment this is a persistent problem to be addressed as is the effect on mealtimes. A recent study by Walton, Williams, Tapsell, and Hoyle (2013) reported medication rounds during mealtimes negatively affected food consumption of older people. A study in an older person residential care setting moved the medication 'round' to after lunch in order to protect mealtimes (Ullrich, McCutcheon, & Parker, 2011). Printed MAR sheets identify standardized administration times but they do not consider the care home context. The need to give residents all medication with food, as it was easier to swallow and the practice of concealment of medication in food, was the basis of rounds at mealtimes.

Due to legislative, professional, and ethics implications the nurse must pay due regard to the Human Rights Act 1998 c.42, Mental Capacity Act 2005 c.9, Mental Health Act 2007 c.12, and the Nursing and Midwifery Council (2012) position statement on covert administration of medication and local policy. The Court of Protection or donee of a Lasting Power of Attorney decision is required if the resident with dementia has refused treatment or covert administration when they had capacity (Yeomans, 2012). Decisions of best interest (beneficence) should involve all caregivers, including carers, and in the care home it was practice to consult with relatives or friends as well, although the GPs' agreement appeared the most important to obtain. Covert administration of medicines was seen on several occasions during observations of medication 'rounds'. When asked by the researcher, nurses confirmed legal processes had been followed. Ethically, nurses are required to ensure residents' autonomy but this conflicts with best interest. There is a view that a drink or food with medication can increase compliance but mealtimes were an opportunity when most residents were together in one room, which was convenient for the home routine.

Thomson et al. (2009) identified when observing medication rounds that in long-term care administration time is lengthy. Morning 'rounds' observed in this study, which are the busiest, took 116.5 minutes (mean) in areas of dementia care. This

was longer than the time recorded for 5 morning 'rounds' observed, which took 94.4 minutes (mean).

9.2.2. Prescribed PRN Medication

PRN prescribing to residents (n=29) was similar to a previous larger study, which involved 83.5% of residents (Stokes et al., 2004). Stokes et al. (2004) found PRN accounted for 35% of all prescribing whereas in this study it was 12.9% (mean). The difference in years, prescribing, behaviours, health and social care funding, and attitudes towards people with dementia may account for this variation. The most frequently prescribed PRN medication of analgesia and laxatives were the same results Stokes et al. (2004) found.

Use of PRN medication for residents was low, ranging from 20 to 24 prescriptions per MAR period. In a randomised trial by Kotynia-English et al. (2005), very high PRN usage rates were recorded in the control (97.4%) and the intervention (86.1%) groups. The researchers considered it might reflect the Australian residential care system at the time, whereby excessive use of medication (psychotropics) and physical restraint was employed to manage behavioural problems. The observational phase of this study recorded missed opportunities for PRN analgesia administration to residents with pain, no administration during medication rounds by the registered nurse, and non-administration when requested. In each situation, formal assessments (for example medical scale, charts, physical examination) were not used to determine PRN medication use or non-use despite staff able to articulate signs for pain and awareness of the Abbey pain scale.

Johnson (2012) reported that, during 3 CQC visits to a care home in 2011, PRN medication errors were identified. Errors included care plans for PRN medication not in place, no records of what pain relief was given, and no clear indication on the MAR sheet when PRN medication had been administered or the dose given. No PRN medication errors were identified during this study.

The rates of PRN prescribing and dispensing were lower in this study than reported elsewhere. Use of PRN dermatological preparations was delegated to

carers but without structured review or systematic approaches to resident assessment.

9.3. Care Home Context

The social context in which the use of PRN medication has evolved, objective 2, has been examined in this study and found that the setting and concern with regulation and governance have an effect on medication management practices.

9.3.1. Organisational Arrangements

Organisational factors were recognised, during observations and interviews, which impact on the quality of medication management and resident care. In addition to the personnel and dependency of residents, the environment, facilities, managerial style and attitude to learning are key. Killett et al. (2013) identified similar factors could compromise good quality care. Organisational factors that they identified parallel with this study site, as illustrated in Table 9.1.

Positive factors lead effective teamwork and good quality care, while obstacles lead to residents' needs not recognised, including pain relief, by the person giving care (Killett et al., 2013).

Table 9.1 Organisational Factors Influencing Good Quality Care

Organisational factors that aid quality care	Organisational factors that hinder quality care
Purpose built, modern, good facilities	Part of a small for profit group
Manager hands on, effective delegation	12 hour day shift
Staff able to discuss concerns with Manager	High level of physical care
Additional resources (cinema, beauty, sensory rooms)	Low level of cognitive function
Stable workforce, recruitment easy	No hand over time for carers
Teams are stable	Medication records are in separate files
Positive attitude to training	High pressure on pace of work
	Carers do not share their knowledge

Reference: Killett et al. (2013)

During the study, the workforce were extremely stable and 9 staff interviewed had worked at the care home for 3 years or more (Table 8.1). Long shifts and barriers affecting communication between nurses and carers reported in the findings are aspects that could be changed to aid the quality of care.

9.3.2. Medication Management

Research on medication management processes in care homes (nursing) does not consider how this process fits into the wider system and organisation of care, or what the processes reveal about nursing decision-making and the involvement of carers and residents in that process.

The findings from this study resonate with the findings of Thomson et al. (2009), who reported the complexity of medication administration in their study conducted in long-term facilities in Canada. They identified a structured process for medication administration that paralleled with the ‘rounds’ observed (Table 9.2).

Table 9.2 Nurse Activity During the Medication Administration Process

1.	Organize medication trolley	Nurse begins preparations for the complete medication administration process. Activities include checking current medication administration record and changes in GP prescribing; checking that medication type, dose, and time of administration are correct; organizing trolley according to resident if not already done; gathering antibiotics, non-prescription medication, narcotics, and other specialty items from storage location; and gathering other supplies as needed (e.g., applesauce, jam)
2.	Locate and identify resident	Nurse identifies individual resident and checks resident identification against medication administration record.
3.	Prepare medication	Nurse prepares the medication to be provided to the identified resident: double checking the medication administration record, assembling medication according to instructions, altering medication dosage form if required (i.e., crushing or splitting pills), and obtaining water or other needed supplies.
4.	Prepare resident to receive medication	Nurse conducts a basic assessment of the resident, which may include checking the resident’s pulse.
5.	Provide medication to the resident	Nurse gives each medication in the appropriate dosage form to the resident, checks medication taken, and signs the medication administration record.
6.	Observe resident after providing medication	Nurse observes the resident after receiving medication to assess for any immediate adverse effects.
7.	Travel back to medication trolley	Nurse travels back to the medication trolley after completing each step in the identified resident’s medication administration process.
	Interruptions	Any unplanned demand that caused the nurse to deviate from the steps in the medication administration process, including phone calls from relatives, other services, questions from other staff or residents, and emergencies.

Reference: Thomson et al. (2009)

In the study site, nurses managed GP weekly in house surgeries, 3 monthly medication reviews, obtaining new prescriptions, ordering routine medication, admissions with prescribed medication (transition), offsite pharmacy services, emergency prescriptions, maintaining and storing records, polypharmacy, long medication rounds, storage of medication, distribution of medication (drug trolley, controlled drug cabinet, dining room, or residents' rooms), disposal and removal of unwanted medicines, and discussions with other healthcare professions direct or over the telephone.

Based on the analysis results provided by Thomson et al. (2009), an estimated 32.3% of a 7-hour shift in dementia care is spent on medication administration, based on 20 residents. In the study setting it is estimated to be in excess of 55.3% of a 12-hour shift for 26 residents. Use of the electronic prescription service between GP and pharmacist (with copy to care home) is reported to be safer and save time (Garfield, Hibberd, & Barber, 2013). Time on organisational tasks reduces contact with residents and loss of nursing care opportunities. The quality of resident care would improve if organisational factors were re-assessed and nurses could provide personal care to residents other than feeding. This would allow objective assessment of residents' symptoms by nurses and PRN medication administration as a separate nursing activity.

A positive finding of the 28-day stock review appeared to be that it gave nurses an opportunity to reassess residents' medication needs; for example, paracetamol prescribed PRN but not used was cancelled to prevent over prescribing.

9.3.3. Regulation and Governance

Care homes, which are required by regulators to meet national standards that determine risk and quality, are inspected frequently and often unannounced (Reed, Klein, Cook, & Stanley, 2003). The care home performance, measured against set standards, needs to demonstrate continuous quality improvement. According to Warmington, Afridi, and Foreman (2014), paper-work generated in the provision of care addressing legislation, regulation, commissioning, and best-practice guidance is a burden upon care homes and impinges on relationships between carers and residents. Although all staff contributed to maintaining standards the

findings of this study identified different patterns between care staff. Carers had minimum record keeping responsibilities, senior carers were responsible for all written records relating to residents and daily management of the second floor, and nurses were responsible for all record systems and care home management. The study illustrates the extent to which preoccupation on regulation and governance influenced the nurses' priorities. . The care home was supported by one clerical administrator and an area manager. The assistance of a deputy manager to support the infrastructure as well as quality, workload management, supportive clinical supervision and annual appraisals would allow the nurses to prioritise the resident and their relationship rather than task efficiency (Molony & Bouma, 2013).

Professional, legal, and ethical frameworks addressing medication management exist as practice standards and safeguards (Nursing and Midwifery Council, 2008c, 2015a). Failure to address these standards can lead to negligence and criminal and/or civil prosecution and misconduct, leading to removal from the NMC register. Administration and non-administration of medication both apply.

The study has identified that nurses are driven by ideas of risk and sanctions with the result that resident comfort can become a secondary concern. The nurses' focus on external and internal regulations and governance regarding medication management, which affects the amount of time communicating with residents, reduces opportunities for assessment of PRN medication needs. There exists a conflict between the regulators' demands and resident care. If an activity or medication was perceived as low risk (application of cream to legs) or conversely taking the medication puts the patient at risk (becoming drowsier) then the nurse would either delegate that decision-making to unqualified staff or take the decision to withhold medication. The nurses authorised and reviewed care but did not involve carers in decisions or joint planning.

Excessive regulatory control prevented nurses focusing on the residents and talking to the carers about resident need and medication. Research conducted in America shows how nurses and unqualified carers working together can impact on resident care (Anderson, Ammarell, Bailey, & Colon-Emeric, 2005; Anderson,

Toles, Corazzini, McDaniel, & Colón-Emeric, 2014). A case study by Colón-Emeric et al. (2006) involving four care homes (nursing) examined staff connectedness, regulation and care planning. Greater connections between staff led to better care plans. Regulatory impact and the fear of criticism of written records were observed on occasions to adversely affect care planning. They also identified carers were crucial to implementation of the care plan, and care planning responsive to changing resident needs.

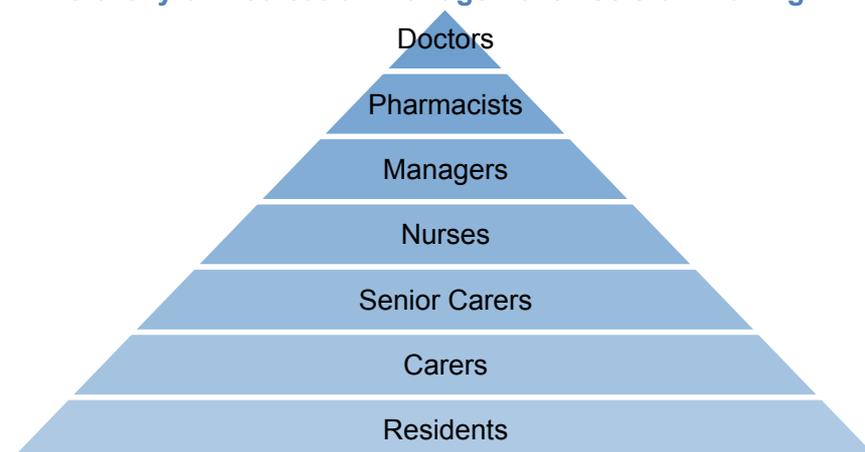
9.4. Cultural Influences

Analysis of observation and interview data has given an insight into the care home medication routines and systems of the working culture that influence the registered nurses' clinical practice in relation to PRN administration and has addressed the third objective of the study. An additional aspect that influenced practices in the care home (nursing) was the beliefs and values of staff.

9.4.1. Medication Management Decision-making

The research identified a hierarchy existed in the care home regarding medication management with 7 levels, as illustrated in Figure 9.2.

Figure 9.2 Hierarchy of Medication Management Decision-making



Each level has an explicit role with the highest power of decision-making at the top and the least power to make decisions at the bottom. The home remedy box content and policy was an example where nurses were asked their opinions, the

policy was written by the Manager, but agreement had to be received from the pharmacist and GP (Royal Pharmaceutical Society of Great Britain, 2007). Inclusion of simple cough syrup was important to nurses for PRN use but opposed by the GP due to lack of evidence to demonstrate effectiveness (British Medical Association and Royal Pharmaceutical Society, 2014; Schroeder & Fahey, 2002). The medication review identified minimal use of the home remedy box; use was confirmed by nurses during interviews but use was not observed. Covert self-medication of a laxative PRN by R155 reiterated the powerlessness of the resident to demonstrate decision-making for themselves to others.

9.4.2. Person-centred Communication

Findings of how care staff talked to and interacted with residents raised questions of how 'resident focused' staff were. Social interaction is key to the quality of life in older people (Williams, Kempster, & Hummert, 2003) and according to Jansson (2014) can reduce BPSD, which has the potential to diminish prescribing to calm agitated residents.

In care home (nursing) opportunities for socialization are mostly staff interactions (Williams et al., 2003). Studies have reported fewer interactions between staff and residents with dementia compared with staff and residents without dementia (Kitwood & Bredin, 1992; Ward, Vass, Aggarwal, Garfield, & Cybyk, 2008). Savundranayagam (2014) states these differences occur because staff believe residents with dementia lack awareness, staff conversations are one-sided, and they may have little impact on or usefulness for the resident.

Staff observed using speech accommodation and over-accommodation when speaking to residents during medication 'rounds' and periods of personal care may hold the perceptions stated above. Patronizing speech was recognised by Kitwood and Bredin (1992) to diminish personhood and create a negative effect on the wellbeing of older people (Draper, 2005). Literature reports patronizing speech is stated to be demeaning, disrespectful, intrusive, over bearing, and undignified and linked to ageism, stereo-typing, perceptions of incompetency, dependency, illness, and baby-like status (A. Brown & Draper, 2003). Giles et al. (1993) report older people feel patronised, irritated, angry, and inferior.

The reduction of over-accommodation is essential to person-centred communication (Passalacqua & Harwood, 2012). In this study the communications by staff to residents were mostly instrumental or task-oriented in nature, considered by Dean, Proudfoot, and Lindesay (1993) as functional. Savundranayagam (2014) suggests functional communication involves minimal interaction or show of concern for the residents' thoughts or feelings and identified task-focused staff to resident interactions during routine care-giving duties, such as personal hygiene. Carers observed speaking to residents during personal care did focus on the task. Therefore residents' exhibiting symptoms of pain, and in need of PRN medication, were overlooked by carers or acknowledged but not acted upon. During 'rounds', nurses and senior carers were totally focused on the task of routine medication administration and did not consider PRN medication needs. This differs from a carer advocating for a resident with physical signs of a 'sticky eye' by calling the nurse to attend.

In contrast, effective communication was observed during GP surgeries when residents were involved in discussions regarding medication decisions, although carers considered this to be tokenism. Affective or rapport-developing communication considers the emotional and social aspects of building a relationship, involving respect, trustworthiness, and person-centred care (Caris-Verhallen, Kerkstra, & Bensing, 1999). Langdon, Eagle, and Warner (2007) believe residents with dementia take cues from caregivers on how to react and perceive themselves, therefore nurses and carers must use affective communication to promote well-being, respect, and personhood.

Despite formal education on dementia care and person-centred approaches, staff in this study found it difficult to focus on the resident rather than the task during medication administration activities. This suggests staff training is attended but their learning is not sufficient to change their practice. Change is required by the "team leader" and staff and in the care homes' "climate of care" (Cornwell, 2012, pp. 5, 1) for interactions and relationships to be truly person-centred.

9.4.3. Cultural Beliefs and Values

The interview data recognised cultural variations in respondents' personal beliefs and values regarding the care of older people. These were based on the shared norms and practices that guided thinking and decisions in their ethnic group (Ayalong, 2004). In many cultures, caregiving to older people is by the family. Cahill, Lewis, Barg, and Bogner (2009) state this tradition is reciprocity for childhood care, mutual concern, personal values, and providing an example to the next generation (Dilworth-Anderson et al., 2005). Ayalong (2004, p. 133) reported the “*Anglo*” culture, of parents moving into nursing homes, was seen as liberal in comparison to the cultural value of familial care. Some respondents interviewed expressed these personal views. Nurses and carers who hold differing cultural values can unconsciously (Gross, 1992) express negative attitudes to residents and families, who feel guilt and demeaned, which prevents equality in decision-making. This occurred when a family overheard a European carer calling the residents ‘crazy’ (32/LG/1stF/S027).

No nurse or carer in this study considered that it might be the voluntary choice of the resident to enter a care home (nursing). However, a sample of older people interviewed by Cahill et al. (2009, p. 303) regarding familial care said they did not want to “*burden*” family regarding health-related information or asking for assistance with daily activities, medical appointments, or medication adherence.

There is a challenge for nurses and carers in understanding the meaning of language when it is a second language. Nevertheless, it is important to have knowledge of cultural differences and family and residents' views on care home occupancy in order to provide person-centred care.

9.4.4. Ageism in Healthcare

This study found evidence that nurses and carers superficially involve residents in decisions regarding medication need, choice, or use during medication ‘rounds’ or during personal care. There was also evidence of removing choice completely by concealing medication in food, which was used discretionally.

Failure to provide older people respect and control is illegal and unethical and amounts to age discrimination (*Equality Act, 2010 c.15*; Equality and Human

Rights Commission, 2012). Recent analysis of English Longitudinal Study of Aging (ELSA) data identified more than one-third of those over 65 years of age experience ageism (Rippon, Kneale, de Oliveira, Demakakos, & Steptoe, 2014). Billings (2006, pp. 38, 39) interviewed community and hospital inter-professionals and voluntary sector staff regarding ageist practice. Common practice experiences reported included “*Not giving enough or appropriate information about medicines.*” and “*Giving too many tablets*” without reviews. Weekly surgeries observed identified a strict code of practice in the care home (nursing) regarding medication reviews (for example admission, hospital discharge, outpatient appointment, rising polypharmacy, 3-month review). It would appear that despite education and legislation, ageist practices continue. To increase nurses’ and carers’ insight of empathy, familiarity, and multi-disciplinary team approaches, learning must occur from teaching. Nurses attendance of accredited programmes involving assessment would provide them with the knowledge and skills required to practise and to teach carers (Nursing and Midwifery Council, 2004, 2010c).

The impact of ageism in long-term care, examined by Stevens, Biggs, Dixon, Tinker, and Manthorpe (2013) has been associated with elder abuse, lack of dignity of personal identity and stigmatism (Dobbs et al., 2008). Communication can lead to varying interpretations of meaning, and misunderstandings between care workers and older people, particularly where care workers are from different cultures (Stevens, Hussein, & Manthorpe, 2012). Dobbs et al. (2008) suggest strategies to address issues of ageism in nursing homes, for example helping staff recognise their prejudice and how it affects the care they provide. Avoiding speech over-accommodation and offering age appropriate activities. Building a strength based approach whereby staff find the strengths and positives of each resident rather than problems and limitations. Finally to foster the staff-resident relationship and strengthen social interaction.

A study by Tuominen, Leino-Kilpi, and Suhonen (2014, p. 5) establishing the meaning of free will to nursing home residents, and how it was actualised, identified free will related to social aspects of care but excluded “treatments”. Barriers to actualisation included “*nurses’ unethical attitudes, institution rules, older*

people's attitudes, physical frailty, and dependency" (Tuominen et al., 2014, p. 9). Unethical conduct of nurses included making decisions on behalf of the residents. Decision-making processes should involve knowledge and analysis of equity information to ensure due regard is maintained.

The medication review identified 3 residents' with hypertension who were not prescribed treatment and 9 residents receiving aspirin without associated gastric acid reducers. Studies have identified ageism in relation to withholding cardiovascular medication (Prince et al., 2015; Ramsay et al., 2005). The use of clinical guidelines by nurses would inform them of prescribing best practice (National Institute for Health and Care Excellence, 2011, 2015a).

9.5. Influences on PRN Medication Management

Objective 4 to understand how carers and the primary care team influence PRN medication management in the care home (nursing) was achieved through analysis of observation and interview data. Carers were the main providers of care, spent more time with residents, and were in a prime position to communicate with residents, identify issues, inform the registered nurse, and influence care and PRN medication use. Visible changes in residents were communicated by carers to nurses but barriers existed preventing the reporting of unseen issues. The nurses and GP worked together and evidence of discussions regarding residents' needs and PRN medication were observed. Nurses also sought support in decision-making from other members of the inter-professional health team who were not observed in the care home (nursing) but their involvement was identified through the interviews with nursing staff.

9.5.1. Carer Assessment

It is recognised that carers, who provide personal care, spend more time with residents than other staff in care homes. A recent time-motion study by Qian et al. (2014) reported carers spend 45% of their time wholly providing personal care. The study equated this to 3.5 hours of an 8-hour day shift, which would equal 5.25 hours of the 12 hour day shift worked by carers at the study site.

Carers, when providing personal care, were observed to recognise that residents were in pain. The care homes protocol required the carer to report 'changes' in the resident but in instances of pain recognition reporting was inconsistent. The carers were knowledgeable regarding dementia care, had vast experience of individual residents, and expertise in identifying non-verbal communication cues indicating pain. During the study, the researcher attended a dementia training session at the care home (nursing) where non-verbal indicators of pain were identified and discussed by carers. Indeed, research conducted by Barry et al. (2015) found carers' reports of pain similar to residents, using a verbal descriptor scale. No clinical assessment using the Abbey pain scale (Abbey et al., 2004), which was the observational assessment tool used at the study site, was observed. Abbey et al. (2004) established the efficacy of the tool for use by nurses and nursing assistants in Australia. However, more recent UK research (Barry et al., 2012) claimed staff were unfamiliar with observational pain assessment tools. Current research by J. Liu and Lai (2014) is assessing if a protocol can improve pain management in care home residents with dementia, but the results are not yet available.

Failure of a carer to report pain recognition prevented pain assessment, affected nurse decision-making, and did not meet the needs or serve the interest of the resident. Case records of residents contained limited evidence of completed Abbey pain scale assessments. McMahon (2013) specifies that pain assessment tests are useful in residents with dementia to aid medication prescribing and administration.

Undiagnosed pain affecting residents with dementia, who are not able to communicate, can cause distress and challenging behaviour leading to inappropriate prescribing, including psychotropic medication (Department of Health, 2009b, 2010b; National Collaborating Centre for Mental Health, 2006). The behavioural symptoms of dementia have traditionally been treated with antipsychotics but they may only be appropriate in one-third of cases (Department of Health, 2010b). The medication review identified quetiapine, an antipsychotic, was prescribed for 6 continuous periods to 1 resident (R154) with

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Parkinson's disease and continuously for 5 residents (R106, R130, R134, R143, R153) with dementia with no clinical indication of psychotic illness. Gallagher et al. (2009) have identified that long-term neuroleptics (antipsychotics) are associated with the risk of confusion, hypotension, extra-pyramidal side effects and falls. It is also recognised that antipsychotic use for patients with dementia can be higher in care homes (Childs, Clarke, Fox, & Maidment, 2012).

Communication barriers were identified in the data that limited opportunities or openings for carers to contribute to the process of planning and implementation of residents receiving PRN analgesia. This occurred due to the hierarchical structure identified, role demarcation and traditional boundaries, routine workloads, and lack of formal handover between nurses and carers where residents' information should be shared. Spilsbury et al. (2011) acknowledge that the workforce is proportionally different in care homes (nursing) with fewer registered nurses and a high proportion of carers. This indicates a need to reconsider role differentiation to ensure efficient use of the available workforce (Carpenter, Perry, Chalis, & Hope, 2002; McCloskey et al., 2015; O'Kell, 2002).

Despite the reliance on carers to report resident 'changes' (assessment and evaluation) they were not considered competent to undertake supervised direct patient care such as pain assessment or basic monitoring (blood pressure, temperature, pulse) that NVQ level 3 care workers do undertake to support the work of healthcare professionals in other environments (The British Association of Critical Care Nurses, 2003) and other nursing homes (Moeke, Koole, & Verkooijen, 2014). Carers observed and interviewed were knowledgeable and skilful therefore could receive training to perform and record basic monitoring. But, beforehand, opportunities for direct communication pathways to report results to nurses must be available.

In contrast to the restricted involvement in pain management, the carers were allowed to apply dermatological creams with indirect supervision. Increased autonomous decision-making by carers was examined by Chaudhuri, Yeatts, and Cready (2013). They found decision-making was positively affected with statistical significance by non-white carers ($p \leq 0.005$), those with emotional exhaustion due

to occupational fatigue ($p \leq 0.005$), positive attitude ($p \leq 0.05$), supervision support ($p \leq 0.05$), and shared governance ($p \leq 0.005$). Carers exhausted by the work, including waiting for supervisor decisions on a resident that needs immediate attention, become increasingly stressed and resort to making decisions themselves.

Competency in administration of creams by carers has been established by Smyth (2015). Her research, involving trained lone domiciliary care workers, also identified the carers were competent to administer oral medication, patches, and install eye drops. This suggests that providing medication training for nurses and carers would achieve skill-mix efficiencies referred to by Moeke et al. (2014), thereby encouraging collaborative decision-making.

9.5.2. Team Involvement

Nurses observed and interviewed sought involvement with decision-making regarding routine and PRN medication from the multi-disciplinary team (GP, locums, community pharmacists, pharmacy service, district nurses, tissue viability nurses, incontinence nurse, doctors in outpatients, geriatricians). When observed nurses appeared to avoid making lone decisions, which could account for why PRN medication administration was so low. Positive group decision-making involving nurses was observed. Driven by governance and regulation, management and organization took precedence over assessment of resident need and administration of PRN medication. Nurses contributed to medication decisions with the GP but when residents required mild analgesia or an antipyretic for a slight temperature they stated they preferred to seek the advice of a GP or other healthcare professional. This 'cover' to prevent being blamed or criticised for what had been done is not unusual in healthcare where professional and public examination of all aspects of care occurs.

Lopez (2009) and Lopez, Amella, Mitchell, and Strumpf (2010) conducted research involving American nurses working in care homes. They identified decision-making by registered nurses was difficult due to meeting the competing views of residents, family and doctors, they use insufficient empirical knowledge and deferred responsibility for clinical decisions. In this study nurses had the opportunity to collaborate on medication decisions with the GP during surgeries

and telephone consultations whereby the GP did not see the resident but relied on nurses' assessments. The study showed a particular approach to nursing work that reflected the care home (nursing). Involvement requires skills in clinical judgement, collaboration, and communication (Lopez, 2009) that were not always demonstrated in the observation data collected, but could be developed with education.

9.6. Resident Participation

The fifth and final objective of the research study sought to investigate the involvement of older residents with the registered nurse in relation to PRN medication management. The medication review data identified that residents were involved in decisions to administer PRN medication.

The analysis of observation data identified aspects of person-centred care with evidence of some shared decision-making and engagement of residents (see Table 7.3). A person-centred framework by McCormack and McCance (2006) that continues to be used (Broderick & Coffey, 2013) demonstrates a comparison with this study (Table 9.3).

A systematic review and qualitative synthesis by Taghizadeh Larsson and Österholm (2014) of studies regarding decisions on care services for people with dementia reported residents were either excluded, their prior preferences taken into account or current preferences respected. When practice was observed resident participation was minimal and nurses interviewed gave conflicting accounts of residents' involvement. Sahlsten, Larsson, Lindencrona, and Plos (2005) examined patient participation and identified that the nurse must provide opportunities for involvement to occur. During 1 medication 'round' observed, the nurse directly asked a resident if they wanted PRN analgesia. When interviewed this participant stated "*if they are on PRN they (administrators) should go and approach the resident*" (N/S022/199). As well as providing opportunities, nurses and senior carers require skills and knowledge to facilitate resident participation. Working with residents' beliefs and values, having sympathetic presence and providing holistic care are additional nursing processes considered necessary by

McCormack and McCance (2006) to be developed by nursing and care staff to maximise resident participation.

Table 9.3 Data Analysis Based on Shared Decision-making and Engagement

Care process	Explanation	Assessment criteria	Study comparison
Shared decision-making	Person has a right to self-determination. Autonomy and patient choice should be facilitated. This requires acceptance of the patient's views and establishment of quality therapeutic relationship. If patient allows nurse to decide, they are still exercising autonomy.	Provision of information to aid decision-making. Evidence of discussion and/or participatory decision-making. Evidence of acceptance of patients' decisions especially when the decision may involve risk.	Autonomy and choice – acceptance of resident refusing medication, promoting self-administration of medication, and offering choice of flavour of borderline substances. Therapeutic relationship - nurse and resident communication, GP involving resident in assessment.
Engagement	Connectedness and mutual respect between nurse and patient. Collaboration in care but nurse may sometimes need to disengage and be objective to deal with issues or problems that may arise.	Provision of information that shows interaction or connectedness between patient and nurse and/or extensive knowledge of patient's likes/dislikes.	Connectedness – nurses' knowledge of resident, conversation and encouragement. Collaboration – GP physical examination of resident and their verbal communication.

Reference: McCormack and McCance (2010)

Mental capacity is a main factor in deciding if a resident could have more involvement in decisions about their medication. The majority of staff held the view that residents lacked mental capacity therefore did not provide opportunities for involvement in decision-making. Tuckett (2006, p. 166) states *“this approach creates a tendency to assume control of the competent residents life”* and simply recommends that they be asked.

Key concepts relevant to shared decision-making have been identified by Dy and Purnell (2012, p. 583) from published literature. These involve the practitioners professional skills including *“clinical and resident knowledge, reasoning, judgement, respect and empathy”*, having resident *“trust and confidence”*, and understanding the residents' *“social and cultural influences”*. Person-centred information, based on best practice, that is comprehensive and understandable will aid decision-making by mentally competent residents and their families. Involvement in decision-making for

residents who lack mental capacity requires a person (family, friend, or carer) who knows and applies their preferences (Dy & Purnell, 2012). The complexity of the skills required may not be present in staff in all care settings, including care homes (nursing).

Hughes and Goldie (2009) explored resident involvement and decision-making in relation to medication. They found residents in care homes (nursing) in Northern Ireland accepted little or no participation in prescribing decisions or administration of their medicines but they were compliant. They also identified GPs and nurses requirement for control of prescribing and administration processes was a major factor, despite their belief that residents had the right to be involved in their care. Hughes (2008) is concerned that enforced compliance and erratic compliance occur in nursing homes. Enforced compliance occurs when residents receive medication for an excessive duration without review at set regimented administration times or when medication is covertly administered. Erratic compliance is explained as when administration times are inconvenient for staff, time consuming or difficult administration instructions affect timing. Limited resident involvement on the ground and first floor, enforced compliance (covert administration of medication in food) and erratic compliance (medication not given at time on MAR sheet) were observed at the care home.

Person-centred care, based on the nursing framework of McCormack and McCance (2010), was identified on some occasions, particularly on the second floor where residents had dementia but no nursing needs. Participation, interaction, and connectedness of residents were evidenced by self-administration of medicines dispensed by the senior carer. Provision of physical care (feeding) by nurses during morning medication 'rounds' provided an opportunity for the nurse to engage with the resident and develop a relationship that can promote holistic care and appropriate person-centred care planning (Broderick & Coffey, 2013; McCormack & McCance, 2010).

9.7. Study Limitations

An ethnography approach was chosen as the methodology to address the aim of the research and understand from within the care home (nursing) how nurses and carers worked together to support residents. The lens of PRN medication was a useful way of considering in depth the role of the nurse, contribution of carers, and involvement of residents in medication management through interviews, observations and documentary review. Nevertheless, limitations were identified and are outlined here.

Approval of the study by the University of Hertfordshire NMSCC ethics committee was not in accord with the Mental Capacity Act 2005, which came in to force during 2007. The Mental Capacity Act 2005 (Appropriate Body) (England) Regulations 2006 and Code of Practice (Department of Constitutional Affairs, 2007) state that research in accordance with the Mental Capacity Act must be considered by an 'appropriate body' (SCREC) recognised by the Secretary of State. The SCREC was transferred to the Health Research Authority on 1st January 2015 having been hosted by the Social Care Institute for Excellence (SCIE) from 2008. Original SCREC membership was recruited in December 2008 and the first meeting conducted in June 2009 after ethics (Rutter, 2010). The application for review by the university ethics committee predated the first meeting of the SCREC. To ensure that the principles of the Mental Capacity Act 2005 were followed governance was sought from ----- Adult Social Services.

Recruitment of 34 (44%) residents with and without mental capacity took 11 months (Aug-2009 to June-2010). The process was lengthy as was the length of time between receiving consent and conducting the observations and interviews. The delay ensured all aspects of the ethics approval regarding recruitment were met in full. Attrition of residents and staff during the study (3 residents died, one Manager left, one nurse took leave) resulted in minimal loss of data (2 medication reviews incomplete, 1 interview lost). There was no specific reason to explain why the staff were static during the study period but attrition has been high since the study concluded.

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The Manager was the gate keeper who protected access to the care home, staff, residents and Personal Consultees. Meetings held in March 2009 to inform staff of the research were attended by 'key' staff selected by the Manager. No carers were invited, instead the Manager expected these key staff to cascade the information. When staff information packs were distributed some care staff were unaware of the study and others did not want "to be involved/requesting remuneration" (9-Aug-2009/S027/Field notes). The Manager who "*thought staff could not understand literature*" had organised meetings to speak to care staff. An offer for me to meet care staff and provide them with opportunities to discuss the study and to answer their questions was declined.

The Manager conducted the meetings and 33 consents were received from carers by 21.10.09. In order to validate consent participation must be voluntary and external pressure of coercion or undue influence must be absent (Cavalcanti, Gomes, & Goldim, 2015). On reflection, to ensure coercion did not occur, a schedule of meetings should have been pre-arranged with the Manager to speak to carers direct before the information packs were distributed and consent sought. Consent was ongoing however and therefore carers had the opportunity to withdraw from the study. It is reasonable to assume that if staff did not want to participate they would be reluctant to be observed and the interviews length and detail provided would have been limited, which was not the case.

The scope of the study may have been limited by the fact that data was collected from only 1 care home (nursing). Permission to conduct the study was sought from 2 care homes (nursing). The study site Manager responded to confirm permission, while no reply was received from the other care home (nursing). Care homes are heterogenous in nature but have homogenous features, therefore no care home is representative. Despite this, many of the findings of this study are similar to other studies conducted in care homes.

Ethnographic studies, by nature, are conducted over a long period of time. The medication review included the MAR sheets for only 6 periods. This provided only 5 data points for medication changes to be measured, including only a single 3 monthly medication review per resident. The total collection of data took 16

months (21-Dec-2009 and 05-Apr-2011), allowing a naturalistic study of participants and the care home context and culture.

Demographic profiles of the residents were collected from care records. Incomplete records prevented complete data collection. Previous residency was not entered for 15 residents and while long-term medical conditions were recorded on the front of the care record on admission, new or changing diagnosis did not appear to be added. All care records were read in full but no updated details were identified. Every effort was made by the researcher to ensure long-term conditions were recorded accurately for each resident.

The nationalities of nurses was known by the researcher and it did not appear relevant to collect demographic data on carer's nationalities or ethnicity during the study. On reflection this may have been useful since culture was found to be an area of interest.

The research focused on the role of the registered nurse, although the effect of the primary care team was considered. No NHS staff were recruited. In hindsight, the GP was pivotal in the care of residents, prescribing of medication and support of the nurse regarding medication management. The GP was not recruited for observation or interview and their view would add an additional perspective to the study findings.

Merriam (2009) states qualitative researchers cannot capture an objective truth or reality, therefore bias is a risk. Field notes can be subjective therefore clear and unbiased methods of recording observations and interviews were undertaken while refraining from interpretation to minimise bias. A clinical background counteracted possible misunderstanding of observed practice. As advised by Hennink et al. (2011), the researcher was reflexive about their subjectivity and positionality during the fieldwork and the interviews. Use of multiple data collection methods allowed cross-checking and comparing of data collected. Analysis incorporated researcher reflection, introspection, and self-monitoring, thereby exposing all phases of the research to continual questioning and re-evaluation (Merriam, 2009). Data are presented as implicit explanations based on

the researcher's conviction of the accuracy of the observations and notes (Ritchie et al., 2014).

9.8. Summary

The study has explored the role of the registered nurse managing PRN medication in the care home (nursing) and investigated decision-making, medication management, and resident involvement. It is an area of study that has not previously been examined in published research. This has added to knowledge of nursing and practices specific to the care home (nursing) environment. The complex interplay of medication management for residents who receive multiple drugs, concern with regulations and governance, and reliance on carer assessments of residents' needs revealed here demonstrates the competing influences on how nurses make decisions in care homes.

How nurses and carers do or do not work together to assess and interpret residents' medication needs are uncovered as well as the few opportunities for residents to participate in that process.

The care home culture was found to greatly influence medication management practices and this in turn was shaped by a preoccupation with regulation and governance.

Carers were found to be central to symptom assessment as they identify resident signs and symptoms (pain, skin integrity, bowel movements) when providing personal care. However, the hierarchical structure and barriers in communication prevent the carers sharing their knowledge with nurses and opportunities that existed through PRN medication administration were lost.

Chapter 10 considers the contribution made by this study to knowledge and the implications for further clinical practice and research.

Chapter 10 Conclusion

This chapter summarises the contribution to knowledge made by the study. The findings mean that the role of the registered nurse in the care home (nursing) is now better understood. Consequently, possibilities for further educational and professional development and improved collaborative working have been identified. These aspects are considered here, as well as recommendations for practice development. Finally, further research regarding nursing practice in the care home, decision-making relating to medication use, medication reviews and team working are recommended.

10.1. Contribution to Knowledge

This study was an area of nursing clinical practice that had not previously been considered in published research. Three main aspects were identified in the findings: the role of the registered nurse in medication management in the care home (nursing), nurses' decision-making regarding residents' medication needs, and the carers' contribution. The contribution to knowledge made by these 3 aspects are considered below, together with recommendations for clinical practice development, organisational change, and regulation and policy considerations.

10.2. The Role of the Nurse

The findings on the role of the registered nurse in the care home (nursing) illustrates that the effect of the context and culture of the clinical environment is relevant to medication management and resident care is directly affected. Further opportunities that exist for the nurse to influence medication management and improve resident care are explained in this section.

The usefulness of medication reviews (Patterson et al., 2010; Zermansky et al., 2006), pharmacological assessment criteria (Beers, 1997), and ATC assessment

criteria (Gallagher et al., 2009) to assess the appropriateness of prescribing in care homes have been demonstrated. This area of practice has typically been considered the province of GPs and pharmacists. Professional regulations (Nursing and Midwifery Council, 2015a, p. 3) expect nurses to promote “*safe and effective practice in their place of work*” and make the care and safety of people requiring nursing their main concern. A nurse working in a care home with knowledge of long-term residents’ medical conditions, limited prescribers, and one main pharmacy service is in an ideal position to contribute to resident medication reviews and identify inappropriate prescribing and dispensing errors. Community nurses and practice nurses already undertake medication reviews although this is supported by their competencies as prescribers (Hansford, Gill, McLaren, & Krska, 2009; National Prescribing Centre, 2012). An extension to the nurses’ role in the care home (nursing) would require NMC recognition and entail internal and external policy change and monitoring.

Education and preparation of nurses working in nursing homes should emphasise how nurses in these roles work with unqualified staff and rely on their assessments of residents’ needs to base their decisions on the dispensing of medication. Future changes to the role of carers in regard to medication management in the care of older people have been proposed (Spilsbury et al., 2015).

The Professional Standards Authority for Health and Social Care (2016, p. 30) identify the need for change in prescribing and recognise that restriction to only registered and regulated healthcare professionals constrain “*plans to expand the workforce or employ them in new roles*”. The Professional Standards Authority for Health and Social Care (2015), which believes healthcare will not change unless regulation also changes, recommend that healthcare regulation should be “re-engineered. The preoccupation with the governance and regulation of medication management, identified in this study, led to a focus on process over residents’ needs and preferences. It is to be hoped that these initiatives consider carefully how these changes will improve residents’ experience of care.

Prior published research does recognise the occurrence of medication errors during administration by nurses: omissions and wrong dose (Barber et al., 2009), wrong. Contributing factors identified by the studies include resident factors (immobility, dislikes, mental capacity), working conditions (interruptions, pressure, limited information technology use, variable medical services, lack of protocols), and poor knowledge and skills of nursing and care staff. The findings of this research support these studies' conclusions while adding to a greater understanding of the role of the nurse and the use of PRN medication. The NMC and employer should address any disparity when registering and employing overseas nurses. Mentoring is a successful system for established nurses to support newly employed nurses and to maintain quality nursing standards (Ronsten, Andersson, & Gustafsson, 2005). In addition newly introduced 'Revalidation' should strengthen knowledge and skills by enforced continuous professional development (Nursing and Midwifery Council, 2015b).

An area of good practice arising from the findings included the records of medication omitted using a pre-determined code on the MAR sheet and a record of the administration, decisions made, and any subsequent evaluation. This system ensures withholding of medication is not considered a nursing error (Gallagher & O'Mahony, 2008). This approach is also appropriate for the recording of PRN medication administration for universal use in care homes. It is important that adverse events relating to medication management in the care home are recorded. Written guidelines regarding the policy are required and a consensus reached on what constitutes an adverse event.

The general belief that increased governance, regulation, and clinical supervision will improve medication management for residents in care homes was not wholly supported by this study. The medication review identified careful attention to documentation but observations of nurses and interviews suggested that they did not link their actions, clinical knowledge, and knowledge of residents and therefore errors occurred. PRN medication use was an opportunity for nurses to make these linkages. Opportunities for PRN medication administration were underexploited and this exposed how beneficially the collaborative working of

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nurses with carers as the residents' advocate is. The lack of engagement between carers and nurses, when possibly the residents were in pain, was a particular concern. Observations of carers providing personal care would suggest that they were aware of residents' discomfort but this did not translate into action or use of PRN analgesia prior to moving and handling procedures. Organisational change is required to provide increased awareness of the need to respond and develop routine communication between carers and nurses and to address treatment of residents' pain. The contribution of carers to resident information exchange and medication management would occur if nurses relinquished their control of handovers (W. Liu, Manias, & Gerdtz, 2012).

Governance and regulation, which were identified as interfering with nursing practice, actually protect the resident and also provide a framework and standards to guide nursing practice (Care Quality Commission, 2010b; Nursing and Midwifery Council, 2010b, 2012). Nurses who are familiar with the care home environment and manage medication in accordance with policies, protocols, and processes that are designed to address both internal and external governance and regulations should feel confident that their practice is proficient. Professional bodies and governing organisations must ensure regulations issued concerning nursing and care home practices correspond and any opportunity to simplify regulations should be taken.

Pro-forma documents, based on best evidence, should be designed to encourage learning by nurses. For example, the completion of medication audits is a method of assessing present practice but should lead to further improvements. There is more meaning to nurses when they are directly involved in the process rather than only being told of outcomes not met. The medication audit is lengthy and time consuming but rather than a spot check it can be completed during shifts, over a set timeframe, by a number of nurses. Condemning bad practice such as 'potting up' is not a solution. Understanding why, considering alternatives, and the possible introduction of change can be necessary to prevent failings being perpetuated or riskier alternatives being used.

Medication administered at the wrong time has also been identified as an error. Giving medication at the right time is difficult to achieve when 26 or 27 residents per floor require medication concurrently. In the care home (nursing) this is compounded by high physical dependency levels of residents, large amount of medication to be administered, medication in different formats, and frequent prescribing changes. Despite the use of medication dosage systems, many medication (liquids, inhalers, topical, transdermal, injectable formulations) and new prescriptions are dispensed individually and in the care home (nursing) are stored in the drug trolley, dining room, fridge, store cupboard, or resident's room. Trying to work to a pattern that cannot be met, but may be judged as a quality indicator, must be addressed. Rather than specific times (M8:00, N13:00, T18:00, B22:00) nurses might reach agreement with the GP and pharmacist for administration in realistic time-frames (8:00-9:00, 12:00-13:00, 17:00-18:00, 21:00-22:00). Alternatively, medication administration could be part of holistic care provided to residents by fully trained carers.

10.2.1. Promotion of the Role of the Nurse

Opportunities exist for nurses to make a greater contribution to medication management and in meeting the needs of individual residents.

A clear identity of the role of the nurse in the care home (nursing) development of the sphere of practice, career opportunities, and a specific qualification relevant to the challenges of the environment have been recommended (Demos, 2014).

10.2.2. Partnership Working

Nurses and carers both provide care to residents in care homes (nursing) and their individual and combined contribution is invaluable to the health and wellbeing of each resident. The study has identified that carers are central to symptom assessment of pain, skin integrity, and bowel care. The existing knowledge and skills of carers to informally assess residents should be utilised. Continuous professional education has been identified as important for carers. Development of the role of the carer to undertake formal assessments would aid PRN administration.

Assessment should include the use of formal methods that have been demonstrated by research to be effective (Abbey et al., 2004) and clear and practical methods of communication must be used. Use of internet technology is successfully employed in medication management in the care home (nursing) for updating GP records and communications between the home and pharmacy. An expansion of electronic record keeping would be beneficial, providing contemporaneous updates, utilising existing facilities, although use would require investment in equipment and staff training.

It is important that collaborative working should always include the resident whenever possible. Communications between residents and carers during personal care should be recorded and communicated to the nurse.

10.3. Contribution to Nursing Policy

The results of the study are important to inform registered managers and nurses employed in care homes (nursing) who are involved in the writing of local guidelines and policies on routine and PRN medication management, assessment of residents' needs, use of assessment tools, record keeping, collaborative working, and the involvement of residents and family in decision-making.

It has been stated that BSc (Hons) in Nursing (adult field) programmes do not prepare qualified nurses for work in the unique environment of the care home (nursing). Although some first year students do undertake a practice placement in a care home, this is not a compulsory standard. It is not selected for second or third year placements, which supports the idea that care homes are not appropriate for newly qualified nurses. Learning achieved enhances the care of NHS patients with long-term conditions and/or dementia in other settings. Learning opportunities in care homes meet essential skills clusters (ESCs) including medication management (Nursing and Midwifery Council, 2010c). Mapping learning opportunities against second and third year ESCs could open the possibility of care homes (nursing) as suitable placements for all years of undergraduate nursing qualification. Examination of the role of the nurse in the

context of this study has demonstrated how challenging the environment is and the advanced nursing care knowledge and skills required.

10.4. Recommendations for Further Research

Research in care homes (nursing) to improve care and standards, develop staff, and facilitate recruitment to studies has been recommended (Department of Health, 2011). This study has exposed several areas that require exploring by high quality research.

It was unknown that nurses, in certain instances, were willing to withhold prescribed medication, particularly in situations where they judged residents were unlikely to benefit. An example from the study was when the resident appeared very drowsy. This aspect of nurse decision-making requires further exploration.

Published research has not considered the contribution of the registered nurse in the review of medication to avoid PIP to residents in care homes, despite it being integral to their role (Nursing and Midwifery Council, 2010b). Using STOPP/START criteria has made it possible for nurses to review residents' medication and avoid PIP (Gallagher et al., 2009).

Further research is required to stop untreated pain in people with dementia (Hendriks, Smalbrugge, Galindo-Garre, & Hertogh, 2015). Communication between the resident and the carer has been observed to occur but opportunities to convey the resident's pain to the prescribers or the administrator did not happen. A study to evaluate resident pain management, based on a collaborative intervention between the resident, carer, nurse, and GP, would be useful to identify an effective approach.

A study to implement a systematic approach for nurses and carers to jointly assess and discuss the care needs of residents, particularly in areas that are often seen as personal care for example bowel care, could be developed and evaluated.

Research by Perry, Carpenter, Challis, and Hope (2003) found the roles and responsibilities of registered nurses and carers were difficult to define and recommend clarity was needed to co-ordinate, plan, and provide residents' care.

Additional systematic enquiry to examine the role of the registered nurse in the care of older people, with and without dementia, residing in care homes (nursing) will provide vital evidence to inform future practice in this clinical area. When the full scope of the role is identified and opportunities for professional development and progression are clarified it will be seen as a worthwhile career choice for registered nurses.

10.5. Closing Statement

New knowledge has been identified in this chapter:

The role of the registered nurse, in the context and culture of the care home, concerns meeting external and internal medication governance and regulations, and managing time consuming complex systems that thereby minimize opportunities for nurses to address residents' PRN medication needs.

PRN prescribing offered fresh insights into decision-making and how nurses assess and interpret the medication needs of residents.

The complex interplay between nurses and carers and the unstructured ways that key information about residents' health are conveyed.

The role of the nurse is critical in the care of older people but the role of the carer has been identified in this study as vital.

The negative perceptions of care homes (nursing) by the general public as homes to live in and as environments in which to work must be changed to positive attitudes. Undertaking research could be central to the development of the role of the nurse and carer and more effective methods of working.

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Appendices

Appendices

A Overview of Included Studies from Systematic Search

Table A.1 Published UK Studies Using a Quantitative Approach

	Publications	Question	Outcomes
Randomised controlled trial	Allred et al. (2007)	To describe the rate and nature of pharmacist interventions following clinical medication review of older people living in care homes	Number of interventions, nature of interventions.
	Zermansky et al. (2006)	To measure the impact of pharmacist conducted clinical medication review with elderly care home residents	Number of medication changes. Number and cost of repeat medicines per resident, mortality, falls, hospital admissions, GP consultations, Barthel index, SMMSE.
Cluster randomised controlled trial	Fossey et al. (2006)	To evaluate the effectiveness of a training and support intervention for nursing home staff in reducing the proportion of residents with dementia who are prescribed neuroleptics	Neuroleptic use, dose, other psychotropic drugs and falls, agitation and aggression, quality of life and wellbeing.
	Patterson et al. (2010)	To test the effect of an adapted U.S. model of pharmaceutical care on prescribing of inappropriate psychoactive (anxiolytic, hypnotic, and antipsychotic) medication and falls in nursing homes for older people	Proportion of residents' prescribed inappropriate psychoactive meds; falls.
	Patterson et al. (2011)	To evaluate the cost-effectiveness of an adapted US model of pharmaceutical care to improve psychoactive prescribing for nursing home residents in Northern Ireland	Proportion of residents prescribed inappropriate psychoactive medication, costs and a cost-effectiveness acceptability curve.
Cohort studies	Barnett et al. (2011)	To compare the prevalence of use of potentially inappropriate medicines (PIMs) and to test the association between exposure to PIMs and mortality	PIMs, number of prescriptions per person, drug classes, drug doses for diabetics.
Surveys/audits	Allred et al. (2010)	To determine the recording of drug sensitivities of elderly care home residents, to describe the nature of sensitivities and to identify and describe discrepancies in the documentation of drug sensitivity status in general practices, pharmacies and care homes	Number of sensitivities, record discrepancies and nature of sensitivities.
	Allred et al. (2011)	Determine if there were any differences in administration error rates between tablets and capsules and other formulations;	Differences in the occurrence of medication errors between tablets/capsules in MDS; tablets/capsules not in MDS; liquids; Inhalers; A combined

	Determine if there were any differences in medication administration error rates between tablets and capsules dispensed in MDS and those dispensed in the manufacturer's original packaging	group of topical, transdermal and injectable formulations. Medication error rates between regular or PRN prescription. Homes with lower CQC ratings may have higher administration error rates
Barber et al. (2009)	Determine the prevalence of all forms of medication errors in care homes, to assess the potential of these errors for harm and to establish underlying causes	Determine the prevalence and potential harm of prescribing, monitoring, dispensing and administration errors in UK care homes, and to identify their causes.
Bowman et al. (2001)	To investigate admission to a district hospital from nursing home beds over 12 months	Reason for admission
Fahey et al. (2003)	To assess the quality of care given and compare the care given to residents in nursing homes with those living in their own homes	Quality indicators derived from national sources
Grant et al. (2002)	To measure national performance of NHS health care providers on prescribing indicators for older people	Appropriateness of prescriptions (descriptive, unnecessary or potentially harmful, indicators to define appropriateness of prescribing). Assess combination of prescriptions. Over-prescribing and under-prescribing. PRN included.
Macdonald, Roberts, and Carpenter (2004)	To assess capacity to consent to residence and examine the prevalence of de facto imprisonment and covert medication	Prevalence of mental capacity, number of residents prevented from leaving the home, prevalence of covert medication administered.
Oborne et al. (2002)	To derive and apply objective criteria that assess the appropriateness of neuroleptic prescribing based on Omnibus Reconciliation Act 1990 (OBRA) guidelines	Prescription review, neuroleptic indication, adverse effects related to neuroleptic therapy. Nursing home ownership, staffing, fees and GP practice size and teaching status
Oborne et al. (2003)	To modify prescribing indicators and algorithms developed in the hospital setting, for use in nursing homes	Develop an indicator, use the indicator to assess appropriateness of neuroleptic prescribing, correlation with GP practice and if an indication of appropriateness could be derived.
C. Ryan et al. (2013)	To determine the prevalence of PIP and PPO in older Irish patients in residential care using STOPP/START	Current medication, medical conditions, previous medical conditions, biochemistry, allergy status, sex and age. Medicines coded according to anatomical therapeutic chemical (ATC).
Schweizer and Hughes (2001)	To gain more detailed information on the current pharmaceutical service provision in nursing and	Homes demographics. Pharmacist contracts, supply of medicines, advice on administration, advice on compliance devices, current

		residential homes in Northern Ireland and to assess the views of care staff on future pharmacy services	provision, ore-packed medicine systems. Additional services that could be provided.
	Shah et al. (2011)	To describes and compares antipsychotic prescribing to older people in care homes and the community in England and Wales	Prevalence of antipsychotic prescribing (age, sex, key relevant diagnoses, type of care home, national regional and area deprivation).
	Shah et al. (2012b)	To compare prescribing quality in care homes in England and Wales with the community and with US nursing homes	Comparison of age, sex, region, area deprivation, dementia diagnosis, physical comorbidity, drug groups, type of care home, comorbidities. Potentially inappropriate prescribing (PIP)
	Stokes et al. (2004)	To identify determinants of PRN drug administration by registered nurses	Size of nursing home, staff mix, number of visiting GP's, number of medicine rounds, mortality rates, resident age, gender, length of stay, hospitalisation, and care needs from home records. PRN orders prescribed per resident, dose rate for actively used PRN medication (doses given per week averaged over number given in the seven-day period from medication charts.
	Szczepura et al. (2011)	To measure the incidence of medication administration errors in nursing and residential homes using a barcode medication administration (BCMA) system	Numbers of residents receiving medication, medication per resident, administrations given. Potential medication administration errors (MAEs) (types and incidence rates).
	Wright (2002)	To describe difficulties faced when administering oral medication to patients with swallowing difficulties, methods used to overcome difficulties and their appropriateness	Degree of swallowing problems encountered. Methods used to overcome difficulties. Experience in changing therapy.

Table A.2 Published UK Studies Using a Qualitative Approach

	Publication	Question	Outcomes
Grounded theory	Hughes and Goldie (2009)	To explore adherence to medication and resident involvement in prescribing and decision-making in regard to medication	Polypharmacy, adherence to medication, administration of medication, consent and refusal in medication taking, resident involvement in prescribing decisions and medication taking.

B Study Acknowledgment Letter from Adult Social Services

[Redacted]

Adult Social Services
[Redacted]

Mrs Lorraine Murray
Senior Lecturer/Practice Programme Tutor
School of Nursing and Midwifery
University of Hertfordshire
College Lane
Hatfield
Herts, AL10 9AB

contact: [Redacted], Assistant Director
[Redacted]
tel: [Redacted]
e-mail: [Redacted]
date: 4 June 2009

Dear Mrs Murray,

Thank you for your letter received on 22 May 2009 and the interesting proposal concerning your research at [Redacted].

I note that the University of Hertfordshire is sponsoring the research, and that you have the formal approval of their Ethics Committee (together with very positive feedback about the research proposal). As a Local Authority we are certainly interested in the research in terms of its findings and also because we commission residential care in the Care Home, and it is therefore helpful to be informed. We are pleased to see that in the proposal you address issues of informed consent by participating residents and their capacity to give consent.

I note that you have agreement in principle from the registered home Manager, and that you are seeking formal consent from her and the home's owners [Redacted] - which is of course required. As an independent sector home they, as the care providers, remain legally responsible for the quality of the care of their service users and carers.

We do not need to formally consent to this research, but I am happy to confirm that we have no objection to it going ahead. I wish it well and we would be pleased if you would include us in your dissemination of findings.

Yours sincerely,
[Redacted]
[Redacted]
[Redacted]

[Redacted]

C Research Protocol to Report Bad Practice



Research Protocol to Report Bad Practice

In the event of the researcher identifying unsafe practice or risk to a resident in the nursing home the following procedure will be followed:

- Unsafe practice and risk refers to abuse, negligent care, lack of competency and professional misconduct.
- For issues that might be considered bad practice the researcher will discuss these with Professor Claire Goodman and Professor Robyn Martyn initially. A joint decision will be made as to whether it is bad practice and whether formal notification is necessary.
- If it is decided that the issue is bad practice notification to the home Manager will be made verbally, face to face or on the telephone, or in writing. The home Manager will be required to acknowledge in writing receipt of the notification of bad practice and identify what steps are being taken to investigate the matter.
- If the situation constitutes an emergency the incident or adverse event will be reported immediately to the nursing home Manager or the most senior nurse on duty.
- The care home Manager will be required to provide written feedback to the researcher on the investigation conducted and final outcome.
- In the event that the research team are concerned with the conduct of the investigation or final outcome a formal complaint will be made to the Care Quality Commission who monitor and regulate nursing care homes. If the complaint concerns adult abuse the social services protection of vulnerable adults co-ordinator will be contacted in addition to the Care Quality Commission.

Signed:
Home Manager/Matron

Dated:

Signed:
Lead Researcher

Dated

D General Practitioners and Community Pharmacist Letter

University of
Hertfordshire



College Lane
Hatfield
Herts
AL9 10AB
Tel: 01272 825294
Email: l.o.1.murray@herts.ac.uk

17th November 2009

_____ (name of doctor or pharmacist)
_____ (address of surgery or pharmacy)

Dear _____ (name of doctor or pharmacist)

_____ (name and address of nursing home)

_____ (name of Manager) has advised me of your professional involvement with the care home and I therefore write to advise you that a research study is being conducted by the University of Hertfordshire at _____ (name of care home). I am the principle researcher of the project titled 'The role of the registered nurse in the management of pro re nata medicines in the nursing home'.

The study is focusing on increasing understanding of the nurses' role and involvement in the management of PRN, or 'as required' medication in a care home (nursing). Very little is known about the use of medicines prescribed in this way and how decisions are made with older people as to when to give them.

Using case study methods information will be collected from care home records, observation and interviews. Participants include staff and service-users that have consented to their involvement. The benefits and risks of the research and the inclusion of older people who may lack mental capacity have been considered carefully. This study was reviewed and given approval by the University of Hertfordshire Faculty of Health and Human Sciences Research Ethics Committee. (Reference Number: NMSCC/02/09/8/A). The Local Borough of _____ (district) Adult Social Care Services has reviewed the research proposal and research governance has also been obtained from _____ (name), the care home owner.

If you have any questions about the study please contact me at l.o.1.murray@herts.ac.uk or 01707 285294 or _____ (name of Manager, care home, email address, telephone number).

Yours faithfully,

Lorraine Murray
Principle Researcher

E Staff Information Sheet



Project No: NMSCC/02/09/8

Research study Nursing Care Home Staff Information Sheet

Research Study: The role of the registered nurse managing pro re nata (PRN) medicines in the nursing home.

We are writing to invite you to take part in this research study, which is being conducted by a researcher from the University of Hertfordshire. Before you decide please read the following information carefully as it will explain why the research is being done and how you may be involved.

What is the purpose of the study?

The study is to look at the daily routines in the nursing care home and to find out more about the standard practices involved in the management of PRN medication use. The study findings may help us to improve practice and in turn improve the care given to service users.

Why have I been chosen?

You are invited to take part because you are an employee in the nursing care home where this study is to be carried out.

Do I have to take part?

You do not have to take part in this study. If you do say yes, you can change your mind at any time during the study, without giving a reason. If you decide not to take part in this study, this will not affect your job in any way.

What will happen if I do take part?

You may see the researcher observing everyday activities that happen in the nursing care home, writing notes or talking to staff and service users. If you do say yes, the researcher may observe you working in the nursing care home with other staff or service users and may ask you about your work.

Expenses and Payment

No expenses or payments will be made to any person participating in the study.

What do I have to do?

If you are interested in taking part please fill in the consent form and post this back to us in the pre-paid envelope.

What are the disadvantages and risks of taking part?

There are no disadvantages or risks to taking part. No part of your job in the nursing care home will change because of this study. Being observed at work can make us uneasy or nervous and this can make us feel anxious. If this happens you can talk to the researcher or to matron.

What are the possible benefits of taking part?

There are unlikely to be any personal benefits from taking part. However, we hope that this study will help to make service user care in nursing homes even better in the future.

What if there is a problem?

It is very unlikely that something will go wrong during the observation study, however if this does happen it will be sorted out immediately. Please read Part 2 of the information sheet for more details.

Will taking part in the study be kept confidential?

Yes, all information about you will be kept confidential. Your name will not be used in any of the study reports.

**Thank you for taking the time to read this information sheet.
If you have any questions or would like more information please contact the
researcher on the contact details provided below.**

Mrs Lorraine Murray

University of Hertfordshire, College Lane, Hatfield, Herts AL10 9AB.

Telephone: 01707 285294

Email: l.o.1.murray@herts.ac.uk

Please read Part 2 for more detailed information

Part Two

What if there is a problem?

If you have a problem you can speak to the researcher (Lorraine) on 01797 285294 and she will try to answer your questions. You can also speak to _____, the home matron.

If you want to make a complaint about this study you can contact:

Dr Geraldine Byrne
Research Lead School of Nursing and Midwifery
University of Hertfordshire
Faculty of Health and Human Sciences
College Lane
Hatfield
Herts
AL10 9AB
Telephone 01707 28 1384

Or

Professor Claire Goodman
University of Hertfordshire
Faculty of Health and Human Sciences
Centre for Research in Primary and Community Care
College Lane
Hatfield
Herts
AL10 9AB
Telephone 01707 28 1392

Will the information be kept confidential?

All information collected during this study will be on a single secure university computer with password protection and will only be read by a small group of research staff. Your name will not be recorded and you will not be identified in any report or publication.

What will happen to the results?

A summary report of the results will be written for everyone that took part. A full report will be written about this study. The study and results will be discussed at professional meetings, written in professional journals and used to teach nursing students at the University of Hertfordshire.

Who is organising and funding the research?

The research study is being undertaken as part of a professional research programme at the University of Hertfordshire. No funding to do this research has been received.

Who has reviewed the study?

All research involving health care professionals and service users receiving health or social care services is considered by a Research Ethics Committee that protect the safety, rights, and dignity of people taking part in research. This study was reviewed and given approval by the University of Hertfordshire Faculty of Health and Human Sciences Research Ethics Committee.

Thank you for reading this information sheet

F Staff Information Letter

University of
Hertfordshire



College Lane
Hatfield
Herts
AL9 10AB
Tel: 01272 825294
Email: l.o.1.murray@herts.ac.uk

28th July 2009

_____ (name of care home)
_____ (address of care home)

Dear Staff Member

Research Study at _____ (name of care home)

I am writing to inform you that consent has been received for a research study to be conducted by the University of Hertfordshire at _____ (name of care home). I am the principle researcher of the project titled 'The role of the registered nurse in the management of pro re nata medicines in the nursing home'.

The study is focusing on increasing understanding of the nurses' role and involvement in the management of PRN, or 'as required' medication in a (nursing) care home. Very little is known about the use of medicines prescribed in this way and how decisions are made with older people as to when to give them.

Using case study methods information will be collected from care home records, observation and interviews. Participants include staff and service-users that have consented to their involvement. The benefits and risks of the research and the inclusion of older people who may lack mental capacity have been considered carefully. This study was reviewed and given approval by the University of Hertfordshire Faculty of Health and Human Sciences Research Ethics Committee. (Reference Number: NMSCC/02/09/8/A). Research governance has also been obtained from _____ (name of owner), _____ (position and company name).

If you have any questions about the study please contact me at 01707 285294 or l.o.1.murray@herts.ac.uk or _____ (name of Manager), Manager, _____ (name of care home) at _____ (telephone number and email address)

Yours faithfully

Lorraine Murray
Principle Researcher

G Participant Consent Form



Consent Form

I confirm:

- that I have read the information sheet and the purpose of the study has been explained to me
- that I understand that my personal information will be treated confidentially
- that I have been informed that I do not have to take part in the study
- that I understand that I can withdraw from the study at any time without giving a reason

I confirm that I agree to take part in the study.

Name : _____

Signed: _____

Date: _____

If you any require further information please contact:

Mrs Lorraine Murray

University of Hertfordshire, College Lane, Hatfield, Herts AL10 9AB.

Telephone: 01707 285294

Email: l.o.1.murray@herts.ac.uk

H Personal Consultee Information Sheet



Information Sheet for Personal Consultees

Research study: The role of the registered nurse in the management of pro re nata medicines in the nursing care home.

What is the purpose of the research?

This research will focus on increasing understanding of the nurses' role and involvement in the management of pro re nata (PRN – as required) medication to residents in a nursing home.

We are intending to recruit participants to this project who may not have the capacity to consent to their participation. This means that they may not be able to judge for themselves whether they should like to take part or refuse. The project includes such participants because we are studying about the (xxx) condition/care and treatment of people having the (xxx) condition. We also consider that it is important for people with the (xxx) condition to have the chance of taking part in the research project.

The project has been approved by a (named) Research Ethics Committee. We shall make sure that the project is safe for each participant and does not cause them undue distress. To help with this, the researchers need information from people who have known the participant for some time.

Why have I been approached?

As a partner, friend or relative of a (prospective) participant in the study, you will have an interest in the person's well-being and welfare. You may have been given a Lasting Power of Attorney to make personal welfare decisions on their behalf when they can't. You may be a deputy appointed by the Court of Protection.

The researcher in the project would like to discuss with you whether you think that your friend or relative would like to take part. As you have known them for some time, you may be aware of any views they may have about taking part in such a project or whether they have made an 'Advance Decision'. If your partner, friend or relative has made an 'Advance Decision' this is important as it shows that they have ready made decisions for themselves. The researchers would like to respect the person's wishes.

Secondly, if you think that your partner, friend or relative may be interested in taking part in the project, you may be able to tell us about any possible difficulties they may have. You also may be able to tell us how they may communicate that they wanted to stop being involved.

When thinking about the wishes and interests of your partner, relative or friend, it is important that you should set aside any of your own views about the project.

A 'personal consultee' is a partner, friend or relative of a prospective participant, who provides the researchers with advice. If you would like further information about being a 'personal consultee', please contact xxxxx who has experience in this area.

How will participants be recruited?

A number of meetings will be held by the researcher at the nursing home to meet groups or nurses, home staff, residents and Personal Consultees to introduce and discuss the study. Information sheets will also be provided. In order to allow residents and partners, relatives or carers to discuss participation a minimum period of 7 days will be given before requesting consent.

What are participants required to do?

If a resident agrees to participate in this study the researcher will read their nursing home records and observe their participation in relation to the medicines that they are prescribed.

Are there any potential hazards?

There are no disadvantages or risks to taking part. No part of the participants' everyday home life will change because of this study.

What do I have to do now?

If you think that your partner, friend or relative would be interested in taking part, please complete the attached form and send this back to XXXX using the stamped-addressed envelope.

If you think that your friend, partner or relative would be interested but you are not sure about whether you would like to talk about this with the researcher, then please suggest who else could be approached.

If you think that your friend, partner or relative would **not** be interested in taking part, then it is important that you still complete the form below.

Will information that I give be kept confidential?

Information about yourself (name, address and telephone number) is in records held by XXX team/care team. XXX care team will contact you, should the researchers wish to speak with you.

Information that you disclose about your partner, friend or relative concerning their participation in the research will be held by the researcher. The researcher will not know your name, address or telephone number. When you meet the researcher, they will talk with you about confidentiality.

What will happen to the forms when I have completed them?

The forms will be looked at by the researcher. The Care Team will contact you by (date) to let you know whether or not the researcher would like to speak with you and arrange a time for a discussion.

If you do not return the form, we shall assume that you do not wish to be contacted about the project.

How can I find out more about the project?

You can contact (person) on (telephone number) to discuss the project further. The project is led by Lorraine Murray who can be contacted at The University of Hertfordshire on 01707 285294.

Who will the researcher be?

Mrs Lorraine Murray
Room 1F300 Wright Building
University of Hertfordshire

Appendices

College Lane
Hatfield
Hertfordshire
AL10 9AB
Telephone number: 01707 5294
Email: l.o.1.murray@herts.ac.uk

Who can I contact if there is a problem?

If you have a problem you can speak to the researcher (Lorraine) on 01797 285294 and she will try to answer your questions. You can also speak to the home matron.

If you want to make a complaint about this study you can contact:

Dr Geraldine Byrne,
Research Lead, School of Nursing and Midwifery
University of Hertfordshire
Faculty of Health and Human Sciences
College Lane
Hatfield
Herts
AL10 9AB
Telephone 01707 28 1384

Or

Professor Claire Goodman
University of Hertfordshire
Faculty of Health and Human Sciences
Centre for Research in Primary and Community Care
College Lane
Hatfield
Herts
AL10 9AB
Telephone 01707 28 1392

I Partner, Family Member, or Friend Information Letter

(Nursing care home headed paper)

Care Home Address
Care Home Telephone

_____ (name of addressee)
_____ (address of addressee)

Dear _____ (name of addressee)

_____ (name of care home) is collaborating with Lorraine Murray from the University of Hertfordshire in a research project. The project is called 'The role of the registered nurse in the management of pro re nata medicines in the nursing home'.

An important aspect of the research project is that all participants have the choice about whether to volunteer or to refuse to take part. However some of the residents may not have the capacity to consent because of a condition/illness they have that affects how they make some decisions.

You have been approached as you are a partner, relative or friend of a resident of this service. The researchers would like to discuss with you your views about whether _____ (name of resident) may wish to participate in the research.

I attach some information about the project, the name of the researcher and ways that you can help.

Please have a look at the form and return to _____ (name of Manager) at _____ (name of care home) using the stamped addressed envelope. If you have any queries, please contact _____ (name of Manager) on _____ (telephone number) to discuss.

Thank you for your interest in the project and taking time to read the information.

(Signed)
Care Home Manager

J Personal Consultee Invitation Form



Invitation to Act as a Personal Consultee

Project title: The role of the registered nurse in the management of pro re nata medicines in the nursing care home.

Participant Code: R_____

I think that my partner, friend or relative may NOT like to take part in the project.	Signed.....
I think that my partner friend or relative may be interested in taking part and I would like to discuss this with the researcher.	I agree to being contacted further about the project Signed
I think that my partner, friend or relative may like to take part in the project – but I do not wish to be consulted.	I do not agree to being contacted further about the project Signed.....

Thank you for completing the form. Please send in the stamped addressed envelope to _____ (name of care home) or deliver by hand to _____ (name of Manager).

K Personal Consultee Declaration Form



Personal Consultee Declaration

Project title: The role of the registered nurse in the management of pro re nata medicines in the nursing care home.

Participant Code: R_____

		Please initial your confirmation/understanding below:
1. I confirm that I have read and understood the Information for Consultees (version ... dated.....) for the study.		_____
2. I confirm that I have had time and opportunity to ask questions about the study or my role as a Personal Consultee.		_____
3. I understand the purpose of the project and what the participant's (my partner, friend or relative's) involvement would be. In my opinion, they would not object to taking part in the study.		_____
4. I understand that participation in the project is voluntary and that my partner, friend or relative would be withdrawn if they do not wish to continue participating and without giving a reason.		_____
5. I understand that if my partner, friend or relative were withdrawn from the project, this would not affect in any way the care or treatment they receive, or affect their legal rights.		_____
6. I understand that my partner, friend, relative's GP will be informed about their involvement in the study.		_____
Name of Consultee	date	signature
Name of person who has discussed the study and provided me with information	date	signature
Principal Researcher	date	signature

When completed:

- one copy to be retained in care/health records
- one copy for Consultee
- one copy for Researcher

L Personal Consultee Checklist



Checklist for Researchers Consulting with a Personal Consultee

Project title: The role of the registered nurse in the management of pro re nata medicines in the nursing care home.

Participant Code: R_____

	DONE? (Tick)
Sample letter for partner, friend or relative – sent by care home, care/clinical team	<input type="checkbox"/>
Information sheet summary, contact information, confidentiality statement sent to partner, friend or carer	<input type="checkbox"/>
Partner, friend or relative response form returned	<input type="checkbox"/>
Personal Consultee declaration completed	<input type="checkbox"/>

M Resident Information Sheet



Information Sheet for Nursing Care Home Service Users

Research Study: The role of the registered nurse managing pro re nata (PRN) medicines in nursing care homes.

We are writing to invite you to take part in this research study, which is being conducted by a researcher from the University of Hertfordshire. Before you decide please read the following information carefully as it will explain why the research is being done and how you may be involved. You may like to talk to your family and friends about this study.

What is the purpose of the study?

The study is to look at your everyday way of life in the nursing care home and to find out about medicines that you are taking. We want to learn how we can give better care to you and to service users like you.

Why have I been chosen?

You are invited to take part because you are a service user living in the nursing care home where this study is to be carried out.

Do I have to take part?

No. You do not have to take part in this study. If you do say yes, you can change your mind at any time during the study, without giving a reason. If you decide not to take part in this study, this will not affect the care or support you receive.

What will happen if I do take part?

You may see the researcher observing everyday activities that happen in the nursing care home, writing notes or talking to staff and service users. If you do say yes, the researcher may observe you being given your medicine and will read your nursing notes.

What do I have to do?

If you would like to take part please fill in the consent form and hand it back to matron in the envelope provided.

What are the disadvantages and risks of taking part?

There are no disadvantages or risks to taking part. No part of your everyday home life will change because of this study.

What are the possible benefits of taking part?

There are not likely to be any personal benefits to you from taking part. However, we hope that this study will help to make your home life better in the future.

What if there is a problem?

It is very unlikely that something will go wrong during the study, however if this does happen it will be sorted out immediately. Please read Part 2 of the information sheet for more details.

Will taking part in the study be kept confidential?

Yes, all information about you will be kept confidential. Your name will not be used in any of the study reports.

Thank you for taking the time to read this information sheet.

If you have any questions or would like to discuss this study in any way, please contact the researcher. Her contact details are provided below.

Mrs Lorraine Murray

University of Hertfordshire, College Lane, Hatfield, Herts AL10 9AB.

Telephone: 01707 285294

Email: l.o.1.murray@herts.ac.uk

Please read Part 2 for more detailed information

Part Two

What if there is a problem?

If you have a problem you can speak to the researcher (Lorraine) on 01797 285294 and she will try to answer your questions. You can also speak to the home matron.

If you want to make a complaint about this study you can contact:

Dr Geraldine Byrne,
Research Lead, School of Nursing and Midwifery
University of Hertfordshire
Faculty of Health and Human Sciences
College Lane
Hatfield
Herts
AL10 9AB
Telephone 01707 28 1384

Or

Professor Claire Goodman
University of Hertfordshire
Faculty of Health and Human Sciences
Centre for Research in Primary and Community Care
College Lane
Hatfield
Herts
AL10 9AB
Telephone 01707 28 1392

Will the information be kept confidential?

All information collected during this study will be on a single secure university computer with password protection and will only be read by a small group of research staff. Your name will not be recorded and you will not be identified in any report or publication.

What will happen to the results?

A summary report of the results will be written for everyone that took part. A full report will be written about this study. The study and results will be discussed at professional meetings, written in professional journals and used to teach nursing students at the University of Hertfordshire.

Who is organising and funding the research?

The research study is being undertaken as part of a professional research programme at the University of Hertfordshire. No funding to do this research has been received.

Who has reviewed the study?

All research involving service users receiving health or social care services is looked at by a group of people called a Research Ethics Committee who protect the safety, rights, and dignity of people taking part in research. This study was reviewed and given approval by the University of Hertfordshire Faculty of Health and Human Sciences Research Ethics Committee.

Thank you for reading this information sheet

N Assessing Capacity to Consent to Participate in Research



Checklist for Researchers Assessing Capacity to Consent to Participate in Research

Checklist for researchers to decide whether a prospective participant has the capacity to consent to their participation

Participant Code: R_____

<p>Section A - Enabling capacity: Have you made every effort to enable a prospective participant to make the decision themselves to participate or refuse?</p> <p>Have you used language or methods of communication that the person is most likely to understand?</p> <p>Have you given sufficient time for the person to think about the project?</p> <p>Has the person conferred with others who could help explain the project?</p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>Section B - Diagnostic assessment Is there evidence to demonstrate impairment of mind or brain?</p> <p>Is there evidence to demonstrate that this is temporary, fluctuating or permanent?</p> <p>Is there evidence to demonstrate that the impairment affects the person's ability to decide about their participation in research?</p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>If NO to any item in Section B discuss with Principal Researcher. If YES to all items in Section B, continue.</p>	
<p>Section C - Functional assessment Does the person understand that they can consent to or refuse to participate in research?</p> <p>Does the person understand what the research is about?</p> <p>Does the person understand and weigh-up the benefits and risks of agreeing or refusing to take part?</p> <p>Has the person communicated their decision to you in any way?</p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>If NO to the first three items in Section C – the person DOES NOT have the capacity to consent to or to refuse to take part in the research project. If YES to any item in Section C, return to guidance on 'enabling decision-making'.</p>	
<p>Checklist completed by:</p>	
<p>Date:</p>	

O Appraisal of a Participant's Involvement with a Project



Checklist for Researchers Appraisal of a Participant's Involvement with a Project

Checklist for researchers to appraise the inclusion of a SPECIFIC PARTICIPANT who lacks capacity (for projects other than Clinical Trials of Medicinal Products)

Participant Code: R_____

Has a functional assessment of capacity (for consent to research) been done?	<input type="checkbox"/>
Is it unlikely that the person would regain capacity to consent?	<input type="checkbox"/>
If YES to above continue.	
Does the person have an Advanced Statement about refusal of treatment? <i>If YES, discuss with Principal Researcher.</i>	<input type="checkbox"/>
Has the researcher consulted with a Lasting Power of Attorney for Welfare Decisions (LPA) or a Deputy appointed by the Court of Protection?	<input type="checkbox"/>
Has the researcher consulted with family or friends?	<input type="checkbox"/>
Has the researcher consulted with a Nominated Consultee?	<input type="checkbox"/>
If YES to above, use information gained from consultation with others to complete the following sections	
Is the research about the treatment or care of a person with an impairing condition? <i>If NO, go to next section.</i>	<input type="checkbox"/>
Would undertaking the research be of benefit to the participant?	<input type="checkbox"/>
Is the participant likely to incur any burden by participating?	<input type="checkbox"/>
Does the benefit outweigh the burden of participation?	<input type="checkbox"/>
If YES to above, continue. If NO, EXCLUDE the participant.	
Is the research about KNOWLEDGE of causes, treatment or care of an impairing condition?	<input type="checkbox"/>
Are the risks of taking part negligible?	<input type="checkbox"/>
If YES to above continue. If NO, EXCLUDE the participant.	
Is participation likely to be invasive or restrictive?	<input type="checkbox"/>
Is participation likely to interfere with the participant's freedom or privacy?	<input type="checkbox"/>
If YES to any of the above, EXCLUDE the participant. If NO to above, INCLUDE the participant.	
Have the researcher and Principal/Chief Researcher agreed to INCLUDE the participant?	<input type="checkbox"/>

Checklist completed by: Date completed:.....
Principal/Chief Researcher..... Date agreed:.....

P Medication and Case Notes Review Form

**Resident Participant
Medication and Case Notes Review – Data collection**

Resident	R_____
Age	
Gender	Male: <input type="checkbox"/> Female: <input type="checkbox"/>
Ethnicity	
Date of admission	
Place admitted from	
Medical conditions	
Level of dependency	
Cognitive state	
Behavioural and psychiatric symptoms of dementia (BPSD)	<p>Behavioural symptoms:</p> <ul style="list-style-type: none"> • Wandering • Agitation • Sexually inappropriate behaviours • Others <p>Psychiatric symptoms:</p> <ul style="list-style-type: none"> • Depression • Anxiety • Delusions • Others
Evidence of depression	<p>Psychological symptoms of depression:</p> <ul style="list-style-type: none"> • Feelings of hopelessness and helplessness. • Low self-esteem. • Tearfulness. • Feelings of guilt. • Feeling irritable and intolerant of others. • Lack of motivation and less interest, and difficulty in making decisions. • Lack of enjoyment. • Suicidal thoughts or thoughts of harming someone else. • Feeling anxious or worried. • Reduced sex drive. <p>Physical symptoms:</p> <ul style="list-style-type: none"> • Slowed movement or speech.

	<ul style="list-style-type: none"> • Change in appetite or weight (usually decreased, but sometimes increased). • Constipation. • Unexplained aches and pains. • Lack of energy or lack of interest in sex. • Changes to the menstrual cycle. • Disturbed sleep patterns (for example, problems getting off to sleep or waking in the early hours of the morning). <p>Social symptoms:</p> <ul style="list-style-type: none"> • Taking part in fewer social activities and avoiding contact. • Feeling isolated. • Reduced hobbies and interests.
Prescribed medication for regular administration (Generic name, date commenced, dose prescribed, route, frequency)	
Changes made in last 4 weeks/28 days	
PRN medicines prescribed (Generic name, date commenced, dose prescribed, route, frequency administered in past 4 weeks/28 days)	
Changes made in last 4 weeks/28 days	
Non-prescribed medication used	
Alternative or Complimentary therapies received	

Q Record of Observations

Location and Activity Identification Codes

Bedroom (BR)	Ground (GF) 1 st (1stF) 2 nd (2ndF)	Routine drug round (1)
Day room (DayR)		Medication review (2)
Dining room (DR)		Dispensing (3)
Hall (H)		GP visit (4)
Main lounge (MLG)		Storage of medicines (5)
Small lounge (SLG)		Handover (6)
Nursing office (NO)		Individual administration (7)
Cinema room (CR)		Prescribing (8)
		Reordering (9)
		Pharmacist visit (10)
		Clinical discussion (11)
		Other (12)
		Personal care (13)
		Discussion with relative (14)
		District nurse visit (15)
		Specialist nurse visit (16)

Observations

Number	Day	Date	Start time	Duration	Location	Main participant	Clinical activity
1	Tue	29.6.10	13.00	20m	DR-GF	S014	1
2	Fri	23.7.10	10.10	1h 10m	DR-GF	S012	1
3	Tue	7.9.10	10.17	28m	DR-GF	S014	1
4	Tue	7.9.10	12.53	37m	DR-2ndF	S024	1
5	Wed	8.9.10	9.43	43m	CR-2ndF	S024	4
6	Wed	8.9.10	10.27	1h 8m	SLG-1stF	S022, S012	4
7	Wed	8.9.10	11.35	45m	SLG-1stF	S014	4
8	Wed	8.9.10	13.05	20m	NO-GF	S014	1
9	Wed	15.9.10	9.50	20m	DR-2ndF	S024	1
10	Wed	15.9.10	10.13	1h 12m	CR-2ndF	S024	4
11	Wed	15.9.10	11.30	20m	SLG-1stF	S014	4
12	Wed	15.9.10	11.50	55m	SLG-1stF	S028	4
13	Wed	15.9.10	13.15	35m	DR-GF	S022	1
14	Mon	20.9.10	17.15	1h 22m	H-1stF	S048	1
15	Mon	20.9.10	19.55	25m	NO-GF	S014, S028	6
16	Tue	21.9.10	8.00	1hr	SLG-1stF	S012, S014, S005, S027, S039	6
17	Tue	21.9.10	9.38	1h 45m	DR-1stF	S012	1
18	Wed	22.9.10	8.05	40m	SLG-1stF	S022, S027, S005, S039, S014, S048	6
19	Wed	22.9.10	8.58	1h 12m	DR-2ndF	S024	1
20	Wed	22.9.10	10.20	40m	CR-2ndF	S024	4
21	Wed	22.9.10	11.08	27m	SLG-1stF	S050	4
22	Wed	22.9.10	11.35	1hr	SLG-1stF	S014	4
23	Thur	23.9.10	17.15	1h 15m	DR-GF	S028	1
24	Thur	23.9.10	19.25	27m	DR-GF	S028	6
25	Thur	23.9.10	20.10	2hr	LG-GF	S051	1
26	Fri	24.9.10	17.18	50m	DR-2ndF	S041	1
27	Fri	24.9.10	20.00	27m	NO-GF	S012	6

						S028	
28	Sat	25.9.10	19.44	26m	LG-1stF	S039	1
29	Sat	25.9.10	20.10	10m	LG-1stF	S012, S039	6
30	Sat	25.9.10	22.00	15m	NO-GF	S039, S051	12-Other (management of controlled drugs)
31	Sat	25.9.10	22.30	2h	LG-1stF	S039	5
32	Wed	29.9.10	8.10	25m	DayR-1stF	S039, S028, S027, S054, S050	6
33	Wed	29.9.10	8.55	1hr 15m	DR-GF	S028	1
34	Wed	29.9.10	10.20	35m	CR-2ndF	S024	4
35	Wed	29.9.10	10.58	22m	DayR-1stF	S050	4
36	Wed	29.9.10	11.25	1h 17m	DayR-1stF	S028	4
37	Wed	29.9.10	13.07	55m	DR-GF	S028, S054	1
38	Thur	21.10.10	8.05	30m	DayR-1stF	S052, S028, S027, S039, S010	6
39	Thur	21.10.10	9.00	2h 20m	DR-1stF	S052	1
40	Fri	3.12.10	8.05	20m	DayR-1stF	S010, S027, S005, S012, S056	6
41	Fri	3.12.10	8.55	1h 20m	DR-2ndF	S018	1
42	Fri	3.12.10	12.15	45m	GF-NO	S012, R106	7 (individual administration)
43	Sun	5.12.10	08.10	10m	BR-1stF	S006, S055	13
44	Sun	5.12.10	08.27	17m	BR-1stF	S006, S055	13
45	Sun	5.12.10	08.45	25m	BR-1stF	S006, S055	13
46	Sun	5.12.10	09.11	19m	BR-1stF	S006, S055, R119	13
47	Sun	5.12.10	09.34	20m	BR-1stF	S006, S055, R134	13
48	Sun	5.12.10	09.56	20m	BR-1stF	S006, S055	13
49	Sun	5.12.10	10.17	13m	BR-1stF	S006, S055	13
50	Sun	5.12.10	10.34	16m	BR-1stF	S006, S055	13
51	Sun	5.12.10	10.54	9m	BR-1stF	S006, S055, R109	13
52	Wed	8.12.10	08.10	40m	BR-1stF	S058, S059	13
53	Wed	8.12.10	08.52	21m	BR-1stF	S058, S059	13
54	Wed	8.12.10	09.17	33m	BR-1stF	S058, S059	13
55	Wed	8.12.10	09.55	20m	BR-1stF	S058, S059	13
56	Wed	8.12.10	10.20	24m	BR-1stF	S058, S059, R134	13
57	Wed	8.12.10	10.55	25m	BR-1stF	S058, S059	13
58	Fri	4.3.11	8.15	30m	BR-GF	S060, S061	13
59	Fri	4.3.11	8.50	40m	BR-GF	S060, S061	13
60	Fri	4.3.11	9.32	28m	BR-GF	S060, S061	13
61	Fri	4.3.11	10.10	40m	BR-GF	S060, S061	13
62	Fri	4.3.11	10.55	15m	BR-GF	S060, S061	13
63	Fri	4.3.11	11.15	25m	BR-GF	S060, S061	13
64	Tue	15.3.11	8.12	31m	BR-GF	S062, S043	13
65	Tue	15.3.11	8.53	47m	BR-GF	S062, S043	13
66	Tue	15.3.11	9.45	25m	BR-GF	S062, S043	13
67	Tue	15.3.11	10.12	39m	BR-GF	S062, S043	13
68	Tue	15.3.11	10.50	25m	BR-GF	S062, S043	13
69	Sat	19.3.11	20.35	9m	BR-GF	S057, S026	13
70	Sat	19.3.11	20.45	17m	BR-GF	S057, S026	13
71	Sat	19.3.11	21.13	8m	BR-GF	S057, S026	13

Appendices

72	Sat	19.3.11	21.35	10m	BR-GF	S057, S026	13
73	Sat	19.3.11	22.10	5m	LG-1stF	S039, S053	13
74	Sat	19.3.11	22.15	15m	BR-2ndF	S039, S053	13

Total time: 47h 19m

R Observation Schedule

Date:

Start of observation (time):

Place of observation (circle):

Bedroom/lounge (floor: ground/first/second)

Dining room (floor: ground/first/second)

Hall (floor: ground/first/second)

Garden

Other (specify)

Main participants: 1.
(Codes) 2.
3.
4.
5.

Additional participants: Residents (No.)
Carers (No.)
Nurses (No)

Physical setting: (description of area e.g. dirty crockery on tables)

Clinical activity (tick):

Routine drug round (1)	Individual administration (7)	Personal care (13)
Medication review (2)	Prescribing (8)	Discussion with relatives (14)
Dispensing (3)	Reordering (9)	District Nurse visit (15)
GP visit (4)	Pharmacist visit (10)	Specialist Nurse visit (16)
Storage of medicines (5)	Clinical discussion (11)	
Handover (6)	Other (12)	

CHRONOLOGICAL EVENTS	BEHAVIOUR AND INTERACTIONS	CONVERSATIONS AND OTHER VERBAL INTERACTIONS

S Record of Interviews

Location Identification Codes

Bedroom (BR)	Ground (GF)
Day room (DayR)	1 st (1stF)
Grooming Room (GR)	2 nd (2ndF)

Interviews

Number	Participant code	Nurse or Carer	Date	Location	Length of interview
1	S022	Nurse	1.9.10	DayR-1stF	38m 11s
2	S039	Nurse	18.3.11	DayR-1stF	50m 10s
3	S050	Nurse	24.3.11	DayR-1stF	not recorded
4	S014	Nurse	29.3.11	DayR-1stF	38m 13s
5	S006	Carer/Dignity Champion	30.3.11	BR-1stF	39m 17s
6	S060	Carer	30.3.11	GR-GF	24m 01s
7	S061	Carer	30.3.11	DayR-2ndF	23m 40s
8	S024	Senior Carer	30.3.11	DayR-2ndF	40m 25s
9	S041	Senior Carer	31.3.11	DayR-1stF	27m 00s
10	S043	Carer	31.3.11	DayR-1stF	17m 50s
11	S027	Nurse	1.4.11	DayR-1stF	1h approx. (not recorded)
12	S018	Senior Carer	1.4.11	DayR-1stF	41m 17s
13	S058	Carer	1.4.11	DayR-1stF	31m 30s
14	S052	Nurse	1.4.11	DayR-1stF	27m 17s
15	S053	Carer	1.4.11	DayR-1stF	25m 57s
16	S057	Carer/Return to Practice Nurse	1.4.11	DayR-2ndF	33m 40s
17	S059	Carer	2.4.11	DayR-1stF	22m 39s
18	S062	Carer	2.4.11	DayR-1stF	33m 57s
19	S027	Nurse	5.4.11	DayR-1stF	67m 39s (2 nd interview)

Total time: 10h 35m 43s