Experiences of falls in domestic settings and use of ambulance services: An Ethnographic study

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2019

Acknowledgements

I wish to acknowledge my supervisors, Professor Tracey Williamson and Dr Elizabeth Collier who have supported me throughout this journey and from whom I have learnt so much. They have been brilliant in supporting not only my academic life, but my personal and professional life during the last 7 years, keeping me inspired and driven. Despite them both taking up new posts in other universities, they have continued to provide in-depth support and encouragement.

My next acknowledgement goes to Dr Jacqueline Leigh, who kindly agreed to become my supervisor for the last part of my journey. I wish to thank Dr Elaine Ball for recognising my potential and allowing me to begin this journey. Thanks to my study coach Madeleine Brierley, who after my diagnosis of dyslexia provided support throughout my study together with support from the university.

Importantly, I would also like to thank all the ambulance service staff, the patients, and carers who supported and took part in this study.

Next, I would like to thank my line manager Lesley Freeman who supported my application to undertake the Professional Doctorate and continued to provide encouragement and support throughout. I would also like to thank Dr Rachel Hall, the Research lead for my NHS Trust who supported me throughout my journey.

Special thanks go to my fantastic team in practice, who have supported me daily and who quickly stepped up to recruit participants for the study. They provide excellent professional care for our patients, the service is seen as an exemplar in providing falls prevention and bone health care, which I have been privileged to have been able to present at international, national and local conferences together with my study.

Finally, I would like to thank my soul mate, Marc for his patience and tolerance supporting and carrying me at times through this journey. Thanks to my children, Stephanie and Jack who have been inspired by my drive and ambition to improve care and thanks to my dogs, past and present, Bess, Benji, Beau and Woody who have kept me company whilst I studied.

Abstract

Introduction

Each year, 35% of people over the age of 65 experience falls and approximately 45% of those are aged over 85 and live in the community. Local unpublished data from an English ambulance service found that following ambulance call-outs, 24-32% of the patients were not conveyed to hospital and of those, only 32-52% were referred to the local Falls Prevention Service for a specialist multifactorial assessment (NICE, 2013).

Background

The literature review undertaken supports the need for a falls pathway (guidance for practitioners) to be in place which is fully utilised, by all practitioners. However, it did not uncover the reasons for low referral rates of non-conveyed patients to Falls Prevention Services. This thesis will outline the design of a study which aims to, gain an in-depth understanding of the falls patient journey from patient and ambulance crew perspectives and generate a clear understanding of the ambulance service customs and practices which could inform improvement of the existing falls pathway.

Methods

A critical ethnographic approach enabled participants' values, behaviours and beliefs to be explored. The methods were participatory observation, semi-structured interviews of patients/carers and ambulance crew and in-depth field notes. The sample was people over 50 years of age who had fallen or their carers (n= 10) who had been seen by the ambulance service. Ambulance crew were also recruited (n= 10).

Results

The study gained an in-depth understanding of the experiences of crew and patients/ carers. For both ambulance crew and patients/carers, there are two shared themes '*falls journey'* & '*falls not being a problem for patients'*. For crew *'training'* was a theme and for patients/carers '*language*' and '*patient transport*' are themes. The study's unique contribution is that it has gained an in-depth understanding of the patient journey from patient and ambulance crews' perspectives and a better understanding of the falls pathway. In summary, the falls pathway in the local area was clearly understood and followed by all crew observed. The study shared the challenges of recruiting in a hard-to-reach group.

Keywords: Falls Prevention, Ambulance.

Chapter 1 Introduction

This thesis is part of my Professional Doctorate in Health and Social Care. The introduction covers the background evidence about the ageing population and the issue of falls. I will situate myself in the thesis focusing on my clinical experience and leadership role in the development of Falls Prevention Services. I will also explore the issue identified in practice and detail why this was chosen to be studied as part of my Professional Doctorate. In view of the qualitative approach being taken, the thesis is in the first person.

Background

From the time we learn to walk, we develop reflexes and the ability to balance. Having bipedal locomotion in an upright stance can lead to several problems and increases the vulnerability to falls as our centre of gravity is supported over a smaller area. As we age, muscle strength and the mechanisms of balance and reflexes become less efficient and the risk of falls increases as a result (Kumar & Clark, 2005, RCP, 2011, NICE, 2013, 2015, Public Health England, 2017). Following a fall, it is rare to be able to determine immediately if it was a simple trip or slip or if it was a faint or collapse that was the underlying cause. Therefore, a fall is defined as:

> *'An unintentional or unexpected loss of balance resulting in coming to rest on the floor, the ground, or an object below knee level'* (NICE, 2015, page 9).

Falls are a major cause of disability and the leading cause of mortality due to injury in people aged over 75 years in the United Kingdom (UK). It has been reported that over 400,000 older people in England attend Accident and Emergency (A&E) departments following a fall and up to 14,000 people die per year in the UK as a result of an osteoporotic hip fracture (DH, 2001). As a result of this, in 2001, the Department of Health (DH) published the National Service Framework for Older People (NSF) (DH, 2001), within this, standard six recommendation aimed to reduce the number of falls by improving the

diagnosis, care and treatment of those who have fallen, by providing rehabilitation, long term support, preventing and treating osteoporosis.

The NSF (2001) was further supported by the publication of the National Institute for Clinical Excellence (NICE) guideline for the Assessment and Prevention of Falls in Older People (DH, 2001, NICE, 2004). Each year, 35% of people over age 65 experience falls and approximately 45% of those are aged over 85 and live in the community. As a result, between 10%-25% will have a serious injury (NICE, 2004, 2013, 2015). Today, a fifth of the population of the UK is over 60 and by 2025, it is estimated that people aged over 80 will increase by almost half and people aged over 90 will double. As a result, these trends could have a profound effect on the resources in health and social care (DH, 2001, Heaton, 2012, NICE, 2013, 2015, Public Health England, 2017).

To identify patients who have fallen or are at an increased risk of falling and to offer evidence-based, multifactorial assessment and interventions, in 2004, NICE published the Falls in Older People: Assessing Risk and Prevention guideline. The evidence included an evaluation of the components of the multifactorial assessment and interventions found to be effective in reducing falls and identification of cost-effective interventions known to reduce falls, injuries, fractures and hospital admissions. The NICE guideline also stipulated that the assessment should be performed by a healthcare professional with appropriate skills and experience, normally in the setting of a specialist falls service and that it should be part of an individualised approach (NICE, 2004).

The guideline was further updated in 2013, adding new evidence on environmental adaptations, reducing the risk, prevalence, of falls in older in-patients. For example, included in the updated guidance was the need for patients who were seen in hospital to be asked if they had fallen or had experienced balance issues in the previous twelve months and if so, a multifactorial assessment conducted by a specialist trained healthcare professional should take place. The aim is for a referral on discharge for evidence-based exercises to improve patients' strength and balance to reduce falls and risk. It is recommended that healthcare professionals ask all people

over 50 years old, who they encounter in their practice, if they have fallen in the last year or if they have any balance or gait problems. This is because people aged over 50 years are deemed to be at the highest risk of falling and experiencing fragility fractures due to co-morbid factors such as genetic factors, smoking, alcohol excess and inactivity (NICE, 2004, 2013).

In 2010, the Royal College of Physicians (RCP) undertook both an organisational and clinical audit on information from approximately 10,000 patients from all NHS Acute Trusts, in England, Wales and Northern Ireland, Primary Care Organisations, Mental Health Trusts, and a sample of care homes to audit their adherence to the NICE Falls in Older People: Assessing Risk and Prevention clinical guideline (2004). Interestingly, when reading this report only 32% of patients who had had a non-hip fracture were asked about falls and offered a multifactorial assessment and individualised interventions. The report highlighted the issue of non-compliance to the clinical guidelines in practice. The key recommendations from the report Falling Standards, Broken Promises (2011) published by the RCP were, that there should be routine screening for falls risk for older people in emergency departments and there should be adequate provision of falls clinics, to undertake multifactorial assessment and interventions. Following on from the 2011 report, the NICE guidance was updated in 2013.

In 2015, the Royal College of Physicians undertook another national clinical audit on inpatient falls, aim was to re-evaluate the impact of the findings of the 2010 audit and the recommendations from the published report in 2011, and to audit against the updated Falls NICE guidance in 2013. This audit collected data from approximately 5000 in-patients aged over 65 years across 170 hospitals. The recommendations from the audit were for the need to have a falls steering group, that includes a multidisciplinary team in every Trust which reports to the organisation’s board. It also recommended to stop with immediate effect the use of risk predication tools and to audit bed rail use. Finally, the audit recommended the review of the Falls Multifactorial assessment to link it to the NICE guidance findings and to add the need for measurement of lying and standing blood pressure, assessment of delirium, vision impairment, walking

aids, continence and the use of call bells. It is essential to add that all the patients assessed in this audit were over 65 years of age. The NICE Falls guidance (2013) also applied to people aged 50- 64 who were admitted to hospital and judged to be at higher risk of falling due to their underlying condition.

In 2015, NICE published Quality Standards (QS86), these described high-priority areas for quality improvements in defined areas of care, namely in-patients. There are 9 standards which consist of a set of specific measurable statements, against NICE Falls in Older People: Assessing Risk and Prevention clinical guideline (2015).

In 2017, the Royal College of Physicians repeated the national audit to measure the effectiveness of Falls in Older People: Assessing Risk and Prevention NICE guidance and quality standards (2015). The audit data was undertaken on a yearly basis, so therefore is presented as results in 2015 and 2016.

The key information measured against the NICE quality standards is summarised below: Standard 1, older people are routinely asked about falls when seen by a health and social care practitioner. In 2015 81.2% and in 2016 79.6% of older people were asked about falls when they presented to hospital. This demonstrated a positive outcome to the focus and uptake of the approach to falls prevention, however, multiple healthcare professionals encounter people at risk or whom have fallen prior to admission to hospital or A&E.

In Standard 2, older people at risk of falling are offered a multifactorial falls risk assessment, the report found in 2016, only 40% and 2017, 46% of patients were offered a multifactorial falls risk assessment. This demonstrates a poor uptake of the standards provided and in turn does not provide a proactive approach to falls prevention. However, it does demonstrate an improvement of the uptake in the guidance year on year.

In Standard 8, older people living in the community who have a known history of recurrent falls are referred for strength and balance training but only 4% in 2016

and 2017 were referred. This again demonstrates that the clinical evidence-based guidance provided, had a poor uptake from health and social care practitioners and in turn would not reduce falls risk and potential admissions to hospital. This identifies the gap in referring or undertaking specialist falls prevention multifactorial assessment and interventions for patients.

It is noted how the quality standards published for hospitals (NICE, 2015) only focused on patients over 65 years, living in their own homes or in extended care such as supported living or care homes. This is despite the Royal College of Physicians, (RCP, 2010, 2011) recommending that all patients over the age of 50 years are included in the audit. The Falls NICE guidance in 2004 was eventually changed in 2013 to include patients over 50 years of age with underlying conditions that could contribute to falls. However, these guidelines only focused on in-patients who had fallen and did not collect data for patients who were living in the community and who fell but did not attend a hospital department nor those who had contact with the ambulance service as a result of a fall.

Although there has been clear evidence-based guidance in practice since 1991 (NSF, 1991, NICE, 2004, 2013, 2015), the identification of people who have fallen or who are at increased risk of falling who are then offered specialist multifactorial assessment and interventions have not been systematically undertaken by health care professionals in hospital and the community.

Importantly, The Falling Standards, Broken Promises (RCP, 2011) report of the national audit of falls and bone health also did not include ambulance service data on call-outs due to falls. This is a potential gap in the guidelines, because of the opportunities ambulance crew have in practice in identifying patients who have fallen or who are at increased risk of falling and for them to refer on to Falls Prevention Services.

There is evidence from international USA and Australian studies that report ambulance call-outs to patients who had fallen and non-conveyed patients (Weiss, Chong, Ong, Balash, 2003, Comans, Currin, Quinn, Tippett, & Rogers,

2011). There is evidence from UK studies of those patients subsequently referred on to Falls Prevention Services (Snooks, Anthony, Chatters, Cheung, Dale & Donohoe, 2006, Darnell, Mason & Snooks, 2012). The Snooks et al. (2006) study found that of the 47% of patients who were non-conveyed to hospital following a fall, 49% of these patients contacted healthcare staff within 2 weeks and 47% called for an ambulance at least once more. This supports the need for proactive prevention to be taken at every opportunity.

The evidence provided the number of ambulance calls out, which were as a result of falls, is shown below in Table 1. These could have a potential negative impact on the ambulance service target of response to urgent cases within 8 minutes and have a detrimental effect on the pressure on acute services (DH, 2011).

Table 1: Ambulance call out data for falls

	% Ambulance call-outs for falls	% Non-conveyed	% referred to falls service
UK	8%	34%	6.5%
USA	7.5%	40%	-
Australia	5%	24%	-

The main reason for non-referral given in the literature was that the patients were not injured. This accounted for 72% of the patients, with only 26% of patients declining referral (Comans et al., 2011). This could be as a result of lack of training on the local pathways and time pressures (Snooks et al., 2006, Darnell, Mason & Snooks, 2012, Simpson, Bendall, Toson, Tiedeman, Lord & Close, 2013). This will be further investigated as part of the literature review.

There is an identified gap in the data and knowledge, which could have been detrimental to referrals into falls services by the ambulance crew and the resultant increased pressure on all health and social services.

The Logan, Coupland, Gladman, Sahota, Stoner-Hobbs & Robinson (2010) study found that there was a reduced falls rate and improved clinical outcomes in the high-risk patients who were not conveyed to hospital by ambulance services, but who were referred into Falls Prevention Services. Recent studies have also focused on and explored decision-making of ambulance crew, with O'Hara, Johnson, Hirst, Weyman, Shaw, Mortimer and Siriwardena (2014) focusing on patients' and crews' experiences. However, there was no clear understanding of all the stakeholders involved in this falls pathway and issues in practice confirmed an absence of knowledge around these areas.

Issues in clinical practice

In practice, there is a local Falls Prevention Service that accepts referrals for people over 18 years of age who have underlying conditions that place them at risk from falling. If when patients are assessed and if there are problems identified such as dizziness, blackouts or impaired balance with a fear of falling, they should be referred to a specialist Falls Prevention Service. This will ensure that they receive a multidisciplinary team, multifactorial assessment which includes a medication review, medical examination, osteoporosis assessment, gait and balance assessment and a home hazard assessment in line with national guidance (NICE, 2004, 2013, 2015, RCP, 2011). After a multifactorial assessment is undertaken, strength and balance exercises may be suggested as appropriate, as they have been proven to increase confidence and improve balance and gait (NICE, 2004, Sherrington et al., 2008, NICE, 2013). There are however issues of poor compliance with interventions such as strength and balance exercises. As highlighted in the RCP national falls audit, which found that only 11% of patients were still exercising after 12 weeks (RCP, 2011).

Within practice an identified area for improvement and opportunity for leading change was commenced in 2011 as part of collaborative working with the North West Ambulance Service (NWAS) and as a result, a 'Falls Pathway' was established (appendix 1). The pathway is the course of action that should be undertaken for patients to be referred directly for specialist falls assessment, who have been seen by the ambulance service at home, but who had not

required conveying to hospital as a result of their fall. This approach is commensurate with recommendations from NICE (2013) which states that patients who see health care practitioners, should be routinely asked about falls, falls risk and referred onto the local specialist Falls Prevention Service.

Prior to the implementation of the pathway, there were no routine referrals for patients who had fallen and who did not require A&E, meaning that there was no preventive approach to reducing the risk of further falls and sequential call-outs to the ambulance service.

Table 1 (page 13) showed the National (UK), Australian and USA data for ambulance call-outs to patients who had fallen, the number of non-conveyed patients and of those the numbers referred on to Falls Prevention Services. Table 2 duplicates this information but with added (unpublished) contrasting data for my local area, Wigan, in 2015, for ambulance calls out for falls, non-conveyed patients and referral to the falls prevention team.

Table 2: Ambulance call out data for falls including local data

	% Ambulance call-outs for falls	% Non-conveyed	% referred to falls service
UK	8%	34%	6.5%
Wigan	10%	23%	42%
USA	7.5%	40%	-
Australia	5%	24%	-

The data in Table 2 above, shows that locally only 23% of ambulance call-outs for fall were non-conveyed patients in comparison to 34% in the UK. This could be as a result of lack of training on the local pathways and time pressures (Snooks et al., 2006, Darnell, Mason & Snooks, 2012, Simpson et al., 2013). According to local audit data, referrals to the Falls Prevention Service are not only low in comparison with caseloads, there is also a lack of awareness by patients about the need to be assessed and undertake evidence-based interventions (Age UK, 2012).

At the study outset, the Falls Pathway had been in place for 6 years in the local area largely due to there being already excellent working relationships and regular update meetings with NWAS leads and the Falls Prevention Service. However, the ambulance service does not collect data on why non-conveyed patients were not referred on to the Falls Prevention Service and declined referrals figures were not collected.

Informal discussions with NWAS leads suggested that patients not referred were those who declined referral, lack of crew information about services, pressure on crew to prioritise calls or increase time pressures and lack of education of the crew. The main reason for non-referral given in the literature was that the patients were not injured which accounted for 72% of the patients, with only 26% of patients declining referral (Comans et al., 2011). This is an identified gap in the data and knowledge that could have had a detrimental effect on the referrals into falls services by the ambulance crew and the resultant increased pressure on all health and social services.

Locally 42% of ambulance call outs are referred to the Falls Prevention Service, which is substantially more than the 2.6% of referrals rates found in the Comans et al.'s (2011) parallel observational study and the 9.6% in Snooks et al.'s study in 2014 (Snooks et al., 2014). However, considering the recommendations in NICE guidelines (2013), this remains a low percentage of referrals into Falls Prevention Services.

The issue of the cost of ambulance use and the need to collect data to provide an effective way of ensuring non-conveyed patients access appropriate services in a clearly defined pathway is essential (Weiss et al., 2003, Snooks et al., 2006, Newton, Kyle, Liversidge, Robinson, Wilton & Reeve, 2005). This also includes the use of ambulance crew instead of local lifting services, which can have a negative effect on overall performance of the ambulance service, by diverting highly trained, experienced and qualified staff to undertake services which could be undertaken by other services such as lifting services (Darnell et al., 2006).

Logan et al.'s (2010) study found that there was a reduced falls rate and improved clinical outcomes in high-risk patients who were not conveyed to hospital, who were referred into Falls Prevention Services. In my practice, there are clear pathways in place for patients who have fallen locally, but the pathways are not widespread for the national ambulance service. In this area, recent studies have also focused on and explored decision-making of crew, with O'Hara et al. (2014) focusing on patients' and crews' experiences. However, there was no clear understanding of all the stakeholders involved in this falls pathway and issues in practice confirmed an absence of knowledge around these areas and justifies the need for this research study. Even though the local figures of referrals from the ambulance service are 42%, we need to ask why they are not much higher, in view of the fact that there is clear guidance in place and good working relationships.

Given the information provided so far there is an emerging gap in the evidence-base, demonstrating why this study is important. There is an identified gap in the data and knowledge that could have been having a detrimental effect on the referrals into falls services by the ambulance crew and thus causing an increased pressure on all health and social services. The issues highlighted in the background prompted me to undertake a literature review to identify the current evidence relating to falls prevention and ambulance call-outs due to falls and the surrounding evidence on this area of practice. The policy background and guidance in place has had some success in promoting development of evidence-based assessment and interventions to reduce falls and injuries. However, falls are an ongoing concern across health and social care, not least due to their cost and human suffering. Results of the literature review subsequently informed the aim and outcome of my research study.

Situating myself and the research

I have worked in falls prevention and management for over 8 years and I am currently practising as a Nurse Consultant and lead of the Community Falls Prevention and Fracture Liaison Service within Wigan Borough. I have always had a passion in nursing to improve patient care and management, especially in

falls prevention, as this has been an occurring theme throughout my career in the last 28 years.

I have always focused on the management of patients to prevent falls, be that from medication on medical reviews to observation and providing effective communication with relatives. In particular, I focused on patients who had had brain injuries or neurological conditions that increased falls risk and on elderly care wards where falls were the main issue that affected patients suffering from delirium, deteriorating dementia and general age-related conditions and decline. I later went on to undertake root cause analyses on incidences that occurred on wards following falls and as part of this, I had to investigate the circumstances around a patient fall and what were the actions the staff had undertaken prior to and after a fall. Unfortunately, I found a general apathetic approach to falls management and I was concerned by the lack of focus in this area from some registered staff. This continued to promote my passion in the management of falls.

Due to this experience, I trained as an Advanced Practitioner in the local acute hospital, where I was the lead for falls. My specific interest in falls prevention continued in the development of a project in which I developed a training package and a post-falls assessment to improve falls management. In this role, I led on clinical developments which resulted in an overall reduction in falls rates of 17% within the acute trust (Heaton, 2012). This work culminated with the inclusion of my MSc dissertation and being included in the National High Impact Actions, which was a national initiative which focused on clinical practice and its impact on improving quality for patients (IHI, 2009). As a result of these outcomes, I successfully published my project in a national nursing journal and was asked by the journal to design an e-learning unit on falls prevention and management, which is still widely available on the Nursing Times website.

A major issue within my role in the acute trust was that I was unable to focus fully on improving practice on falls management effectively across the Trust, as my line managers had different plans for my role within older peoples' medicine. These plans included the development of a stroke outreach service, which was

effective in the management of people presenting with strokes, who were then scanned within 3 hours so that effective and timely treatment could be started. Also, plans included the development of an older person's urgent access team to effectively manage older people admitted to A&E. Again, in this development, patient care was effectively managed by me and the other advanced practitioners. However, the medical consultant input was always an issue which did not get resolved and caused much frustration to myself in my ability to develop services.

From my role in the hospital, I moved to my present position in the community which is leading the Falls Prevention Service. Here, I was able to use all the experience and knowledge I had gained and was able to focus on falls prevention effectively. The priorities within this role were to run an effective clinic and team providing multidisciplinary, multifactorial assessments for patients who presented following falls (NICE, 2013). As I was the clinical lead, I was able to run the clinics in a way that was effective for the patients, by providing a flexible approach to falls management.

Within the first year in my new post, at a research and audit meeting, a colleague presented their work undertaken in a Professional Doctorate. Immediately, I felt it was the perfect approach to undertake a doctorate, as it took the professional approach to embarking on a study, which I felt was the most effective way to improve patient services. After discussion with my line manager, I applied to the University and presented issues in practice which could be the focus for my study.

As a senior clinician, I am always aware of my own ideas for improvements needed in practice, but also aware of the strategic drivers on our services, such as the need to reduce hospital and A&E admissions. I prefer to look at this from the patients' perspective because if we can help patients to self-manage their conditions and falls risk in the community, this can have an improvement on their quality of life. I wanted to undertake the Professional Doctorate to focus on the patients' outcomes and areas which could be better understood.

A major part of the Professional Doctorate programme is to focus on myself and what I can give to the study. To be an effective critical reflector, I need to be a critical thinker which is essential to develop reflexivity, but not allowing the research study to become self-indulgent (Finlay, 2002, Lee, 2009). Reflexivity is the acknowledgement and identification of the researcher's place within the phenomenon they are exploring (Underwood et al., 2010). I aimed to include my insights to examine the research process in my thesis. I also aimed to be open and transparent about my personal positions and how these may shape the research, as I recognise that I am influenced by my personal concerns and interests. To be effective in my goal to undertake this study, I developed a Gantt chart (Appendix 2) to ensure I managed my time effectively.

In my Consultant role, I provide clinical expertise to clinical staff and provide strategic leadership in the development of falls services in the Community Foundation NHS Trust and in the clinical areas, working collaboratively with health and social partners. As part of this role, I am an active researcher and I am deputy of the Trust's Research and Development group, in this, I provide encouragement, leadership and advice to other staff wanting to develop their research, understanding and experience in actively promoting the Trust as research ready. On the journey of undertaking the Professional Doctorate, it was essential to liaise with my clinical managers and other stakeholders in the development of my ideas for the study. This is further explored in the reflexivity section in the discussion, Chapter 8 (page 128).

Self-awareness is imperative in being a leader or change agent. In order to understand this, an appraisal of past and present influences on my personal and professional development is required. In view of this, an analysis of my strengths, weaknesses, opportunities, and threats (SWOT) was undertaken (Humpreys, 2005, Kelly, 2008). My main strengths identified were: tacit knowledge, experience and skills; a proactive approach; forward thinking attitude; ambition to improve care; excellent time management and organisational skills. My main weaknesses identified were a lack of knowledge and experience in the research process, critical appraisal skills and reflexivity. The opportunity available was to undertake a structured research programme in

order to make changes in practice. The Professional Doctorate provides professional and academic support for research and being recognised as an expert in the field and being consulted on strategic changes.

The main threats include the ability to continue the academic programme due to funding issues, which were only agreed year to year as there was a potential to lose funding and threats to time to undertake the planned research study. There were also potential threats to practice development due to the impact of the NHS implementation of the New Health and Social Care Act (2012). This could have an impact on commissioned services, which are being chosen by GPs who may not understand or focus on the need for Falls Prevention Services locally or recognise the impact on patients.

To explore the main influences on my development and practice, an analysis of the political, economic, social and technological (PEST) influences on professional issues was also undertaken (Humphreys, 2005). Political issues that could have an impact on practice are the provision of health and social care for an ageing population such as the National Service Framework for Older People (NSF, 2001). The influence of the global recession has had a negative impact on the provision of services, and the impact of National financial deficit. The main focus is on cutting the cost of public services rather than investing in long-term solutions.

The Health and Social Care Act (2012) has the potential to have a detrimental effect on developments in practice, as it opens the way for potentially cheaper private companies to tender for services. However, these may not possess the same expertise and experience. The principal of healthcare professionals managing the NHS in theory is excellent, but only giving this responsibility to GPs could marginalise the management process. There should be a multi-health professional team to provide a holistic approach.

Government cuts have impacted on community services such as libraries and community centres which encourage community interaction and as a result, this can lead to social isolation and a breakdown of community cohesion (Cabinet

Office, 2010). The effects of the cuts on society include a transition from families living close together and supporting each other in older age. This could be due in part to the need to move to find employment or due to the breakdown of family units.

The technological advances include the development of technology to support research projects such as the SPPS database, which analyses research data (IBM, 2001) and others that provide tools to measure patients' quality of life such as the EQ-5D Dimensions tool (The EuroQol Group, 1990). This can have a positive impact on decision-making in commissioning by utilising technology, which allows patients to have a greater input into their care needs.

In order to be successful in developments in practice, it is essential to be an effective leader, focusing on the personal and professional locus of control and as a result, acknowledging the roles and responsibilities as a leader, clinician and transition to research-practitioner (Daft, 2008). As a result of this, I explored the types of leaders as part of the Professional Doctorate programme and reflected on leadership theory and types. The servant, transcendental, and ethical leadership styles would not be conducive or effective in NHS practice and would bring negative feelings and resentment. The transcendental style is more suitable to religions rather than professional business and would not be acceptable or effective. The ethical style focusing on the planet, its people and probity would not be conducive in the present economic climate of global recession (Daft, 2008; Martin & Fellenz, 2010).

The distributed style has its support from the Gestalt concept, by disassociating leadership from the organisation to all levels. It promotes a bottom-up effect, which has been found to be more effective within the NHS, where all levels of staff can develop ownership of leadership and change (Bennet, Wise & Wood, 2003). It is imperative that the whole organisation is open and supportive of any changes in practice which is the only effective way to implement change that will be accepted and have longevity (Warne, 2007, Lee, 2009).

NHS Trusts have traditionally employed transactional and transformational leaders to make large scale impacts on services. This in part has been successful in making improvements in care or cost saving, but in reality, it can also have a detrimental effect on staff morale and retention. This type of leadership tends to encourage the strong willed and change-makers, however, this tends to primarily focus on a target in the short-term rather than being an effective change agent (Daft, 2008, Martin & Fellenz, 2010). I feel the type of leader I am, is the Living leader which is a more appropriate approach in healthcare, being a social process that happens between people, which provides an understanding of direction, timing and development of relationships. It develops loyalty and ensures the leaders bring themselves to leadership and let go of overt control, whilst still keeping control (Binney, Wilke & Williams, 2009).

Chapter summary

In the Introduction, the background issues of falls in an ageing population have been outlined. The policy and guidance development for the management and prevention of falls and the clear pathways and actions required of health and social care professionals that are in place, have also been detailed. The effectiveness of the national guidelines has been explored and analysed and the local picture has been compared to national and international data. In situating the study, data has been provided supporting evidence that, only 42% of patients identified following a fall were referred to the local Falls Prevention Service. This local finding is mirrored in clinical audit findings of the RCP and is supported by the NICE guidance (2004, 2013).Identified is the gap in the evidence base as to why there is a poor referral rate following a fall. The literature review in the next chapter will therefore focus on this topic area. I have chosen to do this study because it is an area of practice that requires further exploration and study. I have explained my background experience and where my passion for falls management came from and how I have used this in my experience in practice over the last 25 years.

The introduction chapter 1 provided the background evidence about the issue of falls. It situated my clinical role in the development of Falls Prevention Services in partnership with the ambulance service. This led to the issue being identified in practice and why it was chosen to be studied.

In chapter 2 (page 25), I will detail how the systematised scoping literature review was undertaken to focus around referral and non-referral to the local Falls Prevention Service. This enables the identification of emergent gaps in the research literature which inform the study research questions.

In chapter 3 (page 52), the theoretical underpinnings of the study are considered, and a rationale given for the methodology chosen. Then in chapter 4, the methods chosen to undertake this study, including sampling, inclusion, exclusion criteria, recruitment, and patient and public involvement will be detailed.

In chapter 5 (page 82), the data collection design and ethical issues relating to the study will be detailed, which will include the data collection process, design and plan. In chapter 6 (page 95), the data analysis design for the study will be presented. Next, chapter 7 (page 105) will present the findings from the study.

Chapter 8 (page 128), will set out a critical discussion of the study design, including the philosophical stance taken, critique of the methods used and consideration of their limitations. Secondly, it will critically analyse and compare the study findings to the established literature in this area. Finally, the reflexive nature of the study will be revisited focusing on identity and actions taken within the study to demonstrate my responsiveness as a researcher.

Finally, chapter 9 (page 160) will detail the unique contribution the study has added to the existing evidence base in the subject area, explore implications for policy and practice and make recommendations for change and further research. It will then draw conclusions from the study questions and show how each research question has been answered.

Chapter 2 Literature review

The aim of this chapter is to conduct a systematised scoping literature review that will identify, collate and analyse all relevant information about my specific topic, from various relevant sources; enabling the identification of gaps in the current literature and development of evidence-based practice. The emergent gaps in the research literature will inform my study research questions. A scoping (systematised) literature search is a fundamental stage of the review process.

In this chapter therefore, the systematised literature review explored the UK and international research studies, national case studies and policies around ambulance callouts to patients who have fallen. This incorporates the following research questions:

- Why were only 42% of patients referred to the local Falls Prevention Service?
- What reported reasons are there for referral and non-referral of patients?

A range of research designs are included as detailed in Table 6 (page 31). The literature review was completed and is presented in two parts. The first search examines the literature for establishing Falls Prevention Services focusing on clinical practice at patient level. These studies focus on the number of ambulance call-outs following a fall, the economic cost of the ambulance service and the falls pathway in admission avoidance and falls prevention. The first search led to the development of further questions around clinicians' decision making, which required a second search to be undertaken to ensure the area being studied was extensively explored. The areas identified in the second search were preventative approaches adopted through ambulance crew decision making, non-conveyed reasons and non-referral to Falls Prevention Services.

Search Question

The Population, Intervention, Comparison, Outcome (P.I.C.O) formula was utilised to devise my search approach, which included the population researched, the intervention required, comparison or control needed, and the outcomes of the issue being explored (Counsell, 1997). This ensured a systematic approach to searching for literature (Brettle & Grant, 2004). For the areas being explored, the comparison or control was not relevant as the search was not comparing interventions, therefore, this was not used in the search. Table 3 and 4 include the terms used for the two searches.

Table 3: 1st Literature Search Terms

P.I.O. terms	**Population**	**Intervention**	**Outcome**
Key concepts	Older people	Falls prevention	Ambulance call-out
Alternative terms	Aged	Falls management	999 calls
	Elderly	Falls	Emergency services
	Over 50 years old	Trips	911
	Ageing	Collapse	112
	Geriatric	Falling	Paramedics
	Frail elderly	Accidental fall	Referral
	Age 80 or older	Accidents	Referral to falls team
	Care home residents		Referral to falls service
	Nursing home residents		Patients' perspective
			Patient experience
			Non-conveyed to hospital
			Not taken to hospital
			Left at home

Table 4: 2nd Literature Search Terms

P.I.O. terms	Population	Intervention	Outcome
Key concepts	Paramedics	Decision-making	Non-conveyed to hospital
Alternative terms	Ambulance staff	Decision making	Referral to falls prevention service
	Emergency medical services		

Inclusion/Exclusion Criteria

Table 5 below provides the detail of the search limits applied. This ensures that the literature retrieved is specific and relevant to the aim of the literature review. Initially, a 10-year span (May 1995- 2015) was chosen to ensure the evidence presented in the review was current however, when searching for the evidence it became clear that there were still a number of relevant policies, studies and papers that fulfilled the purpose of the review search strategy. The review timescale therefore was extended from May 1995 to May 2018. This was an appropriate time scale due to the long-standing focus on falls prevention and management over the last 23 years.

Table 5: Search limits

Inclusion	Exclusion
Research limited to studies post May 1995-May 2018	Non-English language papers
English language studies	In-patient care, hospital admissions, care home interventions and falls' studies not focused on ambulance intervention, general falls assessment and intervention, falls injuries not

	related to ambulance call-outs, road traffic accidents and falls from height
Report on all elements of population, intervention and outcome	Nature of the document: Commentary, book review, conference report, conference paper, conference abstracts
Literature reviews which are robust in design and systematically carried out	Research studies pre-May 1995
Grey literature	
Policy and guidelines	
Research studies/case studies conducted worldwide	
Research methodologies, i.e. qualitative, quantitative, systematic reviews	

Search Strategy

A systematic critical review of the literature was undertaken by searching 9 databases, with CINAHL and MEDLINE being the most fruitful databases used. For completeness of the search, the other 7 databases and websites listed below were utilised due to the interdisciplinary nature of falls management and interventions; AMED, Cochrane library, BNI, PubMed, CSP, NeHL and NICE. Appendices 4 and 5 provide evidence of the searches conducted.

The databases searched were chosen because of their focus on healthcare, medicine, multidisciplinary approaches, nursing, physiotherapy, occupational therapy, biomedical, and other allied health care professionals. This provided high-quality, independent evidence to inform the literature review.

The key words identified using the PICO model were searched for individually. The Boolean operation ‘or’ & ‘and’ were used for each search word to broaden and restrict the search, ensuring the number of articles found included all the

search terms in the literature (Brettle, 2004). Medical (MeSH) terms were also used in the Cochrane library to aid the searches.

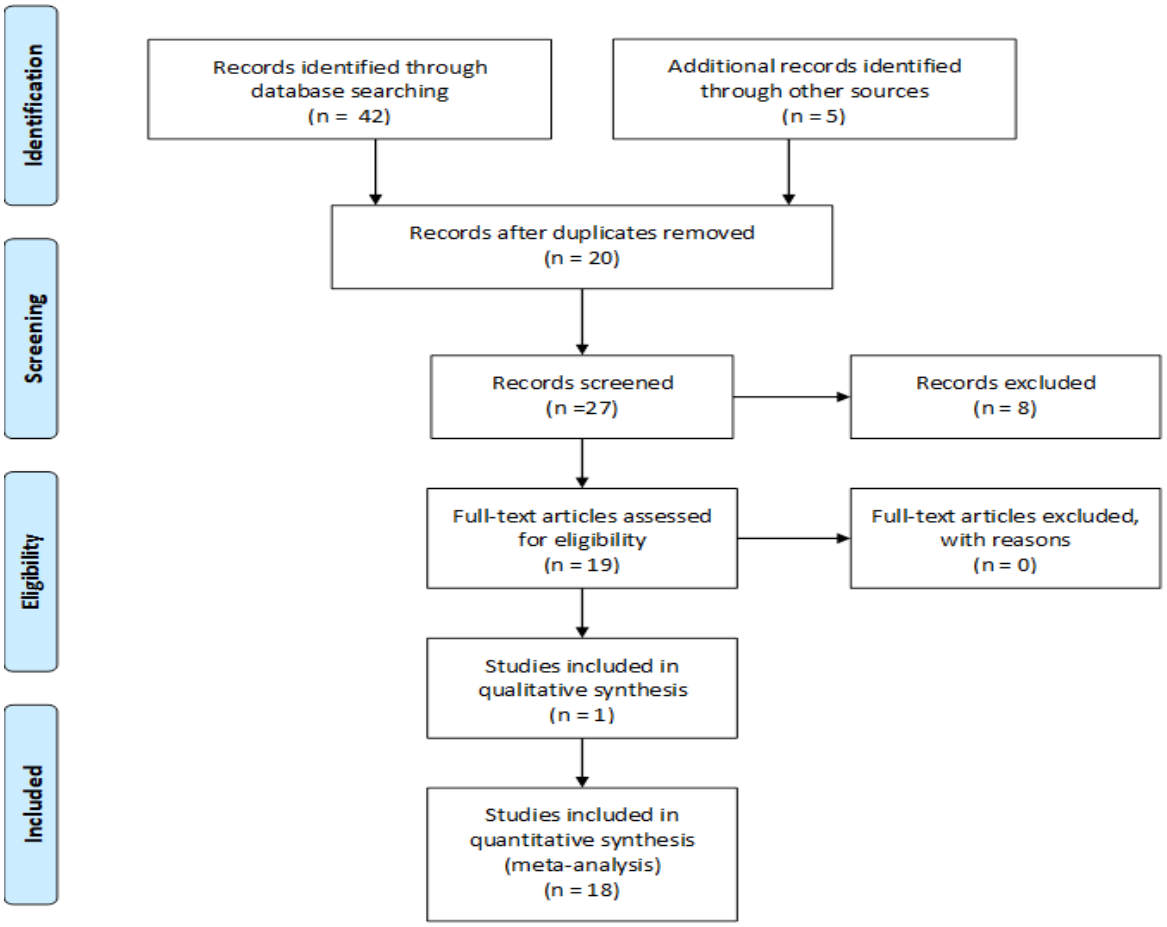
The grey literature was also searched because this can be utilised in the overall literature search which is relevant to government policies, clinical projects and academic studies which have not yet been peer reviewed. This ensured the literature search was comprehensive to include all areas that have focused on this topic.

The Critical Appraisal Skills Programme (CASP) tools (Public Health, 2014) were utilised to undertake a systematic appraisal of relevant studies, to ensure the quality of the evidence base was examined in a rigorous way. By utilising the CASP tool to review the literature, it ensures that the literature being examined is trustworthy and relevant in the published papers. An example of one utilised is in appendix 3. By using an established tool and approach to my literature searching and review, this ensured that I judged the quality of each study when interpreting its relevance and value. Using CASP tools contributed to my actions to optimize quality assurance throughout the thesis.

Search 1

A total of 72 papers were identified, following which all titles and abstracts were reviewed against the inclusion and exclusion criteria to determine the relevance to the subject area, and to remove duplicates. After completion of the first search, 47 articles were selected, of which 20 were duplicates, leaving 27 (see appendix 4). After further reading, 8 articles were excluded because they did not match the search terms as above, resulting in 19 articles to be reviewed. The studies originate from; UK (12), Australia (6) and USA (1). PRISMA diagrams are provided for the first searches (page 30) and the second searches (page 31), which maps out the number of records identified, included and excluded, and the reasons for exclusions (Moher, Liberati, Tetzlaff and Altman, 2009).

PRISMA diagram for 1st search



Search 2

A total of 54 papers were identified, following which all titles and abstracts were reviewed against the inclusion and exclusion criteria to determine the relevance to the subject area, and to remove duplicates. After completion of the second search and reviews, 26 articles were selected. After further reading, 15 articles were excluded because they did not match the search terms as above, resulting in 11 remaining of which 5 are duplicates from the first search (Appendix 4) (Moher et al., 2009). The studies originated from: UK (4), Iran (1) and Australia (1). Prisma diagram is included on page 31.

PRISMA Diagram for 2nd Search

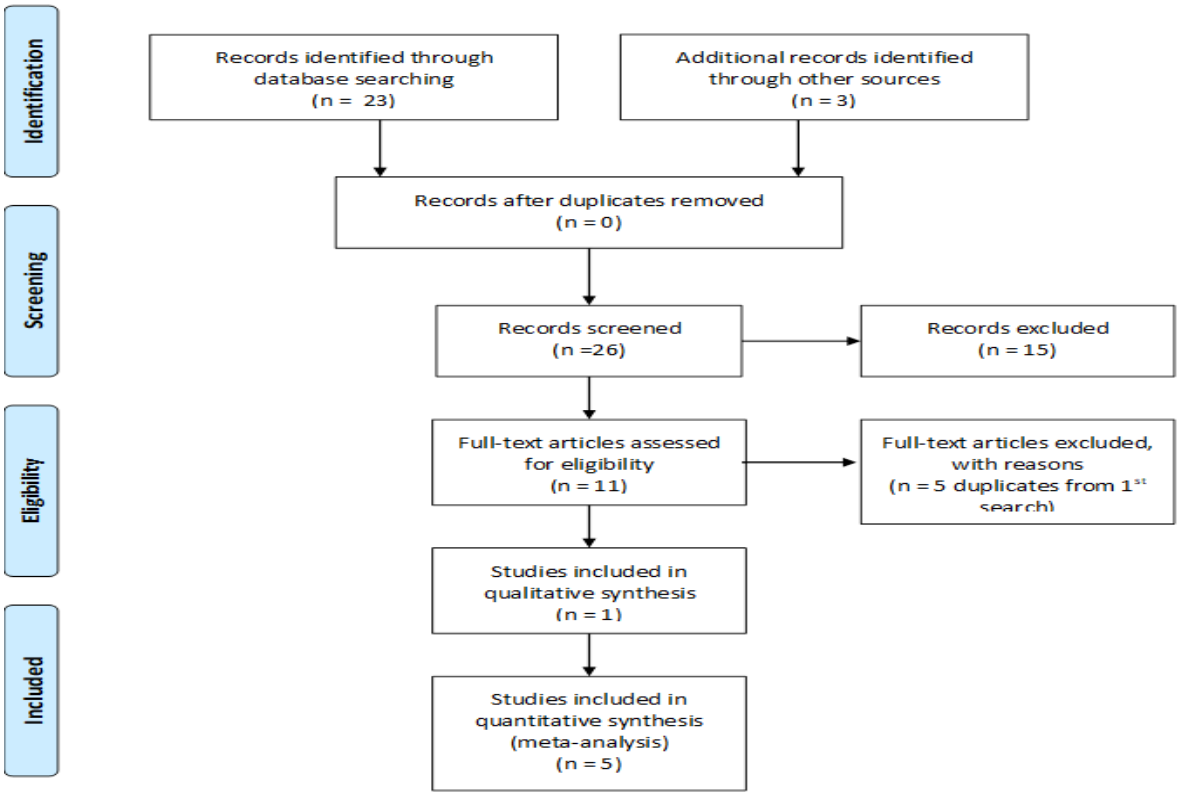


Table 6: Study Types

Study type	**1st search**	**2nd search**
Randomised Control Trials (RCT)	3	1
Cohort study	2	
Cluster randomised trials (CRT)	3	2
Mixed methods	1	1
Qualitative study	1	1
Systematic review	1	1
Retrospective analysis	1	
Pilot project	1	
National survey	1	
Prospective study	1	
Evaluative study	3	
Parallel observational study	1	

1st Search - Literature review on falls and ambulance call-outs at patient level outcomes

In this section, the literature evidence will be critically analysed relevant to the published literature focusing on falls services at patient level outcomes. These are the numbers of ambulance call-outs, non-conveyed patients and referrals into falls services, in order to gain a deeper understanding of the established evidence. Please see appendix 6 for synthesis chart.

Numbers of ambulance call-outs following a fall

Falls in older people are a common presentation to the ambulance service nationally and internationally. In 2012, a national survey of UK ambulance services was undertaken by Darnell, Mason, and Snooks (2012). It received 11 out of 13 responses from ambulance services, which is a good response, but a small sample for a survey. However, this is the total number of ambulance services nationally. A large variation in non-conveyed rates of 7-65% was found in the study, and it was found that approximately 8% of ambulance calls were received from older people who had fallen. This is in comparison with USA figures of 7.5% and Australia's figures of 5%. Of the call-outs, in the UK, 40% of older people were assessed and found not to need conveying on to hospital, in comparison to a rate of 24% in the Australian epidemiology study (Simpson, Bendall, Patterson, Tiedemann, Middleton and Close, 2013). Both studies called for the need for policy development to provide effective patient pathways (Darnell et al., 2012, Simpson et al., 2013). The studies provide an overview of the percentages of call-outs for ambulance due to falls which are similar despite them having different approaches to healthcare systems.

The earliest relevant study found on this topic was in the UK in 2006 which was a data analysis study of patients who had fallen and had contacted the ambulance service over a two-month period. The study had 2151 participants, of which 534 were aged over 65 years. The study found that 8% of calls in London were as a result of a fall and 40% of the people who were attended by the ambulance service were not conveyed on to hospitals (Snooks, Halter,

Close, Cheung, Moore & Roberts, 2006). Of the 40% of non-conveyed patients, 49% contacted a healthcare professional within two weeks and 47% were found to call the ambulance service at least once again within a one-week period because of a fall. The main concern of the study was that there was an increased risk of death of standard mortality rate of 5.4 and of hospital admissions 4.7 as result of falls.

The main strengths of Snooks et al.'s (2006) study was that the team had extensive access to data from GPs, hospitals, healthcare professionals and coroners' records, which enabled the study to fully understand patients journeys. The study was focusing on normal care, whereby patient would contact their GP if they felt they required further assessment or advice. However, in the study, the intervention was by a triage assessment by a community nurse who then actioned necessary onward referrals. The main weakness of this study was that it only focused on two months' data, which could be weakened by other outside influences such as winter weather or time of the year such as times of increased 'flu cases, which could both create bias in the outcomes.

Snooks et al.'s (2006) study also revealed that there were no clear protocols in place for non-conveyed patients and suggested the need for further exploration of the pathway and need for randomised controlled trials (RCT) in this area. The study identified that early signposting of patients' needs could have a positive outcome on their need of urgent care and that it could prevent further urgent call-outs of ambulance services. This study demonstrated and supported the need to have a clear falls pathway in place for the ambulance services within two years of the original Falls NICE guidance (2004) being published. The study's approach is now being utilised locally, in a community response service who practice in partnership with the ambulance service on the prevention of hospital admissions and early signposting and assessment of patients who have fallen.

A similar approach was undertaken by Logan et al. (2010) who undertook a randomised control trial (RCT) study of community falls prevention for people

who called an ambulance after a fall in the UK. The study took place over four Primary Care Trusts and included 240 older people living at home or in a care home, who were non-conveyed. The study found that there was a reduced falls rate and improved clinical outcomes in the high-risk patients who were not conveyed to hospital. The main strength of Logan at al.'s (2010) study is that it was undertaken over a 12-month period and by comparing referrals to falls services for multifactorial evidence-based assessment and interventions to standard medical and social care, it resulted in a 55% reduction in falls rates. It also drew attention to the issue of increased falls in care homes. However, the main weakness is that it focused on care homes, which could have affected the response rates, as care home patients would have had to rely on staff to report their falls. Also, the general focus on care homes could have had an unfair advantage on the study outcomes, because the staff would be reporting the falls to the study, which could have had unfair bias towards improved falls rates. In conclusion, this study found that referral of such patients could reduce the number of falls and it called for a multicentre study to establish generalisability (Logan et al., 2010).

A briefing evaluation undertaken by the NHS Confederation in 2012 provided an overview of the issue of an ageing population with falls call-outs for the ambulance service. It supported the work over 20 years of falls prevention in health systems, but it found there were gaps in patient journeys following falls and the lack of integration of falls and fracture service in health and social systems. It called for focused commissioning on falls and fracture services in the community in conjunction with social care providers. The briefing evaluation supported the studies already discussed, to date focusing on the patient pathways and illustrated a number of areas in practice demonstrating this approach.

In 2013, in Australia, a systematic review of non-conveyed patients' falls rates and outcomes was undertaken by Mikolaizak, Simpson, Tiedemann, Lord and Close (2013). The review included 12 studies; this is significant because it is the only systematic review undertaken on this topic internationally. The non-conveyed rate ranged from 11% to 56% and 49% of that figure had unplanned

contact with healthcare professionals within 28 days of the initial fall (Mikolaizak et al., 2013). The review found that there were variations in training levels of the attending paramedics which could influence the conveyancing decision-making. The review concluded that there was promising but limited evidence and that there was a need for an alternative care pathway. It also found that the patients who went on to receive individualised multifactorial intervention had significantly reduced subsequent falls and ambulance callouts (Mikolaizak et al., 2013). The main strength of this review is that it provides high level of evidence supporting referral to Falls Prevention Services for non-conveyed patients.

Economic cost of falls and ambulance call-outs

In the North of England, Newton et al.'s (2005) study found that the ambulance cost equated to 2 days of emergency ambulance crew time per month dealing entirely with falls in the community. The estimated cost to the ambulance service was suggested to be approximately £2000 to £3000 per fall and accounts for almost 10% of the cost of ambulance services in the UK. One main concern identified was that the ambulance service was used as the only response to falls, because in several call-outs, the patient only required lifting or assisting from the floor (Newton et al., 2005). It could be argued to be an inappropriate use of the ambulance service where such services as lifting and care teams in the community were in place, however, in 2005, there was little development in this type of service. Overall, the study provided evidence on the costs to ambulance services.

Sach, Logan, Coupland, Gladman, Sahota, Stoner-Hobbs, and Avery (2012), undertook an RCT in the UK which explored the economic effect of community falls prevention for people who called an ambulance following a fall. The trial was a prospective study over a 12-month period with an inclusion age of over 60 years. In the study, the control group received the usual social and medical services compared to the intervention group who received care from the specialist Falls Prevention Service. Multiple functional and objective scales were used, which were relevant to the area being studied. The study had a total of 157 participants, with 82 being in the intervention group and 75 in the control.

Over the 12 months the study was undertaken, there were 5.34 fewer falls in the intervention group and the confidence interval (CI) was 95% demonstrating the study's statistical significance. The study's main strengths are that it included the appropriate participants, outcome measures and demonstrated effectively the need for a focused approach to falls prevention and management. The study results supported the need for community Falls Prevention Services and concluded that they were cost-effective in the high-risk group of patients studied (Sach et al., 2012).

Admission avoidance and falls prevention

In the Newton et al. (2005) study, it was found that patients from care homes were more likely to be admitted to hospital. The reasons for more admissions for care home patients could be a result of the patients' underlying conditions, such as dementia or cognitive impairment, where the patients' Glasgow Coma Scale (GCS) can normally be under 15. In this case, if there was an unwitnessed fall, where a patient could have had a head injury, the paramedics assess the patient's GCS and if it is under 15, they would have to transfer the patient to A&E in line with their policies and procedures. Since then, there have been developments in this area locally, where the patient's GP can complete a care plan for the patients which includes their normal GCS level and details their underlying conditions, which has been successful in reducing the number of admissions to A&E, which can be traumatic to a confused patient (Newton et al., 2005).

Metcalfe (2006) undertook a pilot project in the UK to enhance care for patients who did not require hospital admission. This covered all conditions; however, the study found that 50% of the conditions were as a result of a fall. In this study, Paramedics would refer all non-conveyed patients to an experienced nurse for triage. As a result of the triage, there would be rapid access services arranged to follow the patients ensuring early signposting. The strengths of this study are the design of the study, in which all non-conveyed patients were clinically triaged to ensure timely and effective signposting. The main outcome of this pilot project called for a clear effective falls pathway, I would argue that

they had clear pathways within this study which needed rolling out locally and nationally, but this may not have taken place because it was a pilot study (Metcalf, 2006). However, this study needed to be undertaken as a RCT, to be able to further support the findings.

The evidence so far has provided the need to develop a clear falls pathway for the ambulance service of non-conveyed patients and provides numbers of the patients which needed to be focused upon. In practice, across NHS services, there are clear pathways in place for patients who have fallen, but the pathways are not widespread within all ambulance services.

In Australia, a cohort study by Simpson, Bendall, Toson, Tiedeman, Lord and Close (2013) focused on the high falls risk in the vulnerable adult population and predictors of non-conveyed older patients who had fallen. The prospective observational cohort study of non-consecutive emergency responses to older people aged 65 years or over, was undertaken between October 2010 and the end of June 2011. It analysed 1484 cases eligible of which 28.2% were non-conveyed. Two key aims of the study were to identify clinical and operational factors associated with patients who had fallen and called the ambulance service and who were non-conveyed, in order to develop a prediction tool for this group. The study found many factors that indicated frailty of the patient group, however, concerns were raised that there were variations in ambulance service approaches. The findings were that, those who experienced new pain and abnormal physiology were more likely to be transported to hospital care in comparison to those who had personal alarms and were also non-urgent ambulance call-outs (Simpson et al., 2013). The main strength of this study is that it identified and supported the need for a clear falls pathway for the ambulance service.

In Australia in 2013, Tiedemann, Mikolaizak, Sherringham, Segin, Lord and Close (2013) completed a cohort study which found similar issues such as identifying older patients as a vulnerable population, with high rates of chronic long-term conditions, which can increase falls risk (NICE, 2013). They were also at further risk of falls and injuries and would benefit from onward referral for

assessment and intervention (Tiedemann et al., 2013).The results from Tiedemann et al.'s (2013) study is in keeping with the findings that established the Falls NICE clinical guidance in 2004 (NICE, 2004) and reflect best practice such as referral to a specialist Falls Prevention Service, the reason is that patients can have a multifactorial multidisciplinary assessment undertaken and intervention completed as required. This was updated and published in the UK in 2013 (NICE, 2013).

In the same year in Australia, Mikolaizak, Simpson, Tiedermann, Lord, Caplan and Close (2013) completed a RCT; its main focus was on a protocol for patients who were not conveyed to hospital. The iPREFER study recorded the number of falls over a 12-month period for community-dwelling people over 65 years of age. It was a single blinded study that excluded care homes. Its main strength was that it concluded that there was little evidence of the effectiveness or feasibility of an alternative model of care to the present pathways in place that encourage direct referral to Falls Prevention Services by paramedic services (Mikolaizak et al., 2013).

Of the last three studies undertaken in 2013 in Australia, two are cohort studies and the last a RCT. All these studies support the NICE clinical guidance for falls prevention and management which was updated in the UK in the same year (2013). This poses the question, why are clear falls pathways still not in place across the ambulance service nationally.

A positive example of an effective falls pathway is from 2014, when NICE published a quality and productivity example, which was undertaken in East Midlands Ambulance Service (NICE, 2014). At the time, the service had a rate of 20% call-outs for falls which was approximately 90,000 per year. The area covered had a combined population of 4.8 million. The development of a Crisis Response Falls Team (CRFT) was trialled. The team had seven staff made up of paramedics and emergency care assistants trained in lifting techniques and falls diagnosis. The team utilised two bariatric ambulances and developed pathways to identify appropriate patients. The call-outs were organised by the ambulance service. They also had a social work team to assess patients in the

home after discharge and in A&E to speed up discharge. They could refer to a medical consultant, if required. In 2012, they had 1300 referrals of which 1000 avoided admission to hospital.

In the quality example (NICE, 2011), the cost of the CRFT was £778 for each patient admission costs of £1556. This produced a saving annual of £640,000. The conveyance rate to hospital for CRFT was 40% compared to 65% of the usual ambulance service. The findings claimed that by undertaking the intervention, this was likely to reduce recurrent fallers, but no statistical data was available. Evaluation of the service found one significant impact on the patients, was on the fear of falling. Patient feedback was positive, especially the social support which was provided. The study does not detail how long each intervention was and how long some patients had to wait. Also, a major concern was that the study did not detail the use of Occupational Therapists and Physiotherapists in view of the strong evidence from NICE guidance of their effectiveness in falls assessment and interventions (NICE, 2013).

In summary, the review of the literature has revealed the ongoing focus of research of the issue of ambulance call-outs as a result of falls in the community and its effect nationally and internationally. The key messages from the literature highlight the cost in money and time to the ambulance service of patients who have fallen and, in some cases, the inappropriate use of ambulance services instead of local lifting services (Darnell et al., 2012) and the need for clear integrated patient pathways in practice (NICE, 2014, Snooks et al., 2017).

The literature supported the need for policy and pathway development in the ambulance service and the need to identify patients who do not need conveying to hospital and for these patients to be referred on to Falls Prevention Services who would provide evidence-based assessment and interventions. The main need was for systematic direct referrals of all patients seen following a fall, from the ambulance service of non-conveyed patients (NICE, 2013, Snooks et al., 2017).

The search uncovered the areas such as numbers of ambulance call-outs as a result of falls, the economic cost of these and the falls pathways in place to focus on admission avoidance and falls prevention. However, the literature did not uncover the reason why only 42% of patients were referred locally following a fall and the reasons they were not referred.

By utilising a systematized approach for the literature review, this ensured that the topic area was fully explored. As detailed earlier in this thesis the literature review was completed and presented in two parts. The first search examining the literature for establishing Falls Prevention Services focusing on clinical practice at patient level. These studies focused on the number of ambulance call-outs following a fall, the economic cost of the ambulance service and the falls pathway in admission avoidance and falls prevention. The first search led to the development of further questions around clinicians' decision making, which required a second search to be undertaken to ensure the area being studied was extensively explored. The areas identified in the second search were preventative approaches adopted through ambulance crew decision making, non-conveyed reasons and non-referral to Falls Prevention Services.

2nd Search - Literature review decision-making

In the second part of the literature review, the issues around ambulance crew decision-making were explored as identified, to uncover the reasons why all patients were not referred to Falls Prevention Services as supported by the evidence in the first literature review.

Preventative approach

In 2003, Weiss et al. undertook a prospective screening study of elderly falls in the home in the USA. The study was to determine whether Emergency Medical Services (EMS) could be a valuable partner in injury prevention. The aims were to determine whether it was feasible to gather data prospectively, to assess if the data suggested the need for further interventions to help the elderly and to assess if the retrospective chart data was comparable to prospectively gathered

data. After training, Fire and EMS chiefs utilised a 29-question survey to collect data from people over 65 years. The study evaluated 70 prospective elderly falls cases and 74 retrospective charts over a period of 2 to 4 months. Prospective findings found 53% of patients had problems in their environment which was a falls risk.

The main strength of Weiss et al.'s (2003) study was that the data gathered supported the need for preventative work to be undertaken which could have a positive effect on reducing emergency calls. The main weakness of the study was that of the twenty-nine-point data survey: there were only four data points consistently collected. This could have been because of the extensive amount of questions that needed asking and could have been the most relevant questions to ask. This highlights the need to pilot surveys in practice (Weiss et al., 2003), however, the study strongly supports a preventative approach to falls management, which is essential in practice.

Crew decision-making

In the UK, Cooper, Barrett, Black, Evans, Real, Williams and Wright (2004) undertook a constructivist qualitative study, which took account of stakeholders' input and drew upon comparisons of different groups' construction of reality. The study aim was to examine the emerging role of the emergency care practitioner (ECP) in comparison with paramedic practice. Four practitioners completed reflective patient case studies and adapted the patient reports; these were then compared to a second case group of eleven paramedics. In addition to this, individual focus group interviews were performed with key stakeholders. In comparing the two roles, 301 paramedic incidents were compared with 170 ECP reports and the study found 50% of the ECP patients were conveyed compared to 64% of paramedics. The main strength of the study was that it found that the role of the ECP had a beneficial impact on the deployment of resources especially related to non-conveyance to acute services, and the training and education improved decision-making and developed confidence (Cooper et al., 2004).

In a different approach, Snooks et al. (2005) undertook a mixed method study of the practice of emergency ambulance staff in the UK focusing on the concern of patients with non-urgent needs. The aim of this study was to describe the emerging ambulance crews' views on how they make the decisions on whether to convey patients to hospital, the interventions that enable them to triage patients and the experience of using new protocols. Within the study, two focus groups were held to evaluate the 'treat and refer' protocols, one with staff at the ambulance service who were to implement the new service and the other was with staff in the neighbouring stations who continued the normal practice during the study. A third session was held for the intervention staff following three months training and experience of using the protocol.

In Snooks et al.'s (2005) mixed methods study, prior to the introduction of the protocols, staff reported that the decision-making concerning conveyance was based on their own experience, intuition, training, time of call during the shift and patients' preference. Following having had experience of using the 'treat or refer' protocol, staff reported they felt they needed more training than had been provided and some felt their practice and job satisfaction had improved. The main strength of this study was its focus on the crew and their decision-making. The findings of the study were that crew generally were positive about the intervention. However, the study did highlight the complexity of changing practice and service delivery. A main weakness of the study was that some participants felt inhibited by the presence of their colleagues and tended to adopt a jokey manner within the group sessions. In the study, the use of the protocol had no effect on non-conveyance rates, jobs were longer, and patient satisfaction levels were similar in each group (Snooks et al., 2005).

In 2011, the first and only qualitative study undertaken in the specific area was published by Halter, Vernon, Snooks, Porter, Close, Moore and Porsz (2011). This could have been as a result of the focus on quantitative studies taking priority to focus on the impact and cost to NHS services, following on from NICE guidance (NICE, 2004), which was supported by mainly quantitative studies. Set in the UK, Halter et al. (2011) used an interpretive phenomenological approach, which was designed to uncover the lived experience, or the essence

of the ambulance staff trained in the use of a clinical assessment tool, to aid conveying decision-making. In this study, 12 ambulance staff participated in semi-structured interviews. The results highlighted the complexity of decision-making in this area (Halter et al., 2011).

Four areas of decision-making were identified:

1. Pre-arrival, forming early opinions; initial contact
2. Assessing the need for immediate action
3. Continuing assessment
4. Conveyance decision-making with negotiation for referral with the patient.

The main strengths of Halter et al.'s (2011) study were that it highlights the need to support staff in this area with their decision-making and the need to focus on new pathways which can offer alternatives to emergency care admissions. The study focused on decision-making of the crew, who utilised a clinical assessment tool. However, there were low referral rates to local Falls Prevention Services, which could have been as a result of low documented use of the tool which included clear referral pathways (Halter et al., 2011). In this study, the focus was starting to look at decision-making, however, the introduction of a tool did not aid this. This could have been due a lack of ownership of the tool and whether it was introduced solely for this study, because introduction of new tools takes time and an investment of time from the team using it. Another weakness of the study was that it did not identify the number of patients who declined referral, which could have added some understanding to the outcome and the study could have added in the experiences from the patients' perspectives.

In the UK, Snooks et al.'s (2012) study consisted of a cluster randomised trial (CRT) with economic and qualitative components of a new protocol for emergency ambulance paramedics which enabled them to assess and refer patients following a fall to the appropriate community-based care. The protocol named 'SAFER 2', was analysed by randomly allocating 25 participating ambulance stations into intervention or control groups. The staff received

training in the clinical computerised protocol. The secondary outcomes included quality of life, fear of falling and patient satisfaction obtained through postal questionnaires at one and six months. Other outcomes assessed were of the rate of further emergency contacts for any falls or death. The study plan was also to interview 60 intervention patients and conduct focus groups with the NHS staff to explore their experience of assessment and referral. This study's main strengths are the use of CRT design and evaluation of qualitative outcomes, whilst its main weaknesses are that the study results are not published within the article and could have provided excellent data in this area (Snooks et al., 2012).

A study undertaken in the UK by Snooks, Anthony, Chatters, Cheung, Dale, Donohoe and Wilson (2014) was a CRT to evaluate the effectiveness, safety and cost effectiveness of a computerised clinical decision support tool for paramedics attending older people with falls. The tool was called 'Support and Assessment for Falls Emergency Referrals (SAFER 2). This was undertaken in 13 ambulance stations. There were 42 participants of 409 eligible paramedics who attended to 779 older people who reported a fall. The main outcome measures were that patients referred to a falls service reported satisfaction of the process. From a safety aspect, the data recorded any emergency contacts or deaths within one month and evaluated the cost effectiveness and quality of life (Snooks et al., 2014).

Snooks et al.'s (2014) study found that 17 intervention paramedics used the computer clinical decision-making tool on 54 (12.4%) of 436 participants. Of this they referred 42 (9.6%) participants to falls services, compared with 17 (5%) of 340 participants seen by 19 control paramedics. In summary, there were no significant differences between the groups, however, ambulance job cycle times were found to be longer at 8.9 minutes in the intervention patients and the net cost of implementing the tool was £208 per patient and £308 without (Snooks et al., 2014). The main strengths of the findings are that the intervention paramedics referred twice as many participants to Falls Prevention Services with no compromise in safety. The study had relatively low uptake from

paramedics and again found low percentage rates of referrals to falls services (Snooks et al., 2014).

In 2017, Snooks et al.'s results from the 2014 study were published. In Snooks et al., (2017) emergency calls were reduced at one and six months by 18.55% vs 21.8%. and the rate per patient day at six months was 0.013 vs 0.017. In the intervention, 80% of patients were referred to falls services compared to 1% in the control arm. The mean cost of intervention was £17.30 per patient. The study also undertook focus groups having 58 patients, 25 paramedics and 31 stakeholders. Paramedics were satisfied with the intervention and felt more confident to leave patients at home. Barriers to referrals included patients' social situation and their autonomy. Again, the issue of why patients were not referred was unclear, but this could have been refusal due to fear of requiring increased care or refusal because they felt the fall was not a problem. The study suggested the need for further research in understanding issues in implementation and the cost and benefits of interventions. The study provides support and evidence for referral to falls services by ambulance services.

A systematic review of clinical effectiveness and cost-effectiveness of new protocols for emergency ambulance paramedics to assess older people following falls with referral to community-based care when appropriate was undertaken. The study recruited paramedics from three ambulance stations in England and Wales. Participants were aged 65 years and over and were attended by paramedics following a fall. The intervention group used a clinical protocol with referral pathway, training and support to change practice utilised and the control group continued with normal care. The outcomes for primary findings were subsequent emergency contacts, death at one and six months. The secondary outcomes were the pathway of care, operational indicators, self-reported outcomes and cost of care. All assessing outcomes remained blind to group allocation. Overall, there were 3073 eligible patients and 105 paramedics from 14 stations. The results found no primary effect on death rates at one and six months with no adverse events reported demonstrating safe, effective interventions (Snooks, et al., 2017).

In the UK, Evans et al. (2014) undertook the only systematic review on this subject. The aim was to explore which extended paramedic skills can make an impact in emergency care and can be related to UK paramedic systems. The review found that paramedics have been trained and have skills beyond basic competencies. The review also aimed to gauge the effectiveness in these skills of patient care. The review took an international approach; a total of 8724 articles were identified and after further review and removal of duplications, 19 articles met the inclusion criteria. The main themes emerging were: assessment and investigation of health, development and sharing of information and knowledge, safeguard protecting individuals, education and learning and quality of the evidence and its meaning. The main weakness found in the review was regarding inadequate follow-ups undertaken by paramedics (Evans et al., 2014). The review also recommended reinstating an emergency services register to improve access to quality and quantity of emergency research and to develop a centralised database (Evans et al., 2014).

It could be argued that a meta-analysis of all the evaluations of decision-making tools could have the potential to improve the falls pathway provision. However, as the study outcomes found, the use of a tool in the aim to improve referral into Falls Prevention Services was not found to be successful. This still leaves the questions relating to this thesis of what the reasons were of patients not being referred to Falls Prevention Services in a systematic approach.

In Iran, Ebrahimian, Seyedin, Jamshidi-Orak and Masoumi (2014) undertook a qualitative study using a content analysis approach, exploring the factors that affect emergency medical staff (EMS) decision-making about transportation of patients to medical facilities, to gain a new insight and understanding of the phenomena. The study consisted of 18 EMS staff by means of conducting semi-structured interviews which were analysed in a thematic approach. The main emerging themes was the degree of perceived risk in staff and their patients. This theme was further categorised into patients' conditions and the context of the EMS mission. Patients' conditions were categorised from physical health status, social economic status and cultural background. The main strengths of Ebrahimian et al.'s (2014) study, was that it had clear interview questions and

the interviews lasted on average 36 minutes. Data saturation was completed at the 16th interview, however, two more interviews were undertaken to ensure completeness. The study concluded that differing degrees of importance are attributed to EMS staff decisions about patients' needs for transportation. The study called for well-educated, experienced EMS staff to be able to undertake the decision-making process (Ebrahimian et al., 2014).

In the same year O'Hara et al. (2014) undertook a qualitative study of decision-making and safety in the ambulance service transitions in the UK. The aim of the study was to qualitatively examine potential system-wide influences on decision making in the ambulance service setting and to identify useful areas for future research and intervention. The study took a multi-sited, multi-method approach across three ambulance service Trusts. In phase 1, 16 interviews were undertaken to contextualise the study and provide decision points for phase 2. In phase 2, university and ambulance service researchers observed paramedics on 34 shifts, and 10 paramedics completed digital diaries which reported challenges to decision-making or to patient safety. In addition to this, 6 focus groups were held, 3 with staff and 3 with service users. The study synthesised the findings revealing seven overarching systems, implementation of decision-making and potential risk factors and issues such as education and training for appropriate pathways for referral and safety culture were also identified (O'Hara et al., 2014).

In practice, disproportionate risk aversions to decision-making has been observed, where patients have been referred into the falls service, but still conveyed to hospital and admitted. However, no referrals were made for some patients, despite patients having seen numerous healthcare professionals following falls. The main strength of this study was that service users and crew experiences were collected. In the study, service users' concerns included communication and involvement in the decision-making process and balancing demand. The group discussion highlighted the lack of awareness by the public how to use emergency services. The study highlighted the need for extensive observation and the need for interviewing all stakeholders relevant to the pathway (O'Hara et al., 2014).

In practice, a falls pathway was developed and implemented by the ambulance crew. However, there remains a lack of understanding about the decision-making process being utilised and the reasons why more patients are not referred to the local Falls Prevention Service.

Non-conveyance reasons

The studies explored so far, have focused on decision-making protocols and explored crew experiences and have not found the reasons for non-conveyance. In 2006, Shaw, Dyas, Middlemas, Spaight, Briggs, Christopher and Siriwardena (2006), undertook a retrospective qualitative study in the UK asking the question: 'Are they really refusing to travel?' The study aimed to explore reasons behind refusal of patients to travel after calling an emergency ambulance. The research method was a retrospective analysis of 397 written records made by the ambulance crews during October 2004. As a result, 12 main themes emerged for refusal to travel, which included non-injury or minor injury and falls with recovery after treatment on the scene. Other themes included alternative supervision and follow-up treatments arranged, however, the main finding was that only 8% of the sample was truly refusing to travel against advice.

The main strength of the study was that the findings for reasons why people refused to travel is not always the patient's decision. One of the main weaknesses of this study is that it did not include interviews with the ambulance crew and patients to further explore the issues identified and ask about falls preventative approaches (Shaw et al., 2006). This would have been an opportunity to link the outcomes to the crews' decision-making and experience and could have potentially highlighted the issue in practice.

Reasons for non-referral to Falls Prevention Services

A parallel observational study was undertaken by Comans et al. (2011) in Australia, which focused on the issues of referral on to community-based Falls Prevention Services. In this study, the ambulance service crew were provided

with educational packages, referral pathways and regular meetings with falls prevention staff to encourage more referrals. The study had a potential eligible patient number of 638 and the data was collected from 2008-2009. The results were that only 17 (2.6%) of these patients seen, actually translated into referrals (Comans et al., 2011). The study was supported by all levels of management as well as service providers, however there were still poor referral rates. As a result of these, the main barriers were further explored, and extra one-to-one support and education was provided, which did increase referrals, but it was not sustained.

The main reason for non-referral in Comans et al.'s (2011) study was that the patient was not injured, this accounted for 72% of the patients, with only 26% of patients declining referral. This could demonstrate a lack of understanding of the Falls Prevention Services, however such services were included as part of the training provided. It could also demonstrate a lack of a proactive approach or understanding in healthcare at that time. I would argue that Australia has focused on falls prevention over the last 15 years with a similar approach that the UK takes to prevent hospital admissions. This has been confirmed by leading clinicians and academics in the field.

In summary, the single qualitative study (Halter et al., 2011) and the CRT and systematic review by Snook et al. (2017) explored the decision-making on the part of the ambulance service both of which mentioned patients but did not explore this further. The literature has not uncovered the reasons for low referral rates of non-conveyed patients to Falls Prevention Services. This could be as a result of the decision-making of the ambulance service crews or possibly patients who decline referral; however, there is no evidence to support this in the literature.

The second search has further supported and identified the importance of decision-making by the ambulance crew and its effect on conveyancing patients to hospital. Shaw et al.'s (2006) study also supports the need to focus on patients and the decision-making process, as the study highlighted that not all refusals are made by the patient.

Chapter summary

The literature review uncovered areas such as numbers of ambulance call-outs as a result of falls, the economic cost of these and the falls pathways in place to focus on admission avoidance and falls prevention. However, the initial literature did not uncover the reason why only 42% of patients were referred locally following a fall and the reasons they were not referred. By exploring further, the second search identified the importance of decision-making by the ambulance crew and its effect on conveyancing patients to hospital.

The review revealed substantial gaps in the existing knowledge of experiences in this area which needs to be explored from the perspective of patients, carers and ambulance crew. The literature review confirmed an absence of knowledge around why not all patients are referred into the Falls Prevention Services and justifies the need for the research study. Similar research methods were used in both searches and there has been a mixed approach in qualitative and quantitative approaches used. Having completed the literature reviews and as a result of the findings, the literature indicates that a qualitative inquiry would be valuable.

Study aims

The study aim is:

To explore the experiences of patients following a fall in domestic settings from the perspective of patients, carers and ambulance crew.

In order to achieve this aim, the following research questions have been developed.

Research questions:

1. What are the experiences of falls patients, carers and ambulance crew of falls in a domestic setting?
2. What factors affect follow-on care received by patients following a fall in a domestic setting?
3. What factors affect whether falls patients in domestic settings are referred to a Falls Prevention Service?
4. How can ambulance crews' management of falls patients in domestic settings be improved?

This chapter has detailed the literature search strategy and presented the literature in the areas of falls prevention and use of ambulance services following falls, and critically appraised the literature in a rigorous way. The literature was critically examined and included studies undertaken in the field of ambulance callout because of falls, internationally from 1995-2018. The next chapter will explore and outline the theoretical assumptions underpinning the study including the epistemological and ontological assumptions and the methodology selected, with justification for choices made.

Chapter 3 Methodology

In this chapter, the theoretical underpinnings of the study are considered, and a rationale given for the methodology chosen. It is essential to recognise my own position within the current research, to help me acknowledge my own interpretation from a personal and cultural experience. This will be explored in the Discussion chapter 8, under Reflexivity (page 154). The main aim of reflexivity is, to make sense of or interpret the meanings of others about the world, to explore the experiences of the participants within social constructs whilst acknowledging my own interpretation (Creswell, 2007, Lee, 2008).

A researcher needs to comprehend the epistemology and ontology aspects, before determining what their position is, which will embrace the nature of enquiry, to a gain deep understanding of the phenomena being studied. The ontology is the nature of reality and 'what is' its characteristics, because when qualitative research is conducted, multiple ideas of reality are embraced. Ontology sits alongside epistemology informing theoretical perspectives. Evidence of this can be demonstrated by including multiple verbatim quotes used by the different participants within the study. It is essential to accept multiple realities by focusing on understanding people and how they know what they know in order to make sense of their experiences. By getting as close as possible to the participants, the researcher can gain a clearer understanding of their reality, enabling the researcher to know what participants know from a first-hand approach (Denzin & Lincoln, 2005, Creswell, 2007, Crotty, 2015).

The theoretical perspectives which explore a set of beliefs, that guide the researcher's actions can be multiple and will continually evolve over time (Guba, 1990, Creswell, 2007). To develop the study design, various philosophical assumptions and perspectives were examined and are detailed in Table 7.

Table 7: Philosophical assumptions & perspectives

Type	Glossary	Reference
Axiological	Focuses on the value of research, in the value-laden nature of the study and actively reports the values and biases from the field. Also, explained through positioning oneself in the study, could be used in an interpretive biography where the researcher represents their interpretation of the study.	Creswell, 2007, Denzin, 1989
Methodological	Informs the methods which need to be congruent to gain data.	Creswell, 2007
Rhetorical	The writing needs to be personal and literary. This principle is important in narrative research, in which it focuses on the language and has been used in discourse and case studies which adds credibility and transferability of studies.	Denzin & Lincoln, 2005
Objectivists	Hold that meaning, and therefore meaningful reality can exist for many, and that meaning can be discovered which has been lying in wait. This idea is congruent with ethnographic approaches from a view of what it is to know with the aim of understanding values of the participants involved.	Crotty, 2015
Constructivism	Rejects the view of human knowledge stating, that there is no objective truth waiting to be discovered. Meaning is constructed	Burr, 2003

	out of something.	
Subjectivism	This has been used in structuralism and post-modernist forms and is used for people to describe what they claim to be talking about. Meaning is considered to be created out of nothing.	Crotty, 2015
Post-positivism	Takes a scientific approach to research that is logically focused on empirical data collection and which is mainly used in quantitative research. It has structural laws and theories which do not fit in marginalised groups.	Hammersley & Atkins, 2005, Atkinson et al., 2009
Advocacy or Participatory	Worldviews have been used as an alternative to post-positivist views, these have been used in ethnographic and narrative research studies	Denzin & Lincoln, 2005, Creswell, 2007
Naturalism	To explore the 'natural' state undisturbed, in which the participants describe what happened, how people were involved and how they talk about their own and others' actions. This approach has been criticised as not considering the politics of the phenomena being studied.	Hammersley & Atkins, 2005
Pragmatism	Has many forms which focus on the research actions and consequences of inquiry, rather than specific conditions such as those used in post-positivism. This approach aims	Patton, 1999, Creswell, 2007

	to explore what works and what solutions can be found. However, this approach is not committed to one system of philosophical reality but more of a method.	
Post-modernists	Are sometimes called 'armchair radicals', as they focus their critiques on changing ways of thinking and calling for action. Knowledge claims must be set within the condition of the world today, and in multiple perspectives of class, race and gender. This can work in interpretive biography and perspectives on grounded theory were turning points in this approach, where people found themselves in transitional periods.	Denzin & Lincoln, 2005, Clark, 2005
Social Constructivism	This can provide a lens to societal issues and influence issues that can marginalise or under-represent sections of the population. The aim is to rely on as many views as possible, focusing on cultural norms and views formed through interactions, so that meanings are varied and multiple and where researchers can look for complexity of views, rather than narrow meanings.	Mertens, 1998, Burr, 2003, Creswell, 2007, Goodson & Vassar, 2011
Interpretative frameworks	Uses social science theory which aims to provide perspectives on qualitative studies focusing on	Denzin & Lincoln, 2005

	under-represented or marginalised groups within society. It also aims to understand specific topics or issues. As a result, researchers need to be sensitive to the power imbalance and the importance of subjectivity and awareness of all participants within the study. Interpretivist frameworks are in contradistinction to positivism and were conceived in a reaction to the effort to develop a natural science of society.	
Symbolic Interactionism	Seeks to uncover meaning and perceptions of the participants' views and understanding against the backdrop of a world view or culture. It aims to derive meaning, that arises out of social interaction in which the meanings are interpreted.	Crotty, 2015

Having extensively explored theoretical assumptions and perspectives, the approaches selected for the study were interpretive, symbolic interactionism and social constructivism in the natural setting. These perspectives provided the most appropriate approach for achieving the study aim, which sought to better understand a little understood phenomenon around the experiences of patients following a fall in domestic settings from the perspective of patients, carers and ambulance crew. (Crotty, 1998, Mertens, 1998, Burr, 1998, Hammersley & Atkins, 2005, Creswell, 2007, Gerrish & Lacey 2010, Saks & Allsop 2013).

Symbolic interactionism seeks to uncover meaning and perceptions of the participants' views and understanding against the backdrop of a world view or culture. It aims to derive meaning that arises out of social interaction in which the meanings are interpreted. By using this approach, the research questions

would be answered by the participants, such as on their experiences following a fall in a domestic setting and their opinion on the pathway in place.

Within ethnographic inquiry, the spirit of symbolic interactionism seeks to uncover meaning and perspectives of the participants involved in the study. This perspective also relates to language, issues of inter-subjectivity and communication aiming to put ourselves in place of others (Crotty, 2015).

An Interpretive, social constructivism approach provides perspective through focusing on groups within society, providing a lens to societal issues and influences issues including those from marginalised or under represented sections of the population. This approach relies on seeking as many views as possible, focusing on cultural norms and views formed through interaction. Therefore, meanings can be varied, multiple and provide researchers with opportunities to look for complexity of views rather than narrow meanings. Taking this approach and through using open-ended questions, the researcher listens carefully to what the participant is saying or doing from within the participant's own setting (Mertens, 1998, Burr, 2003, Denzin & Lincoln, 2005, Creswell, 2007, Goodson & Vassar, 2011).

By utilising and combining the approaches above and by exploring the 'natural' state undisturbed, the participants can describe what happened and how people were involved. They can also talk about their own and others' actions. This ensures that the participants' voices are heard and are not affected by the unfamiliar surroundings in which they are observed and interviewed (Hammersley & Atkins, 2005).

To be able to fulfil the aims of the study and answer the research questions, a range of research designs and approaches were reviewed and considered, and these included: narrative studies, case studies, grounded theory, ethnography and phenomenology. As a result of the review, ethnography has been identified as the most appropriate methodology to take, as it aims to explore the broader picture, traditions and culture of the participants (Atkinson, 2007, Creswell, 2007, Saks & Allsop, 2013). Ethnography also acknowledges, that the

researcher prejudges in terms of their interpretation and assumptions of the reasons and influences that affect how people behave. However, this prejudgement can be of value as it is concerned with the understanding of the data collected. In view of this, it is essential to explore and embrace reflexivity as a researcher and to rely on common sense because all social research is founded on a new capacity to understand.

Ethnography can be small and unstructured and is an effective way to gain an in-depth understanding of participants' experiences, as it is concerned with the complex, messy and multiple realities (Hammersley & Atkins, 2005, Deacon, Warne & McAndrew's, 2006, Creswell, 2007, Atkinson et al., 2009). Ethnography's main aims are, to gather from participants the types of information and varied data required to address the study aims and that this information should be collected in the research site which is where participants live or work (Hammersley & Atkinson, 2007, Creswell, 2007). A key activity of the researcher is to gain a thick and rich description of the culture and subculture being studied. However, one concern is the risk of the researcher going 'native', losing their ability as a researcher, to be objective in describing their own stance and this is again where reflexivity would need to be employed (Hammersley & Atkinson 1995, Fetterman, 1998, Pellatt, 2003, Lee, 2007).

One difficulty with ethnography, is that culture is not a homogeneous value system, but it is influenced by social location and assumptions about the researcher's view, which can affect their understanding (Gerrish & Lacey, 2010). The main limitations of ethnography are, that the process can be difficult to generalise and can be more expensive and time-consuming than other qualitative approaches. However, an ethnographic approach lends itself well to the research aim of this study, which considers the little understood phenomena of patients' experiences that are not referred into the falls service and ambulance crews' opinions of the falls pathway (Hammersley & Atkinson, 2007, Atkinson et al., 2009, Goodson & Vassar, 2011).

Ethnography from an anthropological background and critical ethnography were considered. Anthropological ethnography seeks to present the description

themes and interpretation within a culture or subculture. It looks at themes, patterns of value, behaviours and beliefs that are explored through shared patterns. This is derived from observation in fieldwork and relative immersion into the natural setting of the topic being explored (Wolcott, 1999, Creswell, 2007, Hammersley & Atkinson, 2007, Goodson & Vassar, 2011).

Critical ethnography takes an advocacy perspective which is orientated to empower the participant, describing the cultural groups in order to explore the understanding of the beliefs, the language and the behaviour, thus taking a holistic perspective. The aim of the research is not just merely to generate knowledge, which is seen as a gold standard of ethnography, but to explore, change and implement professional practice as a result of the findings of the research (Savage, 2000, Hammersley & Atkinson, 2007). Critical researchers are critically minded, seeking to empower the participants to change society. The aim of critical ethnographic enquiry is, to connect the meaning of the situation being studied, giving legitimate dialogue to the participants and to make effective changes (Thomas, 1993, Creswell, 2007).

There are many forms of ethnography, which include feminist studies, novels, video, electronic media and life history. The two popular forms of ethnography are realistic and critical; the realist approach tends to be in the third person, reflecting a stance taken by the researcher. This tends to take a dispassionate voice of the participants' reports on observations that have been heard, reporting the facts (Creswell, 2007, Atkinson et al., 2009). The critical approach on the other hand, provides scope to interpret the findings and incorporates the researchers critical analysis of the observations, interview data and field notes. This is congruent with my identified epistemological position and will inform my research and is the approach that I will take (Loftland, 2006, Atkinson et al., 2015).

Within ethnographic studies, an issue known as a 'foreshadowed problem' can be identified which is associated with the phenomena being studied. In my study, this is minimised through me as researcher taking on an open-minded approach when answering the research questions (Atkinson, 2015).

Burr (2003) describes data collection as a relationship with the participant. This is as a result of the privileged power position a researcher can have, because data collection is a two-way process. By gaining the knowledge from participants from the study, the data collected can inform social practices and can increase power providing a deeper understanding of the phenomena in the study findings. The three main elements of an ethnography are, field notes, participant observations and interviews and each are discussed below.

Field notes

In ethnographic studies, field notes are essential. Van Maanen (1988) argues that everything is data and that the researcher is a tool in ethnographic data collection, and that their experience is integral to the study (Barton, 2008). The data collection methods include field notes taken within this study is from the participant observation of the ambulance falls pathway. They also include participant observation during interviews that provide additional data, that was not collected by transcription of the interview, such as behaviour and artefacts (Wolcott, 1987, Creswell, 2007, Hammersley & Atkinson, 2007).

Field notes are the cornerstone of ethnographical study, because they produce a translation of what was seen and heard in a textual form. They are always selective which is why it is essential to note any possible timely observations as they are an active reconstruction of the observations taken. To gain understanding of tacit assumptions that the cultural social order provides, the researcher must pay close attention to actual spoken words during the observation. The process of taking field notes requires details of the process of textual products and the reproduction of this. Taking a duality approach means, that the researcher is observing what happens in the interactions and is documenting them (Loftland et al., 2006).

Emic data obtained from ethnographic studies represents the researcher's interpretation of the participants' perspectives. For my study, this interpretation is made through spending time at the participants' site of play or work and is used to better understand the patterns of cultural groups. The data collected

also includes etic data whereby the researcher used field notes to record, for example local language, concepts and shared beliefs observed by the participants (Schwandt, 2001, Creswell, 2007).

Following on from collecting field notes, the researcher needs to correlate and transcribe the notes and to analyse their meaning in context. The ethnographer aims to surrender themselves into the area of practice they are observing. However, this cannot be merely by the collection of data but, also by reflexivity which is a significant feature of social research in participant observation and fieldwork (Hammersley & Atkinson, 2005, Lee, 2009, Atkinson, 2015). This is further explored in the discussion on reflexivity in Chapter 8, on page 154.

An essential part of participant observation is to make notes so that the ethnographer can document the findings. Fieldwork can be stressful for the researcher due to them being in a potentially unfamiliar environment. This can be due to the large amount of data that needs to be collected in an appropriate way. Contextual notes and observations are also essential in the collection of data.

The researcher cannot take continuous notes whilst observing, as this would be off-putting and could make participants feel self-conscious and affect how they behave (McCambridge, Witton & Elbourne, 2014). Instead, notes can be completed at appropriate times such as toilet breaks and outside the time of observing participants. This could be done by taking notes or dictating thoughts into a recorder. Another challenge is that there can be other people within the setting who are not being observed, but who can have an influence on the situation, which can have the potential for data being collected from non-consenting participants. If this occurs in the study, the researcher would need to use their reflexivity and judgement and add this to their field notes for consideration when analysing the data (Lee, 2009).

Ethnographic participant observation

In ethnographic participant observation, is the vital components that the researcher is expected to observe with all participants from within the environment are: interactions, behaviours and non-verbal communication. Through shadowing participants and taking a subjective view, the researcher interacts with people, gaining information around their experiences but in a natural way. It is essential not to lose sight of those principles used in everyday social life which can be relatively predictable and stable. This is because social interaction and organisation is at the heart of ethnography (Atkinson, 2015). Furthermore, observations can enhance interviews by developing a complete picture blending participants' perspective with independent observation.

Within the ethnographic study, it is essential to include participant observation, as this enables the researcher to grasp several basic issues in everyday social life through exploring people's routines. For my study, the aim of participant observation is to shadow participants as they move over time in those different contexts that form part of their life or work. However, it is essential not to mistake place for the context (Hammersley & Atkinson, 2005, Loftland et al., 2006). The study seeks to gain information of participants' experiences while observing from a subjective point of view. It is essential not to lose sight of principles used in everyday social life which can be relatively predictable and stable as social action and organisation is at the heart of ethnography (Atkinson, 2015).

By observing people's actions which account for every day, unstructured contexts, the categories used for interpretation are not built into data but generated out of the data collected. From the participants' observations, emergent categories and themes can develop which can be used as analytical concepts. Ethnographic studies observe actions and make accounts of participants' experiences within normal contexts within the natural field which are not created by the researcher. This enables gathering of a range of experiences in an unstructured way. This is usually undertaken on a small scale, to facilitate in-depth study to enable the researcher to interpret and

analyse the findings of the consequences of human interaction (Hammersley & Atkinson, 2005).

The two types of observation are overt and covert. Overt observation is where the researcher has obtained informed consent from the participants by explaining their role, making explicit what they aim to observe and why and how the data will be used. In gaining informed consent from the participants, the researcher clearly explains that from the observations made contextual information is collected in the form of field notes and that this information will be used as part of the analysis to gain in-depth understanding. Although being overt as a researcher is essential, it can impede how participants act or behave whilst being observed. This in turn can make collection of data more time consuming and difficult (Creswell, 2007, Hammersley & Atkinson, 2007, Atkinson et al., 2009).

Covert observation is undertaken without consent or knowledge of the participants being observed and can be argued to be unethical. However, it has been used in certain studies where it has been essential to enable the researcher, to explore a topic which minimises participants behaving in a way that they feel is appropriate for the study instead of acting naturally (Hammersley & Atkinson, 2005, Creswell, 2007, Atkinson, 2015).

Having explored and considered the two methods for the study, I decided that for the purpose of this study overt observation will be used. This is because it was considered ethically appropriate as the researcher is known locally to participants as the falls lead within the community and to a number of ambulance crew and patients seen in clinical practice. I introduced myself as the researcher for this study. By observing the participants, it was recognised that it would enable a comprehensive picture to develop of the crew and patients' experience and that this observation would enhance the interviews that would take place (Spradley, 1980, Creswell, 2007, Hammersley & Atkinson, 2007). This overt approach mirrored the findings from the literature review reported in chapter 2, whereby all the reported qualitative studies that were

situated in the healthcare system applied overt participant observations (Snooks, et al., 2005, Halter et al., 2011).

Participant observation is a cyclical process which will inform the interview questions (Hammersley & Atkinson, 2005). In participant observation, the research requires a period to settle into the environment being observed. This is to gain an understanding about the field and phenomenon under investigation and the participants in it and to understand other people in the field who are not part of the research study. In view of participant observation, it requires labour-intensive work by the researcher whilst waiting for the phenomena to occur, in this case waiting for the ambulance crew to be called out to a person who had fallen.

Another issue in ethnographic participant observation, is the need for ongoing consent because the participants can forget why they are being observed in that place or environment. However, this can also be positive or negative by collecting data from the participants in their natural environment, they may be more relaxed and open to share their experiences (Hammersley & Atkinson, 2005, Atkinson, 2015).

Ethnographers observe participants over a period of time, watching what happens, listening to what is said, and they may ask informal questions to clarify understanding. The data or artefacts collected can then be documented with the aim to throw new light on the emerging forms of enquiry. The language, patterns of communications made, posture and body language, and observations can display multiple meanings from everyday events. The conversations undertaken can be sensory and interactive and these findings can be generalised. However, it is important not to take every observation literally and to pay attention to multiple actions spoken and unspoken using analytical attention. For example, a person observed with arms folded can mean a person is tired or aggressive or even very relaxed and is open to misinterpretation. This interpretation is from literature based on Western values, hence, to understand the context, sufficient time in the field is important (Hammersley & Atkinson, 2005, Atkinson, 2015).

Interviews

In this section, interview types are explored and considered, making explicit the types applied to my study.

Ethnographic interviews that take place with key informants from parts of the setting being studied, were developed by cultural anthropologists and can be unstructured, informal and in-depth. They can be spontaneous informal conversations that occur whilst undertaking other activities to formally arranged meetings within private settings. The aim of the interview is to go beyond the provision of description of experience especially following a period of observation.

One intention is to establish a relationship with the interviewee, with good rapport and genuine exchange of views. Openness is essential to explore purposeful meaning of the participants' experiences (Hammersley & Atkinson, 2005). The researcher aims to empower interviewees by understanding their experiences. As the researcher, it is essential to listen well, respectfully and to develop engagement, whilst being self-aware of their role within the area being studied (Hammersley & Atkinson, 2005, Loftland et al., 2006, Creswell, 2007).

Within interviews, the researcher aims to empower interviewees by understanding their experiences. As the researcher, it is essential to listen, to be respectful and engaged, whilst at the same time being self-aware. It is also essential to use the researcher's reflexivity to recognise new discoveries and understandings (Hammersley & Atkinson, 2005, Loftland et al., 2006, Creswell, 2007, Lee, 2009).

In planning a study using interviews, it is essential that the participants being interviewed are made to feel reassured that confidentiality is maintained, and they feel comfortable in discussing their experiences (Creswell, 2007). It is important in terms of location and environment to be able to gain the most effective interview and data collection. By undertaking interviews, experiences of the participants can be analysed and used to understand language being

utilised in the self-presentation of the social self being studied. Interviews can add meaning and understanding to the participants' observed action and can lead to seeing things differently.

Where body language is observed during an interview, this requires careful interpretation. The language, patterns of communications made, posture and body language, and observations can display multiple meanings from everyday events. The conversations undertaken can be sensory and interactive and these findings can be generalised. It can enable the researcher to observe how the participant reacts emotionally or physically when discussing their experiences, that are not captured by recording their voice alone. However, it is important not to take every observation literally and to pay attention to multiple actions spoken and unspoken using analytical attention (Atkinson, 2015).

Interviews can be broken down into different types, for example, telephone, focus group and one-to-one. Telephone interviews can be the best source of information for the researcher who does not have direct access to individuals, and it is a quick, cheap way of collecting data. This type of interview is useful when participants live at a distance through saving on travel costs. However, for an ethnographic study, it is essential to observe the participants non-verbal communication during the interview as this adds context and meaning to their voices. In view of this, telephone interviews were rejected for this study (Hammersley & Atkinson, 2005).

Focus group interviews can be used when the interaction between the interviewees can add to the information being shared, especially in groups where the participants are similar or live or work in a similar area. Focus groups can also be helpful when time is limited in some areas of research and can gain more information from the participants where they may be hesitant to share in one-to-one interviews. It is important to acknowledge that in focus groups there can be people who tend to dominate the conversation and others who do not feel they have the experience to interact in the group, possibly because of interpersonal and professional standpoints. In view of this, facilitation skills are key to manage interpersonal dynamics and get the best out of all participants to

gain in-depth and varied opinions (Hammersley & Atkinson, 2005, Creswell, 2007).

In one-to-one interviewing, researchers often aim to recruit individuals who are not hesitant in speaking and sharing their experiences. There can be issues with recruiting participants who are shy and reluctant to share experiences, and this can produce issues resulting in inadequate data collection. However, it is essential to interview a range of participants to gain an in-depth variety of experiences. One-to-one interviews can provide a safe environment for participants to explore and discuss their experiences without judgements or professional pressures affecting the interview (Hammersley & Atkinson, 2005, Creswell, 2007). One to one interviews will be used in my study and will be discussed further in the next chapter.

Interviews for my study need to be semi-structured, undertaken using open-ended questions and audio taped with consent, in order to ensure transcription is accurate and verbatim. This enables the researcher to fully concentrate on the interview itself and to be able to ascertain thick descriptions. If a participant refuses to be recorded, it can be difficult to take notes to fully describe and transcribe their experiences. However, transcription will only be done with written consent (Sampson, 2004, Hammersley & Atkinson, 2005, Atkinson, 2009).

Chapter summary

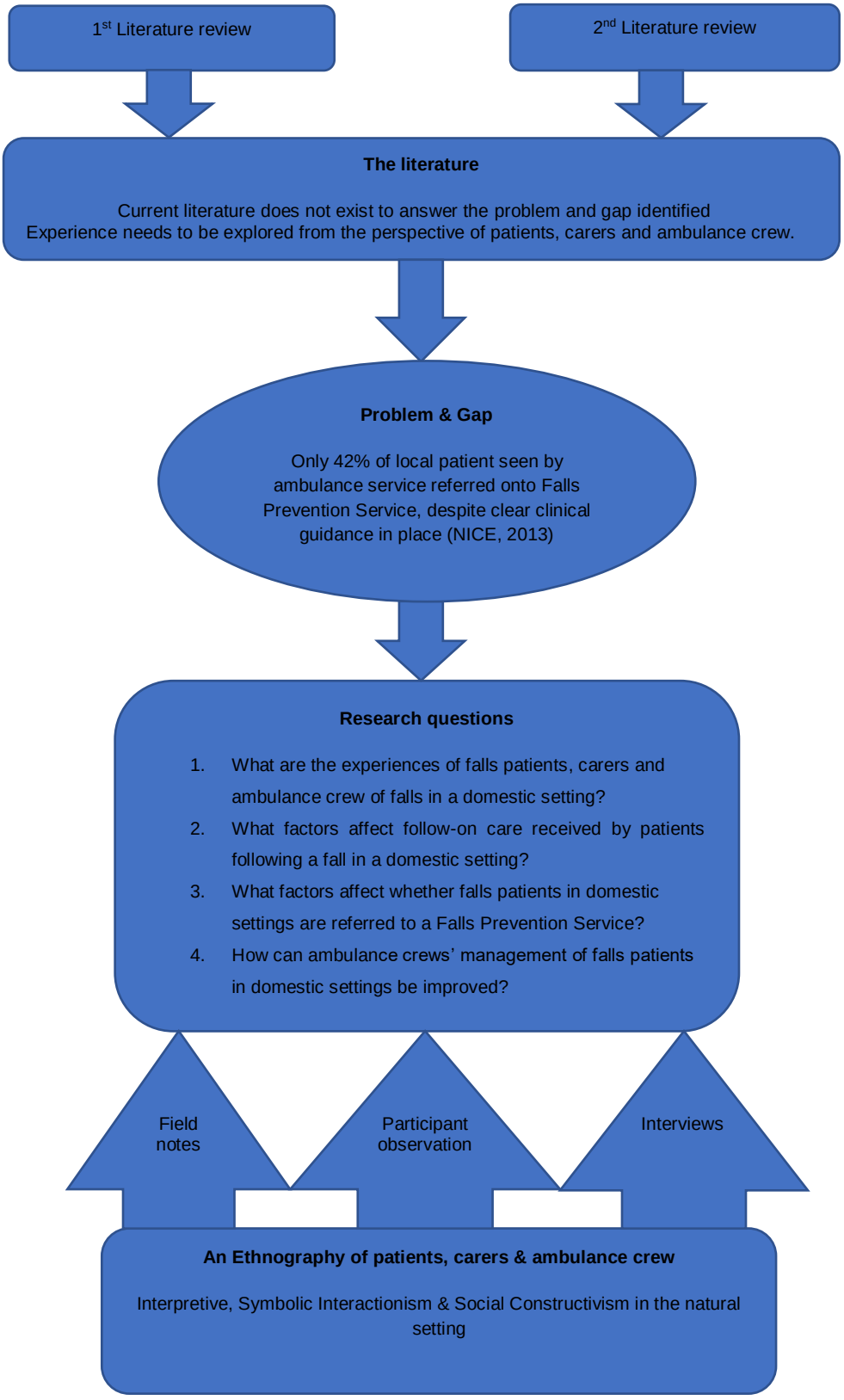
The aim of my ethnographic study was to explore and understand the participant's experiences in a formal setting of an interview and then it was compared with what has been observed in the natural, informal setting. It can be argued that in ethnographic studies, the difference between participant observation and interviewing are not as great as suggested because all interactions take account of context and the effects of the researcher on the participant (Hammersley & Atkinson, 2005, Creswell, 2007).

This chapter has explored the theoretical assumptions which detail the underpinning epistemology and ontological assumptions and has taken a subjective approach. The theoretical perspectives chosen are an interpretive, symbolic interactionism and social constructivist approach in the natural setting. These methods were chosen as they provide the appropriate perspectives in which the research questions could be answered. The methodology chosen is qualitative and will be a critical ethnographic study. The chapter has highlighted the importance of the role of the researcher in ethnography and the value of field notes and the gathering of detailed contextual data. It sets out the various approaches taken in participant observations and interviewing whilst taking detailed field notes.

The methods for the study will be detailed in the next chapter, which will also include sampling methods, recruitment, ethics and patient and public involvement.

Chapter 4 Methods

This chapter details the methods chosen to undertake this study and includes the sampling approaches taken, inclusion and exclusion criteria, recruitment and patient and public involvement. The diagram below is an overview of the study so far:



Having explored the commonly-used methods in ethnographic studies, I chose overt participant observations and one-to-one interviews with patients/carers and crew as the most appropriate methods to help answer the research questions. These were complemented by maintaining field notes. Taking this combined approach is appropriate for an ethnographic study, which typically makes use of multi-methods to enable a fuller understanding of participants (Hammersley & Atkinson, 2005, Atkinson, 2009). Focus group interviews were also considered as an option in the study as an alternative way for crew to be interviewed due to the nature of their practice and workload pressure, should the need arise.

The plan for the study was to first recruit and observe crew in practice whilst they recruit patients/carers to the study. If it transpired that focus groups were the only way to recruit crew and patients, they were to be arranged. A data collection plan was designed and is detailed further in the next chapter.

Sampling

Purposeful sampling is one of the main concepts used within qualitative research. It is essential in the study methodology to ensure that, the study can gain its conclusions about the target population and is able to select individuals and sites where the study will be focused (Creswell, 2007, Saks & Allsop 2007, Garrish & Lacy, 2010). The study's target is the overall population forming the focus of the study and in which the results will be generalised or applied to. The decision about samples from the study can be focused on four aspects, the events, settings, actors and artefacts and then are conceptualised (Creswell, 2007, Atkinson, 2015).

In qualitative studies, it is essential that the researcher is flexible, which means rigid plans are not ideal. The sample plan needs to identify sampling at site level with an alternative plan in place. In qualitative studies, it is appropriate that a number of types of sampling strategies can be adopted. In ethnography, the sampling needs to be from within the culture or sub-cultures being studied. The

‘big net approach’ aim is for the researcher to mingle with everyone within the area being studied and to sample within the cases (Fetterman, 1998, Hammersley & Atkins, 2005, Creswell, 2007, Atkinson et al., 2009). Sampling was worked out initially, adjusted and changed as the study developed.

The goal was to recruit participants who will become key informants in the study. Convenience sampling is thought to save time, money and effort, but it can be argued that this could be at the expense of its credibility, whilst opportunist sampling can help to find new leads and take advantage of the unexpected. Criterion sampling selects all cases that meet the criteria of the study and can be useful for quality assurance, while random purposeful sampling is argued to add credibility to a selection when the sample is too large (Fetterman, 1998, Creswell, 2007, Saks & Allsop, 2007, Garrish & Lacy, 2010). By using all these methods, the study can be more effective in recruiting from a population that may be considered as ‘hard to reach’ to divulge their experiences (Miles & Huberman, 1994, Hammersley & Atkinson 2005, Creswell, 2007, Bonevski et al., 2014). In ethnography, a single culture-sharing group focuses on a number of similarities within cultural groups and in case study research, no more than four or five cases may be identified (Creswell, 2007, Saks & Allsop, 2007, Garrish & Lacy, 2010).

Target population

The target population for this study were people over 50 years of age. This age limit was chosen, because due to age-related, co-morbidities, falls and fracture risk being increased (NICE, 2013). Participants to be included were to have fallen and contacted the ambulance service within Wigan Borough. Ambulance crew participants also needed to be working in this area. This focus in my local work was largely due to time constraints for me as a part-time student, with limited resources such as travel costs, and differences in ambulance pathways in other areas.

Inclusion criteria – patients

- Participants (patient, carer, family member) who are able to consent (mental capacity) to participate who have not previously been referred into the Falls Prevention Service
- Well enough to participate (self-reported)

Inclusion criteria – staff

- Ambulance crew

Exclusion criteria - patients

- Patients referred by the ambulance service
- Under 50 years of age
- Not well enough to take part (self-reported)
- Non-English speaking
- Those unable to give informed consent
- Living in care homes because it would be the staffs' decision to call for an ambulance, due to procedures in place.

Exclusion criteria – staff

- None

Sampling Plan

The sample numbers required within this ethnographic study were considered sufficient to permit thorough participant observations of the falls pathway and to observe a range of assessments, undertaken on patients to reveal how the falls pathway works in practice. In view of this, I initially allocated five days to observe the ambulance crew in practice.

The sample plan was to undertake individual interviews with 7-10 with patients/carers and 7-10 with ambulance crew with the flexibility to undertake group interviews with the ambulance crew if time and planning was an issue.

There were two target populations – ambulance crew and patients/carers (where permission was given by the patient or the carer where patients are unable to consent to interviews themselves). The patient and carer sample were to be sought through a process of ambulance staff in attendance, identifying those patients who were not referred to the Falls Prevention Service. The crew were requested to hand out envelopes containing study information (appendix 7) to every patient who was not referred to the local Falls Prevention Service for them to consider study participation. This ensured that the crew and staff did not self-select cases. The envelopes also contained general Falls Prevention Service advice leaflet. This also had the service information on it should the patients want to be referred for assessment at any point during the study (Appendix 12).

Table 8: Sampling and plan of observation

Action	Location	Approximate number	Length of time
Observation of general crew practice	Ambulances	5-10 crew	Approx. 5 days
Observation of interaction with falls patients	Patients' homes	Approx. 8-12 patient assessments	Approx. 15-30 minutes per ambulance attendance

Table 9: Sampling and plan of interviews

Action	Location	Approximate number	Length of time
Patients, carers	Patient homes or clinics	Approx. 7-10 patients and carers.	Approx. 60 minutes per interview
Ambulance staff One-to-one or group interviews	Staff offices	Approx. 7-10 ambulance staff (potentially two focus groups, if preferred by crew – ideally this will be instead of and	60 minutes individual interviews 60-90 mins group interview

		not additional to individual interviews, but participants can take part in both, if it is their preference)	

Data collection tools

In the study, overt participant observation was utilised. A crib sheet (see Table 10 below & Appendix 10) was iteratively produced, informed by the initial literature review, my experience from practice, customised and was pertinent to the research questions. It was reviewed by a number of potential participants to checks its suitability and was agreed that it would aid my observations.

Table 10: Crib sheet for participant observations

This crib sheet is to frame my observations, and these are questions I will be asking myself.
What is the sequence of events from the ambulance call-out to completion of the assessment and action taken?
How do individuals communicate with each other?
What is the body language used by crew, patients and carers?
What is the tone of voice used throughout the interaction?
What are the Participants intentions?
Who makes decisions?
What information is shared?
What appears to influence decisions made?
Why do participants make certain decisions?
What questions require more clarification?
Which quick judgements are made?
If there is disagreement, is there any persuasion or coercion used?
Are the interactions positive?

It is essential in all types of interviewing that a clear structure is in place to be able to manage the time specified. In the study, open-ended initial questions were developed to use in interviews, and which were adapted as required as a result of participant observations. The interview questions were constructed from insights from the literature review, the experience of the researcher from practice and from observations in the field. The questions were designed to put the participants at ease. The draft questions were also shared with participants such as ambulance leads, crew and patients in line with patient and public involvement detailed later in this chapter on page 77 (Hammersley & Atkinson, 2005, Creswell, 2007).

Interview questions were developed from the literature review and clinical experience and were adapted as informed by the findings of the observations. Some initial ambulance crew questions below were designed after the in-depth review of the literature and from my experience in practice and in liaising with the ambulance service. The interview questions were reviewed by ambulance crew to check their interpretation of the questions, and their feedback was constructive (Appendix 11).

Ambulance crew interview questions

- Tell me about your experiences of attending falls in the home
- What does your organisation require of you during attendance at a fall?
- Talk me through how you deal with a falls patient from the moment you get the call to attend (Prompt – actions, thought processes, etc.)
- Do you know of any falls pathways or protocols? If yes, what is your view of them?
- Do you have the resources to deal with falls?
- Personal level support? (prompt - time, targets, pressures, knowledge, skills, etc.)
- Organisational level support? (prompt - number of crews, shift overlap, etc.)
- What training have you had specifically about falls management?

- What do you think should happen to patients who are not conveyed to hospital?
- What are the reasons non-conveyed patients are not referred to the Falls Prevention Service?
- How can ambulance crew's management of non-conveyed falls patients be enhanced?

Some initial patient/carer questions below were designed after the in-depth review of the literature and from my experience in practice and in liaising with patients and carers. The questions have been reviewed by a local patient group and individual patients seen in practice and positive feedback gained. The plan was to review these questions in light of the findings of the participant observations and to adjust them as required.

Patient/carer interview questions

- Tell me about your experiences of having a stumble, trip or fall
- Tell me about your most recent stumble, trip or fall
- What is your experience of calling an ambulance following a fall?
- Do you know of any alternative services to the ambulance service when you have fallen?
- What do you feel should happen to you following a fall when you are seen by the ambulance service?
- Do you feel you should routinely be taken to hospital following all falls?
- Do you feel any part of this area can be improved?
- Have you ever been referred to a Falls Prevention Service? (If yes, what was your experience?) (If not why not e.g. refusal?)

Public and Patient involvement

In line with good public and patient involvement practice (Staley, 2009), patients, carers and other stakeholders had been consulted on the topic being studied and the potential participants and stakeholders reviewed the research design and interview questions, with positive feedback received. When the interview questions for the crew and the crib sheet for the observation of the participants were completed, the research lead and clinical lead of the ambulance service were asked to review its contents and to make any suggestions. Positive feedback was received, and it was thought to be appropriate for the study. The lead approved of the questions for crew and patients and in their experience said that they were relevant in practice. One suggestion received was to consider reviewing the closed questions for the patient group making them more open as had been done for the crew. This recommendation was approved and the questions for patients were adapted.

The study plan was discussed with patients in clinical practice and the general public who attended a local patient group and it received positive support. The study plan was discussed with 13 patients, 10 in a group setting and 3 individually. Patients talked about their experience of falling and using the ambulance service and they fed back that they felt the study was appropriate. Also, 3 older people who had experienced falls reviewed the questions which had been developed and fed back that they were appropriate, and no changes were suggested. Overall, the public involvement activity helped to ensure the study design and questions asked met the concerns of patients. It was agreed that I would feedback study findings to those who gave up their time to help me with this valuable involvement activity.

Recruitment plan

The planned timeframe was to recruit crew and for crew to recruit patients/ carers to focus on in the study.

Crew

Prior to starting the participant observations, all ambulance crew members were sent the information sheet about the study by internal mail via their lead, so that they were given time to read it and decide whether they would like to take part. The crew were given 3 options for their involvement in the study:

1. To be observed on their shift observing practice,
2. Crew to take part in one-to-one interviews,
3. To take part in a group discussion.

All crew were invited to take part in all of these options.

Crew were intended to be recruited for interviews at the same time that observations were being undertaken. The plan was to complete the interviews with ambulance staff over 3 months and then interview patients identified during assessment by ambulance staff at the site they were called to (usually the person's home). The numbers of interviews were flexible depending on the emerging findings. Data collection would cease when no new insights emerged from data collection.

When ethical approval was agreed by the Health Research Authority (HRA) in 2016, the study was commenced as per the plan described above.
The letter and information leaflets (Appendix 7) were to be given to the ambulance clinical lead to be distributed to all crew members who cover the chosen area, so that crew had time to read them prior to being asked to be observed by me. The lead was to ask the crew who would like to take part so that the days for observation could be planned. The rationale for this approach was that the crew would be encouraged and supported by their peers and managers. Any crew interested in the study were asked to champion the study due to their positive interest.

After initial discussion, 30 envelopes were given to the local lead for distribution to crew in the designated area, to enable crew to read the information and contact me prior to observations being arranged. However, during the discussion, the local lead explained that all crew were regularly shadowed for

development and learning purposes and was confident this activity would be acceptable to most or all potential participants. In view of this, an initial four days of observations comprising 10-12 hours per day were arranged. Although the normal shift patterns were between 10 to 12 hours, this was considered too long a period for vigilant fieldwork but was accepted as the only approach available. There was also the issue of ambulance crew's potential to feel obliged to take part. However, the option to not take part without detriment was stressed whilst gaining informed consent with ongoing review of consent undertaken.

The recruitment took place over one month to maximise impetus and maintain crew interest, whilst observation of them took place over three months due to my commitments in clinical practice. One week prior to the observation days, I delivered further envelopes addressed to the crew who were to be observed, to ensure they had the appropriate information before the day and provided them with the information and option to exclude themselves from the study.

On the first day of observing the crew, they were asked if they had received their information envelope, which they had not, however, some were found in their post trays. In view of this, another envelope was provided to each crew member and I summarised what the study was about and the reason for observing their practice. They both verbally consented to being observed. At the end of the shift, the two crew members signed and returned the consent forms. During the first day, I was approached by another crew member who expressed interest in the study and agreed to be interviewed which was arranged during the following week, which was possible due to them being office-based that week.

Patients/carers

The ambulance crew were to be gatekeepers in the recruitment of patients/carers. I provided information posters and 50 envelopes to be distributed across the local stations, which was actioned by the administrator and it was requested that crew email them back if they gave any out to

patients/carers. A further 40 envelopes containing invites to patients/carers were distributed to ambulance stations.

In total, 90 envelopes were distributed for the recruitment of patients/carers with no success in recruitment. In view of this, I made amendments to the study's ethics' application and the recruitment plan was adapted as described below. As a result, the Falls Prevention Service staff recruited patients to the study who had fallen and as a result a good sample was achieved. When patients or carers were recruited, one-to-one interviews would be arranged at an agreed location such as at the participants' homes or the clinic, at a suitable time. The issues encountered in the recruitment of the study are detailed in the data collection chapter 5 (page 82).

Sample achieved

Crew

As a result of the difficulty in recruiting crew to take part in interviews due to the nature of their practice, due to their shift patterns of 10-12 hours, with a break of 30 minutes and constant call outs. I adjusted the approach by combining observation and interviewing of the crew. All crew were happy to verbally consent to observations and interviews, and they were provided with written information and written consent forms. In total, 10 crew were observed, and discussions with them were documented as field notes for analysis.

The observations & interviews totalled 45 hours over 5 days and field notes were documented. Following each of the 5 days of observations, I emailed each crew member thanking them for their participation in the study. The sample was achieved for ambulance crew in the study. During the observation of the crew, 2 patients were observed following falling and the pathway was observed in practice, but as previously discussed, in general, 10% of the ambulance callouts were falls, but during the 5 days of observation there were 3 patients who had fallen, with 1 not being at the location on arrival.

Patients/carers

The sample planned for recruitment of patients/carers for observation and interviewing was not achieved at this point. In total, 90 envelopes were distributed for the recruitment of patients/carers by the crew. This allowed potential participants to self-select if they wished to take part in the study (Atkinson, 2015). Following amendments to the study's ethics' approval in 2017 (Appendix 18) the sample plan was changed and as a result, the Falls Prevention Service staff recruited patients who had previously fallen and as a result of this, the patient sample of 10 interviews with observations were achieved. Challenges in achieving the patient recruitment and sample are presented and detailed in the Discussion chapter on page 128. In the next section the data collection tools are detailed.

Chapter summary

Chapter 4 has detailed the methods chosen to undertake the study and given justification for choice. The sampling design, inclusion and exclusion criteria and sampling plan and sample achieved has been detailed. The recruitment plan and how this was executed was presented. A number of challenges were identified during recruitment and actions to address these were identified and are explored in the data collection chapter (page 82). Public and patient involvement has been undertaken and detailed. The next chapter will present data collection plans and processes along with an exploration of ethical considerations for the study.

Chapter 5 Data collection

In this chapter, the data collection design and ethical issues relating to the study will be detailed. This includes the data collection process for participant observations and interviews. The design and plan for data collection is considered first followed by the process that was realised. The chapter concludes with a consideration of the main ethical issues faced in the study and how these were addressed.

Data collection plan

The data collection plan was that participants recruited would be patients, carers and ambulance crew with the intention to invite them to take part in individual interviews with an option for the ambulance crew to take part in a group interview. The intention was to undertake individual interviews, however, there was also an option for the ambulance crew to take part in focus groups if this was considered the most appropriate way to engage with the ambulance crew due to operational time pressures. As already discussed in the 'treat or refer' protocol study designed in Snooks et al. (2005), it found that some participants felt inhibited by the presence of their colleagues in focus groups and tended to adopt a jokey manner, which had a negative impact on the data collected. This was to be considered should focus groups be undertaken.

Permissions to access ambulance crew and patient/carers were gained through the University of Salford ethics' committees (Appendix 15), my own organisation's research department (Appendix 16), and from NWAS (Appendix 17) and through NHS ethics' committee (Appendix 18).

Observation

The plan was to access the ambulance service for five, eight to twelve-hour days for fieldwork observations. These were to comprise of observation of patients who had experienced a fall and the assessment of crew in attendance. It was envisaged that this would enable understanding of the patient journey

from initial receipt of a phone call by the ambulance staff to request them to attend a falls patient, through to the face-to-face interaction during assessment initiated by the ambulance crew on arrival at each patient's location.

The initial plan for observation of crew and patients/carers are detailed below in Table 11 and interview plan in Table 12.

Table 11: Data collection plan for participant observations

Action	Location	Approximate number	Length of time
Observation of ambulance crew practice	Ambulances	5-10 crew	Approx. 5 days
Observation of interaction with falls patients	Patient homes	Approx. 8-12 patient assessments	Approx. 15-30 minutes per ambulance attendance

Table 12: Data collection plan for interviews

Action	Location	Approximate number	Length of time
Patients, carers	Patient homes or clinics	Approx. 7-10 patients and carers.	Approx. 60 minutes per interview
Ambulance staff One-to-one or group interviews	Staff offices	Approx. 7-10 ambulance staff (potentially two focus groups if required	60 minutes individual interviews 60-90 minutes group interview

There were a number of challenges encountered in the recruitment of participants to the study, which are detailed in chapter 8, Discussion (page 128). The plan to recruit patients/carers was adapted and ethical approval with HRA was amended and resubmitted. Whilst waiting for approval, I designed and distributed a flyer within their NHS organisation asking staff if they knew anyone over 50 years of age, who had fallen and had seen the ambulance crew, but were not referred to the local falls service. They were asked to consider taking

part in the study to share their experiences. This was distributed in my Trust, in a weekly emailed bulletin and flyers were left in a local café and hairdressers. As a result of this, I was contacted by a person who had fallen and agreed to be interviewed.

A newspaper piece was also considered to advertise the study, however, on discussion with the communication department, it required a patient story and because there have been no patients recruited as yet, it was not feasible. However, a few weeks later, there was an opportunity to submit an article to the local paper about promoting good bone health. I took this opportunity to add information about the study inviting people to take part. Unfortunately, just as this was to be submitted a senior member of the Trust would not allow the section advertising the study to be published, although they had been given reassurance that ethical approval had been sought and approval given. This was a good opportunity missed to recruit for the study and highlighted local issues with understanding of research studies.

In the meantime, due to the lack of recruitment of patients/carers, I had resubmitted amendments to the ethics' committee because there needed to be substantial change to the ethics' application to enable the local falls service team to be gatekeepers in the recruitment of patients/carers, which is detailed in the ethics' section (page 89).

When substantial amendments to the ethics' committee were approved, recruitment of patients/carers was commenced by the local Falls Prevention Service staff. I developed a checklist for the staff to ask patients/carers if they had fallen and had been attended by ambulance crew and whether they would be willing to take part in the research study. If they agreed, they would be given an envelope containing an invitation and information and the staff would explain how to contact me and would feedback weekly on the number of invitation envelopes given out.

Data Collection realised

Due to the challenges discussed, the approach was adapted, and participant observations were combined with informal semi-structured interviews of the ambulance crew. Semi-structured interviews were undertaken with patients/carers after the recruitment of patients was undertaken by the falls team after amended ethics were approved.

The process of data collection plan was to undertake observations alone for a period of one month and was followed by a period of interviewing over three months. On the first day of the observations shadowing crew, I ensured that crew understood the information given and gained their written consent. The observations were informal and did not interfere with their clinical role. Permission was sought, so that questions could be asked to clarify thoughts, and this was done in a timely manner.

A pilot of the interview questions was undertaken by participants in the first interviews in order to test the effectiveness and appropriateness of the tone, style and terminology. The interview questions were broad with the flexibility to focus on specific areas that come naturally from the interview process (Hammersley & Atkins, 2005, Creswell, 2007).

Prior to commencing an interview with a member of the ambulance crew, I ensured that their understanding of the study was checked, and that written consent was gained. The first one-to-one interview took place in a private room at a local ambulance station and lasted approximately 60 minutes. As already stated, there was an option for the ambulance crew to take part in group interviews which would last approximately 60 to 90 minutes, however, in practice, this was quickly realised not to be an option due to the nature of the crews' practice.

Prior to starting the interviews, I explained to the crew that they would be asked some questions relating to the experiences of assessing patients following a fall at home and the service provided to them. The interview was relaxed and

informal and crew were told that there are no right or wrong answers and that the study aim was to hear their views and experiences and that if required, follow up interviews may be requested. I also explained that they would be taking some notes throughout the interviews. With their permission, the interview was audio-recorded, which allowed accurate capture of their experiences and opinions. It was emphasised that the audio-recordings would be stored securely and destroyed after transcription and that only the researcher and the University supervisor would have access to the transcribed information.

However, it soon became evident that due to the nature of ambulance crews' time pressure in practice, observations and interviews needed to be combined. What transpired was that ambulance staff were extremely busy and therefore there were limited opportunities to observe the falls pathway in practice or to undertake interviews away from call-outs and it was considered unreasonable to expect staff to stay on after work for an interview following what were usually 10-12-hour shifts.

In the study, the whole pathway shadowing ambulance crews who attended patients who had fallen was observed. In view of the nature of the assessment required by patients who had fallen, informed consent was not sought by patients or carers. However, the ambulance crew asked for permission for me to observe the assessment and there were no occasions in this regard when patients refused.

Field notes were taken at appropriate opportunities when I was not with the participants. This was done by note taking and by dictating into a recorder, with the recordings transcribed and notes written in detail following the observations. These were summarised, indexed and arranged into a well-organised order. Observation field notes were taken in the same way following interviews, which added context (Hammersley & Atkinson, 2005). The methods above are detailed in the methods chapter 4 (Page 69). Overt participant observations with semi-structured interviews were used in the study.

One key challenge pertained to lack of the phenomenon under investigation was that falls accounted for 1 in 10 call-outs undertaken by the ambulance crew. During observation of the first 10-hour shift, only one call-out was as a result of a fall, but on attending the call-out, the patient was not at the location. During another day's observation, two patients were observed following a fall. One patient was asked about their fall and if they had experienced a blackout or dizziness, this patient had already been referred to the falls service during the same week by the same crew. One patient observed following a fall were taken to hospital due to a suspected fractured shoulder and on this occasion, crew were not observed asking whether they could refer this patients to the falls service.

Due to there being only three patients observed who had fallen, the crew discussed the assessment and management of patients who had fallen from their experience. A further challenge was the lack of opportunity to interview crew outside of a shift or in lunch breaks. Crew did not regularly get a lunch break and I did not feel it ethically right to interrupt that time with an interview or expecting them to start a lengthy shift early or to stay late, which meant that interviews needed to be combined during the shift during observations. As a result of the evident difficulty for crew to take time away from their practice to take part in an interview, the data collection plan was adapted to combine participant observation with informal interviews and the collection of field notes.

Recruitment and sample achieved

By making adaptations to the recruitment and combining observation and interviews, this enabled the collection of the voices and experience of the crew. In total, 10 ambulance crew were observed, and their voices heard and documented for analysis. The observations and interviews totalled 45 hours over 5 days and field notes were documented. The sample was achieved for ambulance crew in the study.

The sample planned for recruitment of patients/carers was not achieved at this point, having only interviewed one patient as a result of an advertisement in my

Trust bulletin. Due to the lack of ambulance data collected on the patients who had not been referred to the Falls Service, the initial patient/carer sample was not achieved to gain patients/carers' experience. In view of this, the sample was amended to include patients who had been seen by the falls service to the study. As a result, amendments to the HRA ethics' committee was submitted and approved, so that the Falls Prevention Service team could help recruit patients to the study by passing study information to eligible users of the service which occurred over a one-month period.

The patient or carer participants were given an information sheet about the study by members of the falls service at face-to-face assessments. If the individual met the inclusion criteria, they were invited to take part in the study to have a one-to-one interview. It was explained to them that the interview would last approximately 45-60 minutes and it was undertaken at their home or a place suitable to them, such as a local clinic of their choice. It was explained that they would be asked some questions relating to the experiences of a fall or being a carer of someone who fell, and the care they received from the ambulance service afterwards. Patients/carers who expressed interest in taking part in the study were asked to contact myself or asked if they would like me to telephone them to arrange a date and time suitable to them. I then arranged the interviews with the patients/carers.

If the participants consented to take part in the study, they were put at ease, to ensure that they were comfortable with their surroundings by clearly explaining the reasons for the study and emphasising that there were no wrong answers and that the aim of the study was to gain a clearer understanding of the topic area. Informed consent was gained which is detailed in the ethics' section of this chapter. A timeframe was agreed at consent for the length of interviews to be undertaken. See plan for data collection of observations (Table 8, page 73) and interviews (Table 9, page 73).

Prior to commencing the interview, the participant's understanding of the study was checked, and they were reassured that they understood that they could stop or withdraw from the study any time and that it would not affect their NHS

treatment in any way. They were then asked to read and sign the consent form. The positions of power within the study will be explored in the discussion chapter (page 128).

Field notes were copied by hand and then written in detail following the observations. The notes were indexed and summarised and arranged into a well-organised order. Following the interviews, field notes were used to add context to the transcribed recorded interviews (Hammersley & Atkinson, 2005). In total, 10 patients/carers' voices were heard, and data was collected and documented for analysis achieving the planned sample. All patients/carers participant one-to-one interviews data was combined with observation during the interview and then detailed in field notes. All the data collection activity is detailed in Table 10 (page 74) and 11 (page 83).

Ethics

The study adopted a risk-analysis approach proposed by Long & Johnson (2007) to ensure the ethical issues identified within the study were explicit. Ethical approval was secured from the University Research Ethics Panel and National Health Research Authority (HRA) panel. Approval for the study was also given by the researcher's NHS Trust and ambulance service research and development groups.

Ethical issues explored and actioned:

- Vulnerable adults
- Distressed participants
- Informed consent
- Observation of poor practice
- Data protection
- Lone worker
- Amendment to ethics approval

Vulnerable adults

An ethical issue that needed to be considered was the role of researcher and clinician. As already stated, actions were completed if there was an issue concerning a vulnerable adult who would be referred to appropriate services or if participants wanted to withdraw from the study. There also could be incidents where as a clinician, the researcher would be obliged to explain their role as the researcher and clinician even at the expense of the research data. In this event, reflexivity was employed to make the best decisions (Hammersley & Atkinson, 2005, Lee, 2009).

The study population group of mainly older adults may be perceived as being at risk of being coerced into taking part in the study. Only participants who have the mental capacity to make informed choices and who were able to consent in writing would be included in the study. Those who did not have the capacity to consent had the opportunity for their family or carers to take part in the study. All potential participants would be given in-depth information sheets which detailed the study and what was requested of them.

All participants who agreed to take part in the study had the right to withdraw at any point and were reassured that this will have no detrimental effect on their NHS care now or in future. Also included in the information pack was a patient information leaflet about falls prevention which had a contact number for the local service (Appendix 12). At any time in the study, if participants decided that they would like to be referred to a local Falls Prevention Service, their participation in the study would be ceased immediately and they would be referred to the local service in a timely manner, within the Code of Professional Conduct (NMC, 2018).

<u>Distressed participants</u>

Another ethical issue identified was the potential for participants to become distressed whilst being interviewed about their experience of falling and using the ambulance service. Some of the participants are already high falls risk

patients and they are also a vulnerable group. As an experienced clinician, I was able to support participants in potentially stressful events, providing advice and practical solutions to areas of concern and was also fully aware of the local safeguarding adult policy and procedures and would put them into action as appropriate.

Participants were also healthcare professionals such as ambulance crew. There was negligible risk to them, although reassurances were given about confidentiality of the findings and that I was aware that they may have experienced distressing events also.

Prior to the start of the study, the crew information sheet and consent forms were sent to the lead paramedic who distributed them to all crew members. This enabled crew to read the information about the study before arrival to start the participant observations. This enabled the crew to have had time to consider if they wanted to take part in the study. This was because there was no pressure put on the crew, who could have felt threatened by me arriving at the ambulance station and being allocated to someone who had no prior information about the study.

Informed Consent

The informed consent for each participant was written or verbal with ongoing review because all participants were informed that at any time during the observations or interviews, they could withdraw their consent. In ethnographic studies, the main focus is that of production of new knowledge and true accounts of social phenomena, however, all other ethical values must not be ignored. The main methods used in this study was overt participant observation, because locally the researcher was recognised as the falls lead by many of the ambulance crews and may have met patients within clinical practice and is ethically the correct approach (Hammersley & Atkinson, 2005, Atkinson, 2015).

In the study, I was observing the whole pathway shadowing ambulance crews who attended to patients who had fallen and prior to undertaking the

observations, verbal and written informed consent was obtained from ambulance crew. In these circumstances on arrival at patients' homes, the crew asked the patient if the researcher was able to observe the assessment. This is due to the need for timely clinical intervention, as it would be inappropriate to seek informed consent by the patient as this could severely impair the timely assessment and intervention (Hammersley & Atkinson, 1995, Creswell, 2007).

Data protection

The Caldicott Guardian Principles and the Data Protection Act (DPA, 1998, DPA, 2018) was utilised to ensure safe storage of the data to ensure that confidentiality and anonymity was maintained, in line with NHS governance. All potential participants were informed prior to obtaining informed consent that all data collected from observations and interviews would be coded. Taped recording of interviews would be destroyed after transcription to ensure anonymity was maintained and participants were asked when obtaining consent, whether anonymised data could be used in the dissemination of the study findings.

All data was stored on a confidential computer system which was password protected and access was restricted to myself and my academic supervisor. This would be stored for a maximum of five years and all paper documents are stored in a locked cupboard only accessible by me (Hammersley & Atkinson, 1995, Long & Johnson, 2007).

Observing poor practice

As a registered nurse and senior clinician, within the Nursing Code of Conduct (NMC, 2018), there is a duty to discuss with crew and managers if or when poor or dangerous practice becomes apparent. If this was identified within the study, I would use my reflexivity and expertise to highlight it to the appropriate authorities to ensure patients are safeguarded (Long & Johnson, 2007, NMC, 2018).

Lone worker

Due to the researcher undertaking observation and interviews alone, the Lone Worker Policy in place within the University and my own Trust was utilised to ensure safety. I used the NHS Trust's 'buddy system' to ensure my safety was maintained when on lone visits for interviews. No problematic events occurred.

Amendment to ethics' approval

Due to the lack of recruitment of patients/carers, I decided that there needed to be a substantial amendment to the ethics' application (Appendix 19).

The issue of the lack of recruitment of patients or carers to the study had partially been due to the ambulance service not collecting records identifying eligible participants. The change in recruitment was that the Falls Service team (which the researcher leads) would identify potential participants by asking them directly. They would then be given an envelope of study information from which to decide as to whether they would like to take part in the study. At this point, they would contact me, and I would check understanding, answer queries and make an appointment for interviews. A favourable opinion was obtained from the HRA and the Trust Research and Development lead for the amendments to the recruitment of patients/carers by the Falls Prevention Service, which was commenced.

All ethical issues that have been discussed were adhered to and there were no issues of poor practice or vulnerable patients observed. Also, a concern that there could have potentially been an issue with my power position within local practice could have been a barrier to the study was not found or observed.

Chapter Summary

In this chapter, the data collection design and ethics for the study have been detailed. The participant observation and interview plan and their delivery have been explained. A discussion of how effective the methods and data collection

processes were, are discussed in the Discussion chapter (page 128). In the next chapter, the plan for data analysis collected from interviews, participant observation and field notes will be explored and detailed.

Chapter 6 Data Analysis

In this chapter, the data analysis design for the study is presented. This includes the data analysis plan and accompanying processes, including how data was analysed in a way that was fitting with ethnography. Challenges in data analysis will also be explored. The chapter concludes with a summary of the body of data which were achieved.

The data was collected and analysed contemporaneously. The data analysis plan was simultaneously to collect and analyse through the processes of data reduction, data display and conclusion drawing, followed by narratives to describe each display. Thematic analysis, complemented as an aid to qualitative analysis was also utilised (Creswell, 2007, Atkinson et al., 2009). The goal of this study was to gain a deep and rich description of the experiences of the participants. The difficulty with ethnography is that culture is not a homogeneous value system; it is influenced by social location and assumptions (Huberman & Miles, 1984, Hammersley & Atkinson, 1995, Fetterman, 1998).

As this research study was a single study focused on two sample populations, it was important to focus on how many propositions ought to be developed within the study. This depends on how long the researcher was in the field and how much data was collected, the stage of the project that has been analysed and the scale of reports completed. Lofland et al., (2006) suggested that a study undertaken by a single student would result in one report that was the centrepiece, however even small-scale studies can generate manageable propositions early in the research process. These propositions are derived by field notes, interview transcripts, observations and reflections (Atkinson et al., 2009, Van Maanen, 2011).

Qualitative data collection is in the form of words rather than numbers and this has been the mainstay in anthropology and social science research. This can provide a source of well-grounded rich descriptions and explanations of issues occurring in the local context. The aim is to have a chronological flow to enable the assessment of local causality and to enable the researcher to derive

explanation beyond initial conceptual ideas. However, it is recognised that conducting good qualitative research is not a small task and collecting data is a labour-intensive undertaking (Huberman & Miles, 1984, Saks & Allsop, 2013, Atkinson, 2015).

Data analysis involves the process of turning raw data into findings or results. The findings arise from the process of induction rather than deduction, as deduction begins with a hypothesis which needs to be tested and inductive data analysis is data based in the analysis that is driven by the data itself. Data analysis needs to be conducted by a single researcher or a team but cannot be delegated to independent people who are not researchers or to computer programs which is discussed later in this chapter. Atkinson (2015) describes this as 'making it all come together', expressing that it has to be worked out and it is a persistent pursuit in the use of a methodological fashion rather than haphazard way of analysing the data. As part of this process, data display is useful as it provides a systematic way to analyse the data (Lofland et al., 2006, Atkinson et al., 2009).

In ethnography, the process of data analysis is not a distinctive stage of the research, because it begins in the pre-field work phase, in the formulation of the research problem and continues throughout the process of writing reports. The iterative process has been promoted as grounded theorising by Glaser and Strauss, in which theories are developed out of analysis of the data collection. However, in ethnographic research, the aim is not to generate a theory, but to explore issues that can describe, explain and interpret the findings, to gain a better understanding of the phenomena rather than generating a theory (Lofland et al., 2006, Hammersley & Atkinson, 2007, Atkinson, 2015).

It is important to recognise there is no one clear formula for the analysis of ethnographic data. However, it does provide ways of working towards understanding and the production of ethnographic findings which are rich in experiences and concepts (Lofland et al., 2006, Hammersley & Atkinson, 2007). As already acknowledged, fieldwork is very demanding and time-consuming, and it is essential to include reflexivity in the process of collecting and analysing

data. Within ethnography, data analysis has three areas to focus on, description, analysis and interpretation, which complements the three-part approach by Huberman & Miles (1984).

In ethnographic analysis, generating concepts are essential which demonstrates the researcher knowing the data, it is essential to organise data by coding and indexing. In the course of coding and data analysis, it is essential to write down ideas about the various categories by using 'memoing', the act of recording reflective notes. This can provide supporting evidence for the first draft of the completed analysis and means fundamentally making sense of the data (Lofland et al., 2006, Van Maanen, 2011, Atkinson, 2015).

Over recent years, there has been the development of computer software packages marketed for the analysis of qualitative data. However, these packages are only able to code large amounts of data, they are not able to analyse the data because this requires reflexivity and an in-depth understanding of the issue being researched. The use of these software packages has been explored but it was decided that they were inappropriate for this study (Lofland et al., 2006, Hammersley & Atkinson, 2007, Atkinson, 2015).

Ethnographic analysis works towards broader concepts of social processes driving rich descriptions from the commitment of exploration of many forms within the social life being studied. It cannot be said that ethnographic analysis is never achieved or exhausted by the use of rule-bound sets of procedures, rather it resides in the research capacity to generate reconstructions of social processes. It is aimed to keep faithful to the complexity of the participants by drawing out generic links and comparisons (Lofland et al., 2006, Hammersley & Atkinson, 2007, Atkinson, 2015).

Narrative analysis in ethnography is seen as a fundamental discipline which involves reporting, evaluating the experiences and making sense of the data. It can access full understanding of the participant's experience. The aim is to analyse text to produce the social process in which the participant constructs their own account. It also aims to link reflexivity of the researcher's

interpretation of the participant's story, adding more detail to situations (Lofland et al., 2006, Atkinson et al., 2009).

The rationale for using narrative in the study is to add meaning to the experience of the participants' contribution, providing them with a voice and enabling the addition of non-verbal communication and observations to be explored and interpreted. Narrative analysis provides a systematic analysis of the participant's accounts and memories and opinions (Hammersley & Atkinson, 2005, Lofland et al., 2006, Atkinson et al., 2009, Atkinson, 2015).

Within ethnography, the aim is to describe, understand and explain what has occurred, to enable the emergence of a well-grounded sense of local reality within the setting being studied. Although the study was undertaken over two sample groups, one being with the ambulance crew and the other with patients/carers, it is appropriate to do cross sample group synthesis, which can enhance the study's generalisability (Lofland, Snow, Anderson, Lofland, 2006, Hammersley & Atkinson, 2007, Atkinson, 2015).

Miles & Huberman (2002) explored how their approach to data analysis in qualitative studies worked well in ethnographic approaches. They reviewed the concepts and theories which influenced the study design, which was further supported by Hammersley & Atkinson (1995) and Lofland et al., (2006). Huberman & Miles' (1984) approach to data analysis complements the ethnographic approach in its systematic way of analysing the data collected from participant observations, interviews and field notes.

Researchers need to decide if they are seeking description or explanation in the analysis of the data. Huberman & Miles (1984) considered that analysis consists of three concurrent levels of activity, data reduction, data display and conclusion-drawing. Following this approach, it is essential to write narratives to describe the data display and is a necessary part of data analysis. This enables the examination of the data to make comparisons and identify themes or patterns that emerge and can enhance the comparison of practitioners,

participants and events that have occurred during the study to ensure effective analysis.

Data analysis process

The first part of the analysis process is to undertake data reduction. Data reduction focuses on simplifying, abstracting and transforming the raw data which is made up of field notes, interview transcriptions and reflective accounts. Within this process, anticipatory data reduction is occurring sometimes without the full awareness of the researcher. As the data reduction continues, teasing out themes, making data clusters and memos, all develop until the final report is complete (Williamson & Long, 2005).

Data display is a second activity of analysis advocated by Miles & Huberman (1984) which enables the researcher to organise and assemble the data to help understand what is happening and to do further analysis or action based on this understanding. It is argued that the most frequent form of display in qualitative data is narrative text, however, this can be cumbersome, poorly structured and extremely bulky, which may lead the researcher to hasty conclusions, and it can overload human information processing capabilities. However, data displays provide the means to condense large amounts of data into manageable forms, which in turn provides different ways of managing the data. By using narratives alongside the data displays, important findings and patterns can emerge by providing a simple visual document to work from (Huberman & Miles, 1984, Atkinson et al., 2009).

Within data displays, checklist matrices are indicated which provide a way of organising data to key themes or areas of interest. Another possibility when developing data displays is to put the data into chronological order to provide identification and understanding of processes, especially where components and sequencing of these is relevant. In advance data displays, causal networks can be used which can overcome limitations of the basic displays by using this interrelationship or triangulation of the data. This can be analysed, and possible causal networks found which can be utilised by use of arrows for direction or

can be colour-coded. This process can facilitate making comparisons and identifying differences and similarities quickly within the data, but caution needs to be used in this area not to jump to incorrect oversimplified findings (Huberman & Miles, 1984, Williamson & Long, 2005). Example in appendix 21.

Conclusion drawing/verification is the third part of analysis. From the beginning of data collection and throughout analysis, I decided what things mean or noted irregularities', explanations and flows, holding light conclusions whilst maintaining openness. The aim of drawing conclusions is sequential then cyclical with ongoing analysis continuing throughout. It is essential to ensure that the interpretations are based on sound processes and judgements. This is to enable the researcher to analyse the data collected at first-hand about the participants' behaviour or activity during the observation and interviewing process (Huberman & Miles, 1984).

Some of the challenges in data analysis have been explored and experienced (Lofland et al., 2006). All the challenges below will be further explored in the Discussion chapter 8, page 128):

1. To manage anxiety and recognise and accept the fact that analysing field data is a difficult task. Anxiety can come from inexperience as a researcher in general and in the field being studied. It can be difficult to know what is appropriate for field notes or data and how to manage the time (Van Maanen, 2011).
2. To manage anxiety, reflexivity needs to be employed (Lee, 2009).
3. To start analysing early.
4. To work persistently and methodologically.
5. To keep in mind the sheer accumulation of information.
6. To share experiences and feelings with peers and supervisors.
7. To be aware and employ truthfulness in the statements made of the predictions and findings (Gobo & Molle, 2016).
8. The challenge of bracketing to be non-judgemental as a researcher by being objective when exploring the phenomena. This was achieved by using reflexivity to be aware of bias and to bracket it so not to impede the findings (Ahern, 1999, Gearing, 2004).

In the study, transcription was completed for all one-to-one interviews, as verbatim and typed up by an administrator. However, it could be argued that by not transcribing the interviews myself, that data analysis opportunities were missed. In view of this, I proofread the transcripts and listened to the recorded interviews to check for accuracy. The ongoing field notes data was collected during participant observations and was documented as soon as possible, usually in the back of the ambulance transcribing en route to the next call or on breaks or following the observed period (Elliott 2005, Van Maanen, 2011). This was then reviewed with the field notes and observations as part of the analytical process.

The data was analysed focusing on participants, events and situations, the main themes and issues observed and discussed all related to the research questions. A contact sheet was used to display the field notes, themes from transcriptions, interviews and my reflections, clearly displaying the data collected. The interview transcripts together with my field notes were chunked together and coded, for an example, see Appendix 22.

The data was analysed for patterns and themes about the issues being studied, describing the phenomena and events to enable me to understand and explain patterns which were emerging (Lofland et al., 2006, Hammersley & Atkinson, 2007, Atkinson, 2015). In summary, a total of 45 hours over five days of ambulance crew participants' observation were completed, and 10 voices heard from formal one-to-one interviews to combined interviews and observations. 10 patient/carer participant observations and interviews were completed in a total of 7 hours (data collection Tables below, 13 & 14 & overleaf).

Table 13: Data collection from Crew

Crew Participants CP	Combined observations, Interviews & field notes
1	60 minutes
2 & 3	Intermittently during 10hrs
4 & 5	Intermittently during 12hrs
6	Intermittently during 8hrs

7 & 8	Intermittently during 8hrs
9 & 10	Intermittently during 6hrs

Table 14: Data collection from patients /carers

Patients/carers Participants PP	Combined observations, Interview & field notes (minutes)
1	50
2	60
3	35
4 & 5	45
6	60
7	80
8	30
9	30
10	30

Following each observation and interview, field notes were completed in note form and then detailed in my research journal as soon as possible. In this process, thoughts, feelings and interpretations formed during the interview or observations were also recorded. Then the interviews were transcribed, which took place in a timely manner following each interview. The taped recording was listened to in conjunction with reading the transcribed data, this was to ensure it was verbatim and could be compared with the field notes taken. All data was reduced and displayed in themes in a chart (Appendix 21), to cross reference across all the data from participant observations, interviews and field notes to draw thematic conclusions (Huberman & Miles, 1984, Williamson & Long, 2005).

Field notes

The field notes were thematically analysed and utilised in the analysis approach of perceptions and constructs of the participants and the researcher's (Guba 1990). Gibbs (1988) reflective cycle was utilised, which includes a description of

the study, feelings, bias, evaluation, analysis, conclusion and action plan were used. This is also where Schon's (1987) theory comes into play, reflecting on the role as researcher and clinician, this is a skilled role, knowing-in-action, together with reflection-in-action (appendix 21).

Reflections were written in my research journal and details of observations added. The field notes and transcripts were analysed thematically into themes from three areas: description, analysis and interpretation within sub-groups. This helped me to ensure that the participants had their voices heard (Appendix 21). Thematic analysis moves away from merely reporting the facts to interpretation of the participants' discussion, it aims to distil and interpret the data being collected from observations and interviews (Wolcott, 1994, Creswell, 2007, Hammersley & Atkinson, 2007, Atkinson et al., 2009, Saks & Allsop, 2013). Having considered various approaches, thematic analysis was selected and applied. This worked well although it was adapted to suit the needs of the study. There is a sample of interview transcript analysis and of field notes in the penultimate chapter (Appendix 21).

The data from 20 interviews, 52 hours of participant observation, 52 A5 pages of field notes and my reflections in my research journal were analysed and synthesised using the processes discussed. The transcribed interviews were reviewed together from my participant observations and field notes. Then all data were reduced and displayed in themes in a chart (Appendix 21), to cross reference across all the data from participant observations, interviews and field notes to draw thematic conclusions (Huberman & Miles, 1984, Williamson & Long, 2005). By synthesising the data, themes emerged, and the findings are detailed in the next chapter.

Chapter summary

This chapter has detailed the data analysis design, theory on qualitative data and how it was analysed specific to ethnography. Challenges in data analysis have also been explored. The chapter concluded with a summary of the body of data to illuminate the data which findings were drawn from. In total 10 interviews

with crew and 10 interviews with patients, with a total of 52 hours of observations were achieved. In the next chapter, findings are presented which are organised into two themes which were found across the sample and three other themes, one being from the crew participants and two from the patient/carer participants.

Chapter 7 Findings

This chapter presents the findings from the study and draws on the data from observation, interview, discussion, field notes and reflection. In this chapter, findings from interviews with ambulance crew are presented first (Part A) followed by patients/carers (Part B). These are set out in themes: *patient journey, falls not being acknowledged as a problem by the patients, crew training, language used and patient transport*. Secondary data obtained during the study is presented in (Part C). Finally, in Part D, there is a synthesis of two cross-cutting themes - *the patient journey* and *falls not being acknowledged by the patients* which were themes in both participant groups. The chapter ends with a summary and an indication as to what is to follow in the Discussion chapter (page 128).

Reporting of findings

Within the findings, quotations taken from interview transcripts are used to illustrate key points that could not be better paraphrased and field notes, reflective notes and observations have also been utilised in the findings. Care has been taken to use quotations from a range of participants and to choose ones that best illuminate the data rather than the more sensational ones. Interview data and observation data are reported along with some incidental secondary data from the ambulance service. Participants have been given labels to protect anonymity and to show that a range of participants' quotes have been used.

For the purpose of presenting the findings, the following abbreviations have been used: CP: Crew participant, PP: Patient/carer participant. There were 10 crew and 10 patient/carer participants, therefore, the participants have been labelled 1-10 for each category.

There were two shared themes for ambulance crew and patients/carers which were: '*patient journey'* and '*falls not being acknowledged as a problem by the patient'*. The crew had an additional theme on '*training*'. The patients had two

additional themes: '*language*' and '*patient transport*'. The themes are presented in no particular order of priority.

Part A: Ambulance Crew

Theme 1: Patient journey

Interview analysis showed that all crew reported being aware of the falls pathway within the local area, and how it differs in other areas covered by the ambulance service. This matched with what was observed during fieldwork. From observation, the majority of the crew clearly understood the local pathway following a fall, which is to either leave the patient at home on a self-care pathway or to take them to A&E. They also accurately explained that the criteria for self-care are that the patient is taking no more than four medications a day (polypharmacy) and have appropriate support in place. Crew reported that from their understanding, if patients were rated as high risk by the crew, that they would be seen quicker within the local falls pathway, which is not the case in practice.

From reflection and field notes:

> 'This caused some concern to me about the crews understanding of how referrals are dealt with within the Falls Prevention Service, because if patients are told by the crew that they will be seen urgently and they are not, this is where miscommunication can lead to disengagement by patients.' (Reflection/field notes)

This will be further explored in the discussion chapter 8 on page 128. On seeing the pathway working in practice during observations, and during discussion of the protocol which is in place, all crew were noted and observed in practice to have a calm, controlled approach to the clinical assessment of each patient. The crew were non-judgemental and provided reassurance to patients and relatives during the assessment process. Field notes analysis record how all crew observed worked succinctly and intuitively with their partner providing seamless assessment, care and intervention which even occurs with crew who normally did not work together:

> ‘which on reflection demonstrates a systematic cultural approach to clinical assessment by all crew.’ (reflection/field notes)

During the assessment and intervention process, there was no rush or pressure on the patients to agree with the crew’s suggestion. The crew explained clearly the risks and benefits of the proposed intervention such as transfer to hospital or to stay at home with onward referral. In all of the interventions of observed patients and family, they appeared to respect the crew’s decisions and to take the advised route of care.

The crew reported that they always asked each patient who had fallen if they could refer them to the Falls Prevention Service. Two of the crew discussed different perspectives in the changes in practice with the introduction of the local falls pathway over the last 5 years. In the first quote below, crew expressed that due to changes in practice in being able to directly refer patients, this had had a knock-on effect in which crew needed extra time after leaving the patient to complete the appropriate referral. The second quote illustrates the improvement in patient care being able to refer patients on to get appropriate treatments and interventions which are evidence-based to reduce falls and injury risks (NICE, 2013):

> *‘There has been a change in the last 5 years, where we started liaising with other services such as falls, but we have not got the time, so we do it later in the shift and get off late.’(CP 5 line 117-119).*

> *‘5 years ago, we just sorted patients out at home and did not inform their GP, then we started referring them and it’s better for the patients.’(CP 10 line 194-197).*

My field note analysis corroborated the above two quotes:

> ‘Both quotes demonstrate crews understanding of their responsibilities; however, one focuses on a negative aspect or increased workload, whilst the other focuses on effective clinical outcomes for the patients.’ (field notes/reflection)

All crew interviewed and observed had a clear understanding of the local pathway and expressed positive views on how by having a falls prevention assessment completed, it could have a positive impact on the number of falls

call-outs and for the patients' falls' risk. Crew reported that patients who had had a falls' prevention assessment had a reduction in falls or callouts as found in the local data collected by the ambulance service which is as yet unpublished.

Data from the interviews reveals how crew referring to the Falls Prevention Service would not be aware of other referrals made for the same patients, unless they had seen them recently. This was because of the process of referral by the crew via their headquarters in Carlisle in which they telephoned through referrals, which then were forwarded by their computer system to the local single point of access then onto the falls services. My field notes and reflections report that in the ambulance service, there is at present no way for crew to find out if the patient had already been referred to the service, unless the patient was aware. However, they did expect that each patient had multiple referrals to the service from multi agencies, which is not always the case in practice:

> 'By crew not having any feedback from the referrals sent, this could be having a negative impact on referral numbers.' (field notes/reflections).

Interview data demonstrates that the majority of the crew described the referral procedure as a quick process through their central office on the phone following patient assessments. However, one of the participants described the process as being very long with too many questions and said that they did not get any feedback from the referral, not knowing if it was effective. One quote demonstrates this from a crew member:

> *'No time to do referrals to falls; we can refer but it really takes time and there are loads of questions.' (CP 7 line 140-143).*

Deeper understanding comes from field notes:

> 'Yet other crew told me that the process for referral was really quick.' (field notes/reflection)

The issue of ambulance calls received from local agencies that provide personal alarms for patients in their own homes was observed and discussed

with the crew. The main issues were that when patients alert the agencies that they had fallen, crew reported that the agency do not ask if the patients can get up themselves or if they think they have an injury, or if a family member could be called to attend to see if they are injured. This was also found in Newton et al. (2005), where crew were being used to assist patients up from the floor, more so than them requiring a paramedic assessment. This highlights the need for more lifting services to support patients and crew. The crew felt they just ring for an ambulance instead, which has an impact on call-outs and on the patient, who would be on the floor until they can be seen:

> *'They just rang an ambulance straightaway instead of asking the patients were they hurt, or could they get up off the floor.'* (CP 8 line 244-245).

Additional field notes demonstrate the complexity around this area:

> 'I can see the crew opinion on this, however, I can also see the view of non-trained staff who would be concerned that they could make an injury worse. It is a difficult issue to deal with in practice.' (field notes/reflection).

Although on observation and discussion with the crew explored was that during a call-out, one agency does provide a higher level of support for patients who have fallen, some care line agencies use an Elk lifting cushion™ to help the patient back up if the patient does not appear to be injured. However, in practice this is not a lifting service for patients who cannot get themselves up from the floor, so the service reverts to calling for an ambulance crew to assess the patients.

Crew expressed their frustration and concern about the apparent reported 'non-lifting policy' in residential and nursing homes, which care home staff used to explain why they wait for crew to assess patients, then they lift the patients. One of the crew stated:

> *'They don't even try to get them up!' (CP 9 line 246).*

Field notes focus on a narrow view taken by ambulance crew in these situations:

> ‘I could see their frustration about this, but I am not sure they see other points of view.’ (field note/reflection).

This was especially so for those patients who were confused, and one crew felt these were the most difficult patients to assess stating:

> *‘We also see a lot of patients who have fallen in care homes with the care home policy is to always ring 999 and not even try to get them up as they have a no lifting policy. Some have dementia or confusion; these are the most difficult to assess.’ (CP 1 line 7-10).*

On reflections:

> ‘My concern about this was that there are clear protocols in place for crew to assess confused patients, and that this appeared to take a negative approach to this issue.’ (field note/reflection).

Interview data revealed that the crew were fully aware of the effects on these patients of a hospital admission into an unfamiliar environment. The crew understood the effects of admission on confused patients, but they felt care home staff did not take this into consideration when they call the ambulance for a resident who has fallen as a matter of routine. Some crew expressed the issue of litigation by GPs and care homes and that crew were called out as a result of fear of being sued rather than patient need:

> *‘Care homes just ring 999 if an unwitnessed fall happens; they don’t even try to use common sense and they are too worried about litigation as well as GPs.’ (CP 8 lines 244-248).*

Field notes again focus around frustration felt by the crew:

> ‘I observed their frustration.’ (observation/field notes).

Interview data reveals the extend of the issue not only in care homes but in general and with relatives as expressed in the following quote:

> *‘Some relatives don’t even try to help them up even if they have no pain or injury.’ (CP 8 lines 249-250).*

My field notes report a reason for this behaviour:

> ‘I have witnessed this as well, but some people do not have the skills to assess for injuries and therefore, become over-cautious.’ (field note/observation).

The issue of non-lifting approaches was also evident in patients’ homes yet on only one occasion was this reported at interview by a crew member:

> *‘Relatives of patients advised the patients not to move until the crew arrive, even though the patient wanted to get up as they felt they had no injuries, but the relatives insisted they didn’t until the ambulance service came.’ (CP 9 line 249-250).*

This resulted in the patient being on the floor for a number of hours. The use of lifting aids for patients such as an Elk lifting cushion are available on all ambulances but were not observed in practice by me and crew did not mention the use of them except for one crew who stated that they were not always fit for purpose:

> *‘Not sure if they are serviced regularly and they are a bit rubbish.’ (CP1 line 44-45).*

In relation to this issue my field notes and reflections point towards a need for education and development of crew:

> ‘I think as with all equipment, it needs to be use regularly for people to have confidence in it.’ (field note/reflection).

Local ambulance figures report that falls call-outs account for 10% of their caseload. Crew reported at interview that they tended to see patients early in the morning which may have been as a result of a fall in the night, maybe going to the toilet. However, falls call-outs are graded as a low priority and ambulance crew tend to go to falls patients early in the morning after clearing all the high-grade red call-outs first. As a result of this, patients who were graded as a low priority following a fall may still be on the floor unable to get up.

During the observation of the pathway, the crew employed a number of strategies to recommend a falls referral and to persuade patients to accept referrals. Crew also actively asked patients about their falls:

> *'Have you experienced any dizziness, blackouts or have poor balance?' (CP 6 line 152).*

Whilst another crew member reported that they said to patients:

> *'Why not be referred, what have you got to lose?' (CP 1 line 6-7).*

This is a negative approach to encouraging acceptance of referrals. Although on observation, the crew interviewed was generally very positive about the referrals to the falls service but by taking this attitude in their approach, it could put patients off being referred or taking advice and feed into the negative connotations about falls prevention assessment and intervention found in the study by Yardley and Todd (2005).

On further discussion about this, crew reported that the main reasons patients were not referred to the falls service were that they had been seen already, or they declined because:

> *'Patients said that they had been there, and it was a waste of time and I was just given exercises.'* (CP 4 line 79-80).

My field notes and reflection demonstrate my use of reflexivity due to the issues being raised:

> 'I found it difficult to hear negative issues with the service I run, so in view of this, I used my reflexivity to deal with this as a researcher.' (field notes/reflection)

Following this, crew stated that they felt some patients did not want to self-manage and wanted quick fixes to the issue they had such as poor balance, which is further explored in the next emerging theme.

Theme 2: Falls not being acknowledged as a problem by the patient

All crew interviewed and observed expressed their concerns that patients who have fallen, do not always acknowledge that there is a problem or accept there is available advice to help prevent falls. Patients tended to view a fall as an accident or a simple trip and not acknowledge that it could be as a result of underlying medical or balance problem which requires specialist assessment and advice. Crews reported that:

> *'Patients weren't aware that there are services available who can assess and help them to manage the falls and thought that some patients were not happy to self-manage their conditions.' (CP 4 line 81-82).*

It was also acknowledged that patients did not understand the assessment and interventions offered by the falls service:

> *'Patients want quick fixes to prevent falls and manage symptoms such as dizziness, and that patients felt interventions such as exercise were not going to work and that they took too long to see the benefit.' (CP 4 line 83-85).*

This is illustrated by the crew reporting from a patient:

> *'There's no point referring me; they don't do anything to help me.' (CP 8 line 191-193).*

My field notes and reflections confirm pre-existing assumptions around this area of practice:

> 'I found difficult to hear, but it confirmed concerns I had about why some patients don't take part in falls reduction interventions.' (Field notes/reflections)

At interview and during observations, crew also reported that if a patient had already been referred to the falls service and declined another referral, crew would advise the patient that another referral could log another incident for information for the assessment. Crew found that by using this approach, patients were more likely to agree to be referred.

There were a number of reports in which crew found patients were:

> *'Not using walking aids as they had been advised and patients would not admit to having a problem in the first place.' (CP 7 line 113-114).*

Crew reported that patients were using excuses such as accidents as an explanation for falls. On observation, crew were concerned that they were finding patients becoming socially isolated as a result of the falls. As a result of this, crew tried to involve family friends and GPs. It was reported that crew found it difficult to encourage patients to be referred. Some patients also reported to crew that they had been to the falls service and the intervention and advice had helped to reduce the falls. Therefore, by acknowledging the interventions had helped but by not making changes to their lifestyle, they continued to fall. Crew also reported that most patients when asked for their consent to refer to the falls service were very positive about the service.

Another issue reported in practice was that patients with pendant alarms did not always wear them on their neck or wrist as designed and they were at the other side of the room or in another room from where they had fallen, and this practice is congruent with the evidence base (Yardley et al. (2008).

My field notes and reflections note a change in my practice based on the above finding:

> 'This is a recurrent theme when speaking to patients, on reflection; I include this in my discussions with patients and family.' (reflection)

Crew also felt that some patients did not understand the difference between a fall or a collapse, dizziness or the fact that they ended up on the floor. Following discussion, the general consensus from the crew was that patients did not want to admit the problem to themselves. My field notes revealed a certain language being used that I subsequently applied within my interviews:

> 'The language used to describe falls was posed as a question in the interviewing of patient/carer participants in order to further explore this issue.' (field notes/reflection)

One crew member discussed that because of this confusion:

> *'It should be called a 'fall', straight forward.' (CP7 line 133).*

Theme 3: Training

A separate theme from the crew interviews and observations was the lack of specific training on falls prevention. All crew observed or interviewed felt they required a clearer and in-depth understanding of falls prevention and the assessment of interventions the service provides patients in the local area. Crew felt that by having this they would be able to sell or promote the service to patients and increase the number of referrals completed. Crew also explained that they have no protected training time like other health professionals such as nurses and allied health professionals. Some stated that:

> *'We struggled even to complete mandatory training.' (CP 9 line 253-254).*

> *'We just get annual mandatory training, which does not include falls.'(CP 7 line 120-121).*

> *'No training directly on falls.' (CP1 line 60).*

Field notes again pick up on crews sense of frustration:

> 'I could understand their frustration struggling to do their training and that there was no focus on falls.' (Field notes/reflection)

The issue of difficulty completing training was confirmed on observation of the crew that due to the nature of their work, being out on the ambulance throughout the day except for a lunch break, it was observed that staff could only check their emails in this time. Training on the use of lifting aids such as Manga Elks, as discussed previously, did not appear to be provided to staff. It was observed in practice that crew do not routinely use this equipment. This could be as a result of lack of training or understanding about the piece of equipment.

In summary, the patient journey in the local area is clearly understood and followed by all crew observed, and referral processes are clearly understood. Due to insufficient data collected on the patients who were not referred, the findings have not been able to capture why those patients were not referred. This also had a detrimental effect on the recruitment of patients and carers in the study, because it was not available.

Crew reported that patients did not acknowledge the falls they were experiencing as a problem and did not generally seek help or take advice to try to resolve problems such as blackouts, dizziness and reduced balance. The issue of lack of specific training on falls prevention was also evident in ongoing discussions during the observations, however, the difficulty in receiving such training was also evident, due to the nature of the shifts and the lack of time to check emails or undertake training. My field notes and reflections identify areas for change and professional practice such as crew education and training.

Part B: Patients/carers

Prior to presenting the findings of the study from all participant patient/carers, I will detail one of the cases in full. This case is based around interview with the patient, integrated with my field notes and reflections. Patient participant number two, was a lady who had been referred to the Falls Prevention Service by the ambulance crew. She had been seen and had a full multifactorial evidence-based assessment completed and had started doing strength and balance exercises prescribed by the Physiotherapist. She had been having ongoing interventions when she was invited to take part in my study which she agreed to do.

I interviewed her at home on her request. After introducing myself and gaining informed written consent, I asked this patient to tell me about her experiences of falls. She stated that she had started falling over during the last two years and that she didn't know why and that she falls backwards. She also stated that sometimes she managed to get up on to her knees and get herself back up by using the furniture. However, due to her underlying conditions, her ability to get

herself standing up had worsened. She now had an alarm in place for when she had fallen and could not get herself upright again.

> *'They send someone out to check on me even if I feel okay; they need to check that I'm okay in case I have broken any bones.' (PP2 line 357-358)*

My field notes and reflections add depth to the interview and discussion:

> 'This could be seen as being over-cautious by always being checked out, when this lady is fully able to express if she had any injuries.' (Field note/reflection)

She further explained that on two occasions she had been admitted to hospital for additional tests following falls and that she was concerned that she felt very uncomfortable because staff were very busy. On reflection, this conveys that this patient did not feel she should have been there, even though she fully warranted admission to hospital on those occasions.

She then explained that she had been to a falls clinic where she saw two ladies who were 'very good' and they suggested doing some exercise, however, at the time she was unsure about doing this but agreed to try. Then she added that the time it took before she started the exercises was a long time. This could have potentially put her off doing the interventions. This finding is really important as changes to existing professional practice maybe required. This I noted in my reflections and field notes.

She then spoke about her difficulty getting to appointments due to her reduced mobility and that the ambulance transport did not allow patients to take their normal aids such as three wheeled walkers. This is further explored and detailed in the next sessions on patient transport. She expressed that she always tried to manage everything herself and did not want to be a nuisance to anyone. On reflection, I felt this echoed what many older people may feel when they need to ask for help. I was saddened how upset she became on discussing this point. When she became upset, I reassured her and asked would she like to stop the interview, but she did not want to, and she soon

appeared more settled. I think by allowing her time to express this concern, it brought up an important issue that she wanted to talk through.

When asked about her experience of being referred to the service, she expressed that she did not know of anyone else who could refer her to the Falls Prevention Service beside her GP and was surprised to find it was the ambulance service who had referred her. As a result of this, she stated that she:

> *'wished she had been referred earlier, because it has been really helpful.' (PP2 line 384-385)*

When discussing how the crew responded when she needed to be seen by a paramedic, she stated:

> *'Marvellous and their approach was very calm.' (PP 2 line 359)*

When we discussed the language used, she was happy to call the service 'Falls' and did not make any other suggestion for exercises that she was doing. This provided some reassurance to me on this topic.

The interview came to a natural end and the interview flowed very well, even to the extent that the interview questions planned were answered by this patient before I could ask them. I feel this confirmed their effectiveness and that they were relative to the participant group and the study.

Next are the themes found from patient observations and interviews with field notes and reflections.

Theme 1: Patient journey

All patient/ carer participants were observed and interviewed at their own homes on their request, following recruitment from the falls team. Two patients were observed whilst being assessed by the ambulance crew, but not interviewed, due to the need for medical intervention.

The patient/carer participants being interviewed were very positive about how they were assessed and treated by paramedics. During a patient observation and subsequent discussion, a patient described the ambulance service as:

> *'Marvellous and their approach was very calm.' (PP 2 line 359).*

Recorded field notes focus on non-verbal communication demonstrated by the crew as perceived by patient/carer:

> 'When participants were talking about the crew, their body language was very positive, and they really appeared to appreciate the help they had.' (field notes/reflection)

They also explained that they felt the paramedics had clear plans in place to be able to assess patients who had fallen and to decide if they required hospital admission or to stay at home. They also reported through interview on discussion that the ambulance crew asked questions about dizziness whilst assessing them. Patients' expectations varied, from one stating that:

> *'I would rather not go to hospital and stay at home, because when I'm discharged, I would have to get a taxi or two or more buses home.' (PP 4 line 407-409).*

My field notes focus around fears around discharge:

> 'My concern about this decision is that that patients may really need hospital admission, but they refuse it due to their fear of how they would get home.' (field notes/reflection)

In stark contrast, another patient stated that:

> *'Everyone should go to hospital following a fall because you never know.' (PP 7 line 591-593).*
>
> 'With this reply, I am reassured that crew have protocols in place to be able to avoid hospital admission.' (field notes/reflection)

Some patients who had assistive technology such as call alarms stated that each time, they pressed the alarm, the company would send for an ambulance

straightaway if it was clear that they could not get up from the floor or felt injured or on advice from relatives who are contacted in the first instance.

Reflections and field notes focus around further questioning that could enhance the patient journey:

> ‘This response did not appear to be undertaken with any other action tried, such as asking the patient if they can try to get themselves up before expecting them to stay on the floor until the non-urgent ambulance call out arrives.’ (field notes/reflections)

At interview, patients reported that when they were not asked to be referred to the falls service by ambulance staff, they appeared to think this could only be done by the GP. Patients also reported that they had seen social workers, paramedics, district nurses, fire service, podiatrists, which suggested that they had a poor understanding of those services. A commonly shared view is illustrated by this participant, stating that they were not aware of the falls service and did not feel the health or social care professionals they had been in touch with were aware of the service available:

> *‘Didn’t realise there were other services who could refer into the falls service.’ (PP 4 line 413).*

Field notes reveal lack of knowledge around falls referral:

> ‘This was clear from the participant knowledge that only GPs could refer into falls services, which is not the case.’ (field notes/reflections)

However, another patient stated that:

> *‘I wish I would have been referred earlier because it really helped.’ (PP 2 line 384-385).*

> ‘This demonstrates that they wanted help much earlier than they received it, missing an opportunity.’ (field notes/reflection)

Theme 2: Falls not being acknowledged as a problem by the patient

The findings from patients/carers who were interviewed demonstrate that patients are not acknowledging falls and that reduced balance or activity is not an issue for themselves. Some patients stated that:

> *'I did tell my GP.' (PP 6 line 523-524).*

Using my field notes, I tried to make sense of this situation from different perspectives:

> 'I felt this was their way of discharging their responsibility to their own wellbeing, because the GP had not actioned a referral; they assumed it did not need any intervention.' (field notes/reflection)

Or that:

> *'I wouldn't refer myself.' (PP 6 line 516).*

> 'This clearly demonstrated that although the person has been referred and seen by the falls service, they still did not think it was required, which could affect their adherence to advice.' (field notes/reflections)

Even after they had suffered a fall, experienced dizziness or had reduced confidence in their mobility, patients at interview expressed that it was their own fault, or they had slipped on a wet floor. This implies that because they were not seriously injured, the falls were not important, others described the falls as just accidents or silly falls. One patient explained that they had spoken to their GP and expressed their concern about swaying, and then they stated that they were much better with a stick and they were not very 'bad' falls. My reflections on this are that this demonstrates the lack of understanding about falls prevention between professionals, because in the NICE guidance (2013), anyone who is identified as having had a fall or is at high risk of falls should have a full multifactorial assessment and intervention offered. However, I noted that some patients did take advice and do accept help when they were struggling after they had experienced a fractured arm, which affected how they washed and dressed and functioned at home:

'I was given a number to call if I was struggling at home. I told them I'd be fine, but in the morning, I was not, so I called the number and they helped me for 8 days till I could dress myself.' (PP 6 line 443-444).

Some patients acknowledged that although they had care lines in place, they did not always wear them around their neck or wrist as they are designed to be worn and one patient stated:

'It's not much use on your bedside table.' (PP 3 line 390).

On reflection:

'I found that some people did not see the use of emergency alarms as important, because they were not acknowledging their risk of falling.' (field notes/reflections)

Patients also express that they try to manage and that they feel that a fall will never happen to them, and that:

'I try not to be a nuisance.' (PP 3 line 399).

Many patients interviewed expressed their concern of their desire to stay independent and not to be a worry to their family or require help from services. Patients who had seen the local falls service and had received intervention and had been prescribed exercises for the strength and balance said:

'I found it helpful and wished they would have started seeing me earlier; mind you, my doctor is busy.' (PP 2 line 384-385).

Reflections and field notes are based around usefulness of the falls service:

'some people found the input really helpful, which was positive and encouraging.' (field notes/reflections)

This section and findings demonstrate that patients did not acknowledge that they may have a problem with their balance or an underlying medical condition that can increase their falls risk.

Theme 3: language used

Leading on from the issue of patients not acknowledging falls risk, patients/carers participants at interviews and during observations were asked their opinion about words used in services and the perceived understanding of the language used. Patient participants were first asked whether they thought that the word 'falls' in falls services or clinics was appropriate, as there has been in-depth discussion about this word being used as having a negative connotation. On reflection, this was found in the study by Yardley & Todd (2005): 'Don't mention the F word'.

Patient/carers felt that it was an appropriate word to use and also added:

> *'Falls or balance going are the right words to use.' (PP 3 line 383).*

Overall, patients felt 'falls' described the event they were experiencing or trying to prevent. Patients/carers were then asked about the words used for exercise programmes. It was explained that some services like to use the word 'activity' to describe exercise groups and did not like the use of the word 'exercise'. One patient replied to this:

> *'You can't wrap it up or call it something else, exercise is exercise and activity is doing things like craft work or knitting.' (PP 3 line 396-397).*

However, another patient stated:

> *'Calling it exercise could put some people off thinking it is about running around, but if it was called activity, they may understand it more.' (PP 9 lie 751-753).*

My field notes focused on me making sense of patient/carer perspectives:

> 'I could see their points on view on what we call exercise or activity, however, feel this is missing the point of the need for evidence-based assessment and interventions.' (field notes/reflection)

From observation in practice and during observation and interviewing of the participants when discussing this topic area, some became annoyed that they felt they were being patronised or that services were trying to mislead them whilst others did not appear worried at all about it.

Theme 4: patient transport

Two patients during interview raised issues about the Patient Transport Service (PTS) because the study focused on ambulance use. The issues raised were pertinent to use of ambulance and were relevant to be included in the findings. One patient explained that when they had to attend outpatient appointments, they required patient transport managed by the ambulance service. The patient explained that:

> *'There is a rule that patients using ambulance cannot take walking aids like my three wheeled walker.' (PP 2 line 371-374).*

Field notes and reflections focus on potential barriers:

> 'I felt this was a barrier for some people to attending appointments at hospitals.' (field notes/reflections)

Participants explained that typically, when patients arrive at the outpatient clinics, they are transferred into a large hospital wheelchair and taken to the appropriate department. However, these participants explained that due to them not having their own walking aid with them, this made the patient feel vulnerable, anxious and nervous having to rely on the department staff to take them to the toilet, for example. At this point, the patient became upset and tearful and stated:

> *'I always try my best to keep independent and not bother people.' (PP2 line 376).*

Reflections and field notes focus on the need for strategies that promote patient independence:

> 'This really highlighted the fear people have trying to keep their independence and how they really try not to ask for help; it was really

difficult seeing this person become so upset over this matter.' (field notes/reflection)

In this situation, the interviewer reassured the patient and shared her concerns and asked whether she wanted to continue to which she replied that she did want to.

On a similar theme, another patient at interview expressed their concern about the design of ambulances and how they have affected her experience of using them with her underlying medical conditions. The difficulty expressed was the layout and design of the handles to help patients get in and out of the transport. The patient also expressed their concern that she was sat in a seat with no arms and had no way that she could get hold of the window to prise herself up due to her underlying conditions:

> *' I reckon the lack of facilities on the ambulance, some of the seats have handles on the sides and some don't so for someone like me who prises out of a chair I cannot get a grip on anything.' (PP 7 line 566-568).*

> 'I could see the person's point of view; however, it would be so difficult to adjust all transport to individual's needs.' (field notes/reflection)

In summary, patients and carers have expressed their opinions and experiences in using the ambulance service following a fall. The findings demonstrate a positive approach from the ambulance crew in assessing patients' needs following a fall. The findings confirm the experience of crew that patients do not always acknowledge issues they may have with falls or impaired balance. Patients/carers have also expressed their opinions about the use of different language or words used to describe falls and interventions.

Part C: Secondary data from the Ambulance Service

Although crew reported that they refer all patients who had fallen to the local falls service, data collected over a one-year period from September 2015 to August 2016, contradicts that suggestion (see Table 1, page 13). The average

monthly ambulance call-outs for falls were 300; of these, 71% were over the age of 65 years. Of the 300 call-outs, 46% of patients were taken to A&E and 54% were left at home on a self-care pathway. Of the non-conveyed patients, only 36% of patients were referred to the falls service resulting in 64% of patients not being referred. In personal communications with the ambulance service local lead, they reported that data collected by the ambulance service, reported a 17% reduction in falls call-outs over a year as a result of referral into the Falls Prevention Service. There are plans to publish this data.

Data extracted from the year data as discussed above, compared a three-month period from November 2016 to January 2017, which was the period the study data collection was undertaken with the ambulance service. This was compared to the same months in the previous year and was found to be very positive in terms of the number of referrals received by the falls service. Overall, the data found that there had been a 31% increase in the number of falls referrals. This increase could be potentially as a result of the focus of the study in which emails, flyers and posters were distributed across the local ambulance service. This effect could also have been as a result of my presence over this period of time who was promoting the study, referrals and the falls service, which is known as 'The Hawthorne effect' (Coomb & Smith, 2003). Another contributing factor could have been as a result of an ambulance service winter pressures drive to encourage crew to refer patients to the falls service. This will be further discussed in the next chapter.

In summary, secondary data provided useful insights and contextual data within which to situate my own ethnographic findings.

Part D: Synthesis of findings

The two main themes in the study, being the patient journey and falls not being acknowledged as a problem emerged from both groups observed and interviewed. Even though patients interviewed had experienced falls and were discussing their experiences, the majority still did not perceive that they had a problem with their balance and/or required assessment and interventions. The

lack of falls training for crew was also evident in the observation and discussion undertaken and this I reported in my field notes and reflections. Although all crew had a clear and in-depth understanding of the pathway and appeared to advocate referrals, the secondary data of referrals sent refuted this, due to lack of data collected about patients who were not referred which was not available. The themes about language used to described falls and interventions which emerged from my field notes and reflections with subsequent interview questions to study participants added depth to the findings about how patients did not accept falls as being a possible problem for them.

Chapter summary

This chapter has detailed the findings from the study, and thematically analysed them from the crew and patients/carers' points of view. Two of the main themes from the crew and patients/carers' experiences concur that there is an effective local pathway in place for the patients who fall and call an ambulance. The findings also confirm the opinion from the crew that a number of patients do not acknowledge falls as a problem which is confirmed by the findings from some of the patient/carer participants, because although they were referred to the Falls Prevention Service, some still did not acknowledge their falls to be an underlying problem. Lack of training opportunities were identified by the ambulance crew which highlighted their development needs and the issues in practice that the crew experience due to the nature of their work. The findings from patients/carers participants about the language used have been very informative. These findings will now be discussed and related to the relevant literature in the next chapter. My field notes and reflections have been utilised to add to the findings.

The next chapter focuses on discussion about the suitability of the study including methodology, methods, and limitations. The findings are also discussed in relation to the evidence-base identified in the literature review and the author's own perspective and professional insights.

Chapter 8: Discussion

This chapter firstly sets out a critical discussion of the study design which includes the philosophical stance taken and critique of the methods used and consideration of their limitations. This includes the impact on changing recruitment strategy on achieving the aim of the study and on answering the four research questions. Secondly, it critically analyses and compares the study findings to the established literature in this area. Finally, the reflexive nature of the study will be revisited focusing on identity and actions taken within the study to demonstrate my responsiveness as a researcher.

The initial aim of this ethnographic study was to explore the experiences of patients who had not been referred to the Falls Prevention Service as supported by NICE guidance (2013). However, due to the significant challenges encountered in the recruitment of patients/carers by the ambulance crew, (see page 137 Table 15), this required a change in the approach to recruitment of patients /carers. This meant particularly that for research question 3- what factors affect whether falls patients in domestic settings are referred to a Falls Prevention Service, one could argue that my study changed to also explore fallers who were referred to a Falls Prevention Service.

In view of this within other methodological approaches, this could have been seen as a fatal flaw. However, because qualitative research is an iterative process, that requires reflexivity and flexibility and utilises elements from experience, in particular ethnography is equipped to address these issues. The study's ethical approval was amended and accepted to change how patients/carers were recruited. In view of this, the need to change the focus of the study as it developed is not seen as such and instead including elements of the experiences of those who were referred provided the understanding of the important aspects of being referred which directly contributed to meeting the study aim.

This change to the original aim of the study indirectly contributed to the understanding of the phenomena being studied and provided learning for future

research studies. The aim of the study under investigation was to explore the experiences of patients following a fall in domestic settings from the perspective of patients, carers and ambulance crew. In fact, by making the changes, the findings used elements of the experiences of those who were referred to understand what the important aspects are of being referred, which indirectly contributed to an understanding of the issues involved in not being referred.

Study design

When qualitative research is conducted, multiple ideas within realities are embraced. Evidence of this can be demonstrated by including illustrative verbatim quotes used by different participants within the study. The assumptions and perspectives chosen for the study were a combination of interpretive social constructivism, objectivism and symbolic interactionism, all taking a naturalistic approach.

The interpretive social constructivism, undertaken in the natural setting provided a focus in the groups being observed and interviewed, which enabled me to examine influences and issues that arose in certain situations (Burr, 2003, Mertens, 1998, Goodson & Vassar, 2011, Creswell, 2007). One example from my findings was when crew were asking patients for permission to refer them to the falls service. A number of patients dismissed the issue of falling by stating it was ‘an accident’ or ‘nothing to worry about’. This highlighted the influences that arose in practice and how two participants had completely different conceptualisations of the same event.

Whilst taking an objectivist approach, I understood that a meaningful reality can exist for many and this understanding has been developed. In this study, crew reported that some patients would refuse referral because they said that they had been to the service previously and all they were given was exercise. This again demonstrates a difference in understanding and whilst the falls service understands that the patient assessment and intervention are evidence-based, patients may not identify with this and feel they have not got what they expected from the interaction due to lack of knowledge. This perspective concurs with

ethnographic approaches, from a view of what it is to know and understand the values of the participants (Crotty, 2015).

Within the ethnography, the spirit of symbolic interactionism sought to uncover meaning and perspectives of the participants. The illustrations given above show different meanings those participants can hold, and that these are authentic as they were gathered in an undisturbed naturalistic way in the participants' natural environment. The ethnographic approach, therefore, appears to have been effective in enabling the findings of the experiences of patients and crew. An alternative approach would have been a case study or a narrative study. However, I do not feel that this would have gained such varied experiences which the ethnographic approach allowed (Strass & Corbin, 1990, Chase, 2005). I feel this approach provided a variety of methodologies which have been undertaken in this study and together proved fundamental in the collection of valuable data from observation and interviewing the participants (Crotty, 2005, Hammersley & Atkins, 2005).

Having undertaken a qualitative study, I made statements about the particular epistemological assumptions and methodological decisions made relevant to the research questions. The study aims were to explore the experience following a fall from the perspective of patients, carers and ambulance crew. In order to do this, research questions were developed which met the needs of this study which were developed from the literature review and that have arisen from my experience in practice. The questions proved pertinent and during data collection, the study methods proved effective in providing participants suitable opportunity to talk about issues relevant to these questions.

The study was based on collecting multiple views, creating a rich variety of perspectives and meanings, in order that I could understand the complexities of professional, clinical and organisational interactions. An ethnographic methodology proved effective in this study because it enabled exploration of the 'natural' state undisturbed, in which the participants describe what happened, how people were involved and how they talked about their own and others'

actions (Hammersley & Atkins, 2005, Deacon, Warne & McAndrew's, 2006, Creswell, 2007, Hammersley & Atkinson, 2007, Atkinson et al., 2009). Taking this approach, I felt that I observed crew and patients in a relaxed way, seeing their true selves undertaking their daily work routine and for patients talking about their experience of falls and their interactions with crew. This also made our relationships develop quickly which enabled the participant to openly express their thoughts and opinions.

As the literature indicated, there was a risk of me going 'native', losing my ability to be objective in describing my own stance and this is where my reflexive actions, self-helped its progression, where I used my reflexive diary, for example (Hammersley & Atkinson, 1995, Fetterman, 1998, Pellatt, 2003, Lee, 2007). Another difficulty was that a culture is not a homogeneous value system, but it can be influenced by social location and assumptions about my view which can affect the understanding. It was difficult to generalise from ethnographic studies, and although the approach taken in this study has been time-consuming and arguably expensive as Gerrish & Lacey (2010) indicate, it has also been time-limited and conducted within certain academic and organisational constraints which meant the full benefit of ethnographic research has not been realised. When weakness in the study arose, this flexible approach enabled me to make changes to my methods, which proved to be effective (Hammersley & Atkinson, 2005, Creswell, 2007, Atkinson, 2015). I would use Critical Ethnography for this kind of study again.

Participant observation

The ethnographic approach enabled observation of actions and accounts to be made of participants' experiences within normal contexts within the natural field. By observing the participants, it enabled a comprehensive picture to develop of the crew and patients' experience which enhanced the findings of the interviews and thematic analysis (Spradley, 1980, Creswell, 2007, Hammersley & Atkinson, 2007, Snooks, et al., 2005, Halter et al., 2011). In the field, the academic theory did reflect in practice in undertaking observation of the participants. Reflexivity was employed to ensure the participants were not being

led with my opinions. During the first observation, I found it difficult not to help and I struggled to take the researcher role on, however, by utilising the support and knowledge provided in supervision sessions, I was able to effectively manage this issue. The issue was achieved by utilising my study journal reflecting and reading over the field notes, interview answers and by the observations made.

The study used overt observations because it was ethically appropriate and because I was known locally as the falls lead within the community to a number of ambulance crew and also patients who I had seen in clinical practice. This had the potential to negatively affect the study findings, because it could have helped or hindered with the study findings. However, during data collection, the participants appeared to be very honest in their discussions and accepting of my presence. For example, on the second day of combined observation and interviewing crew, some negative feedback was given about the falls service that I lead by crew relaying what they had been told by patients. At the time, I took the data and wrote in my field notes about how I felt about the negative feedback and it helped me to really undertake my role as a researcher and not to be affected personally about difficult topics arising the study. One field note example was the reflection on my first day of observing and interviewing and how I felt which conflicted with being a researcher and a clinician:

> ‘I spoke too much during the interview and justified our service instead of listening and observing as a researcher.’ (Field notes p6).

I was able to separate myself from my falls lead role and to react as a researcher which helped me develop. Covert observation would not have been ideal for such closed and intimate environments as the back of an ambulance and patients’ homes and would not so readily have won the support of ambulance service leaders to undertake the study. Similarly, feedback of findings gained from covert activity would not have been well received by a service that is not very research active and could be expected to regard me with a degree of suspicion. As the intention was to develop findings that may require

a change in crew practices, an approach that gained their trust and engaged crew through overt observation was the most fitting approach.

In the study, I introduced myself as a researcher and the falls lead. This could have potentially affected the recruitment of crew who may have felt intimidated by my senior role which may have been critical of their individual practices. Similarly, crew may have behaved differently due to being watched, prompting them to refer patients to the falls service more than usual due to my presence. This is where the 'Hawthorn Effect' could have been evident, that the participants perform better because they are being watched (Coomb & Smith, 2003). However, I feel being open in this way was appropriate because a large number of crew and patients knew me, and I feel that trust could have been lost. On reflection, I would use participant observations again for this kind of study.

Interviews

Interviews were planned to be semi-structured, using open-ended questions and audio taped with consent in order to ensure transcription was accurate and verbatim. However, it quickly became evident that this was not going to be feasible for the crew, due to the nature of their practice. In view of this, I adapted my approach to combining observation in the field and interviewing with the crew. As a result, I was unable to audio record the interviews but took detailed field notes throughout the sessions. By not recording the interviews, it could have felt more relaxed for the participants to share their experience, whilst being recorded could have collected their exact thoughts. I feel this worked well and I learnt to be flexible and to have the confidence to change my plans as required to be able to collect the data. Utilising one-to-one interviews for patient/carer participants using the method above was successful for this group. For me the realities of ambulance crew working conditions mean that creative approaches must be developed. In interviewing a range of participants, an in-depth variety of experiences was achieved (Hammersley & Atkinson, 2005, Creswell, 2007). Individual interviews turned out to be very appropriate for this study and I would use them again.

Field notes

Field notes were used throughout the study and used for my reflection of the observations I had undertaken and my feelings and reflections about the events, and the data collected. I used the crib sheet that I had developed to be able to code my observations to make my notes time-effective. On the first day, I felt lost and vulnerable in an unfamiliar field which I was observing, however, I needed to disclose my clinical role as discussed previously, and this provided an icebreaker for the discussions. One example of this was that a patient needed a cannula inserted, but was too cold for it to be successful; the crew member said to me:

> ‘You’re a nurse consultant; you’ll be able to get it in.’ (CP 2 line 73).

However, this presented a dilemma for me. I had checked my competencies in practice as part of my code of conduct (NMC, 2015) what clinical interventions I should offer when the need arose, so I checked for veins and could not find any, so the crew member accepted this. This put me in turmoil of my role in clinical practice versus my researcher role.

After that day, I sought advice from my University supervisor, and this helped me to be clear about my role as a researcher in the field. On the following days, I resolved to keep the two roles separate and only give help or advice in emergency situations where my code of conduct required me to act. This helped develop the quality of the research and ensured I was not overly participatory beyond what was needed for the study, for example, putting a patient at ease. Ordinarily, maintenance of field notes could be obtrusive but as fieldwork was in such close proximity to a single crew member who was also taking extensive notes during patient management, my notetaking did not result in a barrier to communication or relationships during fieldwork. I found detailed field notes an aid to reflexivity within the study and an effective research tool in the context of ethnography (Lee, 2009, Atkinson, 2015).

Sample

Utilising the big net approach, convenience, opportunistic, criterion, random and purposeful sampling, I found that they were all appropriate for the research study. However, convenience and purposeful sampling would have been a more effective approach to take, if the data from the ambulance service on all patients who refused to be referred had been available. In view of this, sampling was worked out initially and adjusted as the study developed. This approach was effective in achieving the sample aim because it provided a flexible approach to sampling by me and the crew who were initially gatekeepers to the patients/carers. However, as this transpired, the recruitment for patients/carers required to be adapted due to its inadequacy. On reflection, I would not use other participants in a similar study to recruit again but I would look for more effective robust ways of recruiting, such as, through the local falls team which had proved very effective in recruiting patients/carers for the study. The sampling focuses on four aspects: the events, settings, actors and artefacts which are then conceptualised (Creswell, 2007, Atkinson, 2015).

By utilising these methods, the sample plan was achieved by recruiting from a population that may be considered as 'hard- to-reach' in divulging their experiences, but who became key informants. By adjusting the recruitment approach to the study, combining observation and interviewing of the crew proved effective in collecting substantial data (Miles & Huberman, 1994, Bonevski et al., 2014).

The target population chosen for the study excluded people who did not have the capacity to consent. In view of this, carers were invited to take part in the study so that their voices could be heard. It was problematic because I did not recruit any carers. This data could have enhanced the study objectives and in view of this, I would use this idea again in future studies.

Another exclusion criterion was that of non-English speaking participants; this had been decided because in the local population where there is a small number of non-English speaking minorities in the research locality. This is a

problem with the study because it would not be transferable to non-English speaking groups. Additionally, no resources were available to employ translators and I do not speak additional languages other than English, therefore, barriers to understanding were avoided. However, this could be argued to affect the study's validity in certain situations because this is a small study but on reflection, it was a valid decision due to costs for the study plan. This exclusion could be removed if the study gained funding after completion for a larger scale study.

Influencing factors for the difficulty in recruitment by the crew or patients/carers for the study could have been the crew's lack of knowledge and readiness to undertake research. Furthermore, the study was being undertaken by a clinician from a separate NHS Trust and a different professional group (nurse), which could affect the ownership of the study. However, it is imperative to add that all crew approached to take part in the study expressed being very supportive and interested in the subject being studied. The issue of crew not appearing to be research ready could have been as a result of how busy crew were and/or their being focused on complex decision-making processes which could have taken precedence over their role in supporting recruitment.

Data Collection

Burr (2003) describes data collection as a relationship with the participant, not just data collection. This is as a result of the privileged power position I can hold, because data collection is a two-way process. The interview questions were designed to put the participant at ease, and they appeared to be successful in this with the patients/carers participants allowing for a relaxed atmosphere. I feel that by having shared the questions with patients and crew prior to commencing the study made them more effective and appropriate to the study, which led to the data providing answers to the study questions. This process in the study was worthwhile and I would advise or recommend that others use this methodology (Hammersley & Atkinson, 2005, Creswell, 2007).

Recruitment challenges

There were seven main challenges that became apparent in the recruitment stage within the study, see table 15 below. As an early researcher, these challenges provided in-depth learning and demonstrated and acknowledged my strengths and weaknesses within the research field.

Table 15: Summary of recruitment challenges and actions

	Challenges	Actions taken
1	Distribution of information/crew not reading prior to observation	Adapted approach to explaining study and gained verbal consent prior to observed shift
2	Number of falls call-outs	Discussed protocol and experiences of managing falls call-outs
3	Recruitment of crew for one-to-one interviews	Sent global emails and bulletin articles
4	Crew time restraints	Adapted approach to combine observation and interview
5	Focus on falls referrals	Gained data figure to be analysed
6	Presence of falls lead as researcher	To be analysed
7	Lack of patients/carers recruited	Adapted recruitment to adverts in local places and global emails and within own NHS Trust and in newspaper article. Amended ethic to change recruitment plan.

Challenge 1: Distribution of invitations and crew not reading sent invites.

The issue of the lack of time at the start of the observed crew shift was quickly evident and the fact that the crew had not received the information in a timely manner raised the issue of their informed consent. By adapting my approach, crew agreed to my observation and interviewing which proved effective. I have not found similar issues to this that have arisen in the literature, but this could

have been as a result of restricted word counts and it was not felt important enough to share.

Challenge 2: Number of falls call-outs to observe.

The issue highlighted earlier in the study that call-outs for falls were fairly infrequent was borne out during the study (1:10). During the first 10-hour shift, only one call-out was as a result of a fall, but on attending the call-out, the patient was not at the location, which highlights the difficulty encountered during the study. Although there were only three patients observed who had fallen during the data collection period, the crew drew on and discussed their recollections of past patients who had fallen and their management of them which added to the data collected. In the literature, there was no mention of this issue, however, the literature in this field focused on decision-making and the number of call-outs to patients who had fallen (Snooks et al., 2004, Halter et al., 2011). There were no ethnographic studies found in the literature focusing on this area, which make this study unique in discovering the issues encountered.

Challenge 3: Recruitment of crew for one-to-one interviews.

The recruitment issues in the study have been explored already, however, they provide learning for future studies. A number of ways to recruit crew and patients was employed and I feel they were all appropriate and I would use them again in future studies. As previously discussed, the restraint in crew's time during shifts, made it impossible to take part in one-to-one interviews which is why the participant observation and interviewing of the crew was combined. My response to this challenge demonstrates adaptability to the research situation and the value of multi-methods (Savage, 2000, Creswell, 2007, Hammersley & Atkinson, 2007).

Challenge 4: Crew time restraints.

As a result of the issues discussed, I combined participant observation with semi-structured interview questions asked during the shift, however, recording

of these interviews was not feasible, therefore, I took field notes regularly. By doing this, I was able to capture the crews' voices and experience in dealing with patients who had fallen. In the fast-paced area being studied, I needed to adapt and be flexible with my approach. I feel this was appropriate for the study and proved effective. Again, this approach has not been found in the literature because in this area ethnographic approaches have not been used previously (Atkinson, 2015).

Challenge 5: Focus on falls referrals.

I was informed by the NWAS local clinical lead that there was an increased emphasis on crew to follow the falls pathway and to refer all patients to the Falls Prevention Service due to winter pressures. In practice, over the three months the study took place, there was a significant increase in referrals to the service. Undoubtedly, the study could have had an effect on this, with the number of communications and messages circulated. As a result, in the secondary data figures which are detailed within the findings chapter, there was an increased focus which could have been as a result of the 'Hawthorn Effect' (Coomb & Smith, 2003).

Challenge 6: Falls lead presence as researcher.

The fact that I was present and visible to crew members over a period of 3 months, could have had a positive influence on the number of patients referred to the Falls Prevention Service as per the ambulance pathway. As the falls lead, I knew there was no other obvious driver that could have caused this such as a new policy or awareness raising campaign. However, these increased patient referrals did have a detrimental impact on the recruitment of patients.

Challenge 7: Lack of patients/carers recruited.

The issue of the lack of patients/carers recruited was acknowledged in the planning of the study to be a difficult group to recruit from (Bonevski et al., 2014). This was as a result of no data being collected by NWAS locally on

patients who were not referred to the falls service. In view of this, the ethics' application was amended to enable the Falls Prevention Service team to recruit from patients who were already under the service, which proved fundamental in the recruitment of patients/carers to the study and added in-depth understanding. On reflection, in the planning of the study, I was concerned not to directly recruit patients because I felt that would affect the data collected in a detrimental way, but in reality, it added depth to the findings of the patients' experiences. Again, I have not found this issue referred to in the literature.

Data Analysis

The data analysis began in the pre-field work phase, in the formulation of the research problem and continued throughout the process of writing this thesis. It was important to recognise that there is no one clear formula for the analysis of ethnographic data. However, it did provide ways of working towards understanding and the production of findings which were rich in experiences and concepts (Lofland et al., 2006, Hammersley & Atkinson, 2007).

I would agree with Loftland et al. (2006) that ethnographic analysis is never achieved or exhausted by specific rules, but that it sits in the research capacity to generate data that reflects how participants fit into their local group in society. This was used to demonstrate the complexity of the participants' experiences by drawing out generic links and comparisons to ensure the experiences are heard and analysed (Lofland et al., 2006, Hammersley & Atkinson, 2007, Atkinson, 2015).

The data analysis plan was simultaneously collected and analysed through the study. Then, reflexivity was used in my interpretation of the participants' stories, adding more detail to situations (Lofland et al., 2006, Atkinson et al., 2009). The data was analysed, and the plan worked as set out and was manageable due to its ongoing focus, so the data did not build up. This was an effective approach for the study and allowed continuing development of the thematic analysis which emerged (Lofland et al., 2006, Hammersley & Atkinson, 2007, Atkinson, 2015).

Study Limitations and Quality Assurance

In this section, I detail the limitations that arose from the study. The aim of the study was to explore the experiences of crew and patients/carers, and it is important to consider how successfully it was undertaken.

A concern at the time was that the experience of patients would not be a true reflection of their experiences because they had already been assessed and seen by the falls prevention team. In reality, this proved not to be an issue and if anything, the findings became more interesting because of it. The issue with the lack of data collected by the ambulance service of those patients who were not referred to the falls service proved a barrier for the recruitment in the study.

Another limitation found in the study was the low number of carers who were recruited to take part in the study. This type of recruitment was initially to be included in the study for those patients who were unable to consent, so that their voices could be heard. This could have been because of the term 'carer' being used rather than family or friends, which in practice most people think of as only formal carers. In the majority of the interviews, family members who wanted to take part did so. This is something I would change in future research studies.

Miles & Huberman (2002) explored how their approach to data analysis in qualitative studies worked well in ethnographic approaches. The concepts and theories reviewed influenced the study design, which was further supported by Hammersley & Atkinson (1995) and Lofland et al., (2006). Huberman & Miles (1984) warn that because most qualitative researchers work alone, they may act as a monopoly when defining the research issue. This can be further increased by being a lone researcher. In view of this, I utilised various ways to test and confirm my findings ensuring trustworthiness of the findings analysed by always using reflexivity.

The rationale for using narrative in the study was to add meaning to the experience of the participants, providing them with a voice and enabling the

addition of non-verbal communication and observations to be explored and interpreted. Narrative analysis provided a systematic analysis of the participants' accounts, memories and opinions to produce the study findings. I feel this was effective in hearing the participants' experiences and voices. However, the narrative could have been stronger with more experience as a researcher (Hammersley & Atkinson, 2005, Lofland et al., 2006, Atkinson et al., 2009, Atkinson, 2015).

Finally, when I had completed the first interviews, I reviewed transcriptions together with my field notes and a blind reading was undertaken by my supervisors to ensure the findings were not reflections of my own experiences. This provided quality assurance for me undertaking a qualitative study.

Summary

In summary, I have detailed the limitations in the study and the quality assurance action I have taken, which proved to be fundamental in my journey as a researcher. The approaches either worked or were successfully adapted so that a suitable sample was achieved, and adequate rich data obtained. By making adaptations to the recruitment and combining observation and interviews, this enabled the collection of the voices and experience of the crew. In total, 10 ambulance crew members were observed, and their voices heard and documented for analysis. The observations and interviews totalled 45 hours over 5 days and field notes were documented. The sample was achieved for ambulance crew in the study. what about including info from the patient/carer participants here.

The first part of this chapter has focused on how effective the study design was in answering the research questions and hearing the experiences of crew and patients following the journey after experiencing a fall. It has critically discussed the methodology, methods used and how effective they have been. The learning from undertaking this study has been discussed and ideas established for future research studies. In the next part of this chapter, the findings of the

study will be critically examined and linked to the established literature, and gaps or new evidence will be established.

Study Findings

Part two of this chapter critically discusses the study findings in relation to the literature review and how they compare and contrast.

The five themes are: *patient journey, falls not being acknowledged as a problem by the patients, crew training, language used and patient transport.*

The discussion considers both supporting and contradictory evidence in relation to the five themes that emerged from the study and identifies new findings and gaps within the literature.

Table 16: Study findings: themes

Ambulance crew findings	**Theme**	**Patient / carer findings**
√	1-The patient journey	√
√	2- Falls not being acknowledged as a problem by the patients	√
√	3- Training	X
X	4- Language used	√
X	5- Patient transport	√

Theme 1: Patient Journey

Despite changes to the recruitment of participants, the aim of the study and its four research questions have been met. The findings in this theme meet all four of the study aims. The findings are supported by the literature which identified the need for clear protocols to be in place for non-conveyed patients following a fall (Snooks et al., 2006, Newton et al., 2006, Metcalfe, 2006, Logan et al., 2010), whilst other studies focused on the low referral rates into the Falls Prevention Services and finding Falls Prevention Services cost-effective (Newton et al., 2005, Comans et al., 2011, Darnell et al., 2012, Sach et al., 2012). The above results and views concurred with my findings that all crew reported that they were aware of the falls pathway within the local area, and how it differs in other areas covered by the ambulance service. This corresponded with my field notes and from observation and interviewing the majority of the crew who clearly understood the local pathway following a fall, which is to either leave the patient at home on a self-care pathway or to take them to A&E. They also accurately explained that the criteria for self-care are that the patient is on no more than four medications a day. It can be argued that utilising the criteria, the majority of patients seen would have to go to A&E, although they may be managing well at home, have no injuries and have home support.

The literature also supported the need for policy and pathway development in the ambulance service and the need to identify patients who do not need conveying to hospital and those referred on to Falls Prevention Services who would provide evidence-based assessment and intervention (NICE, 2013, 2015, Tiedeman et al., 2013, Simpson et al., 2013, Mikolaizak et al., 2013, Evans et al., 2014, Snooks et al., 2017).

Although there is strong quantitative evidence within the literature, there was only a single qualitative study which explores the experiences of the ambulance crew (Halter et al., 2011). Other studies focused on the ambulance crew decision-making but not their experience (Snooks et al., 2012, 2017). There were no studies that explore the experience of patients following a fall and in

view of this, the study provides new evidence of the experiences of the patients and the ambulance crew.

The findings suggest that crew thought referrals to the falls service were triaged as low, medium or high risk, and reported that from their understanding, if patients were rated as high risk by the crew, that they would be seen quicker within the local falls pathway, which is not the case in practice. It was explained by ambulance crew that within the local area, the falls service is a not an urgent response. The ambulance risk rates of low, medium and high had been added to the referral form by the ambulance service and not the local falls service and this is where the misunderstanding had arisen. However, within the local area, there is rapid access to urgent clinical input within two hours, within which the crew can contact the single point of access to arrange, which is for any condition not only falls. This was a communication issue identified from the study which is suggested as policy and practice development in the next chapter.

A major finding of the study was that patients following a fall who called the ambulance, are generally allocated as a non-urgent response. Patients who are unable to get up off the floor due to injury or lack of ability may well result in what is termed as a ‘long lie’. Patients could have been on the floor for a number of hours which may be as a result of not been able to access help to get up or those who have waited till carers or family have found them on the floor. Together with the delay, there is the added delay in receiving ambulance assessment. By the time ambulance crew see and assess patients, they may have had experienced a number of hours on the floor. This can have medical implications of the increased risk of rhabdomyolysis and hypothermia. Simpson et al. (2013) found this to be the case in their cohort study that found differences in the crew approaches in deciding if the patient required A&E. As a result of these conditions, patients then will need to be taken to A&E for medical intervention. Although the grading of call-outs is clear and essential in these cases, in terms of admission avoidance, it can be counter-productive. This is also an area required for policy and practice development which could have the

potential to reduce long lies with utilising other lifting or urgent falls services (NICE, 2014).

In recent years, pilot studies by social services have been undertaken to determine whether lifting services could be a viable alternative for patients at low level risk, which could have a beneficial effect on ambulance callouts. However, the issue of consent from the patients was the main barrier identified and the pilot was not continued even though the pilot feedback suggested it. However, on discussion during the study, it was understood that the care line services are not available as a 'lifting service' on a regular basis, which would be a viable cost-effective alternative to the ambulance service, enabling the ambulance service to focus on the patients who require them.

The literature supports this approach as found in Newton et al.'s (2005) study which finds that the main concern identified was that the ambulance service was used as the only response to falls, because in a number of call-outs, the patient only required lifting or assisting, therefore, utilising their expertise. There is potential for a lifting service to be explored and costed which could be utilised by the ambulance service for patients deemed at low risk. This idea will be further explored in the next chapter. This is supported by the NHS Federation report (2012) that advocates commissioning on falls services needs to be implemented in conjunction with social care and third sector providers.

In the literature, Metcalfe's (2006) pilot project provided a rapid response for those who called an ambulance. In practice locally, there is a rapid response available which is being developed in collaboration with the ambulance service to meet the needs of an urgent response. Another potential solution to the issue of patients experiencing long lies and the impact of falls on the ambulance service, is the development of 'Falls Cars', in which there is a collaboration of paramedics and falls specialist teams providing an urgent service supporting the ambulance service. This highlighted a gap in commissioned service provision, which needs to be explored, possibly with the provision of an urgent 'Falls Car' in which falls services practise together with paramedics providing

urgent responses to patients (Metcalf, 2006, Campbell, Pyer, & Jones, 2013). This will be further explored within the next chapter.

Another issue found in the study which was discussed with crew was that they felt they did not receive any feedback from the falls service about the patients they had referred, which could have had a negative impact on their approach to referrals. This issue was discussed with the NWAS local lead to see if there was a feasible way to provide feedback to the crew. Unfortunately, if this were to be set up, it would be unworkable in practice for the crew to access the data. In practice, the falls service works collaboratively with the ambulance service in providing feedback to the crew in ways such as in the local bulletins to address this issue.

The literature did not uncover the reasons for low referral rates of non-conveyed patients to Falls Prevention Services. Comans' (2011) study found that the main reason for non-referral was that the patient was not injured which accounted for 72% of the patients, with only 26% of patients declining referral. The patient journey in the local area was clearly understood and followed by all crew observed, and referral processes are clearly understood. Unfortunately, due to lack of data collected on the patients who were not referred, the findings have not been able to capture why those patients were not referred. This had a detrimental effect on the recruitment of patients and carers in the study because it was not available. This would be a suggestion for further clinical audit to be undertaken.

Although crew reported that they refer all patients who had fallen to the local falls service, data collected locally was from NWAS over a one-year period from September 2015 to August 2016 which contradicts that suggestion as detailed in chapter 7 (findings, page 90). In personal communications with the ambulance service local lead, they reported that data collected by the ambulance service reported a 17% reduction in falls call-outs over a year as a result of referral into the Falls Prevention Service. There are plans to publish this data which could provide excellent evidence.

All patients and carers expressed their opinions and experiences in using the ambulance service following a fall. The findings demonstrate a positive treatment approach from the ambulance crew in assessing patients' needs following a fall. A commonly shared view from some patient participants was that they were not aware that ambulance crew or any health or social professional or they themselves could refer to the falls service. This provides new insight to the patients' experience for the literature, that their expectations are different to the reality in practice, where multiple health and social care professionals, can refer patients to the falls service. This could have been a barrier for patients to be referred. However, I would acknowledge that various services have different referral criteria which can be misleading to health and social care professionals as well as patients and their families. A recommendation is the development of a clear triage form to be used for all patients being seen or referred with falls or balance issues, which in practice has already been developed and implemented in the last year of this study, by myself and the local operational falls pathway group.

In practice, during the study, I observed in the field patients who had been referred to the falls service but were still conveyed to hospital and admitted. This brought up the issue that the crew were under the impression that all patients had multiple referrals to the falls service because they could have seen multiple health and social care professionals. However, no referrals were made despite patients having seen numerous healthcare professionals following falls. This was supported by O'Hara et al.'s (2014) study that explored crews' concerns which included, communication, involvement in the decision-making and balancing.

Theme 2: Falls not being acknowledged as a problem by patients

Despite changes to the recruitment of participants, the aim of the study and its four research questions have been met and added to the understanding of this topic. The findings in this theme meet all four of the study aims. All crew interviewed and observed expressed their concerns that patients who had fallen do not always acknowledge that there is a problem or accept there is available

advice to help prevent falls. Patients tended to view a fall as an accident or a simple trip and not acknowledge that it could potentially be as a result of underlying medical or balance problems which required specialist assessment and advice. This was a missed opportunity to identify the issue and offer evidence-based interventions. It was also acknowledged that patients did not understand the assessment and interventions offered by the falls service (Yardley & Todd, 2005, Yardley et al., 2006, Yardley, et al., 2008, Age UK, 2012).

From the crew findings, if a patient had already been referred to the falls service and declined another referral, crew would advise the patient that another referral would log another incident for information for the assessment. They found that by using this approach, patients were more likely to agree to be referred. Crew also reported that most patients when asked for their consent to refer to the falls service were very positive about the service. However, it was also reported that some patients were negative about the service stating they were only given exercises to do, which is reflected in the studies undertaken by Yardley et al. (2006) and Age UK, (2012). Another issue reported in the study was that patients with pendant alarms did not always wear them on their neck or wrist as designed and they were at the other side of the room or in another room from where they had fallen. This supports the literature about poor compliance and with interventions such as strength and balance exercises. In 2011, the Royal College of Physicians (RCP) national audit found that only 11% of patients were still exercising after 12 weeks (RCP, 2011).

Crew also felt that some patients did not understand the difference between a fall or a collapse, dizziness or the fact that they ended up on the floor for some other reason. The general consensus from the crew was that patients did not want to admit the problem to themselves. As a result of this finding, the language used to describe falls was posed as a question in the interviewing of patient/carer participants in order to further explore this issue. The findings confirmed the experience of crew that patients do not always acknowledge issues they may have with falls or impaired balance. The findings from

patients/carers demonstrate that patients are not acknowledging falls and that reduced balance or activity is not an issue for them.

The use of the word ‘Falls’ can be misinterpreted and suggest a negative connotation to patients which could insinuate that they are not managing or not capable of living independently. Patients reported even after the fact that they had been through the falls service and had experienced a fall, experienced dizziness or had reduced confidence, that it was their own fault, or they had slipped on a wet floor. This implies that because they were not seriously injured, the falls were not important, and others described the falls as just accidents or silly falls. One patient explained that they had spoken to their GP and expressed their concern about swaying, and then they stated that they were much better with a stick and they were not very ‘bad’ falls (Age UK, 2012). This issue has been studied by a number of researchers who found that language used for falls can be perceived in a negative context for older people and can have a negative effect on the uptake of interventions designed to prevent falls and promote independence (Yardley & Todd, 2005, Yardley, Donovan-Hall, Francis & Todd, 2006, Yardley, Kirby, Ben-Shlomo, Gilbert, Whitehead, Todd, 2008, Age UK, 2012).

The evidence states that older people who enter falls prevention programmes only do so after they have fallen and may have suffered serious consequences. However, only 50% of those who are given the opportunity to take part in a falls prevention programme such as group exercise do so and only 10% take up home-based exercises. This is mainly because they reject the idea that they are at risk, some are over-confident in their ability and because they feel that if they accept help, they are at risk of being stigmatised as being old and frail. Others do nothing about the risk of falling because they feel it is an inevitable part of ageing and by accepting falls prevention measures, the benefits are outweighed by the effort. These issues were found in the study in relation to patients who had been referred and seen by the falls service, but they still did not acknowledge themselves at risk of falling. Another issue that was found is a genuine fear of a direct referral to the services which may result in admission into care homes (Yardley & Todd, 2005, Yardley et al., 2006, Yardley et al.,

2008, Age UK, 2012). The issue of people not acknowledging their falls risk is an ongoing problem in public health. Some ideas for further research and interventions will be discussed in the next chapter.

Theme 3: Training

The findings in this theme meet all four of the study aims. Crew explained that they have no protected training time like some other health professionals, they also explained that they can even struggle to undertake mandatory training due to the nature of the role. This was identified in the study about the Falls Prevention Service and the available advice and help there is in the local area, which could be utilised to encourage patients in agreeing to be referred for further assessment and interventions (NICE, 2013).

The local Falls Prevention Service has offered training regularly over the last 6 years to the ambulance service on times and days suitable to them. Unfortunately, due to the nature of the service, it has been very difficult to undertake and plan formal training sessions. Other ways such as flyers and emails have been utilised to provide information to the crew including the publishing of a case study in the ambulance service bulletin. Since the end of the study, the ambulance service has designed an e-learning package on falls prevention which has not been seen by the local falls clinicians as yet. The literature did not highlight the issue of training needs because it was not one of the key words used, however, training was identified from the study and as a result, further ideas for research and interventions will be detailed in the next chapter.

One of the observations in the study was that ambulances were equipped with lifting cushions, however, in practice, they were not utilised as much as they could have been. As a result of this finding, it was discussed with crew responsible for education, and they confirmed that the ambulance service had invested a large amount of money to provide the lifting cushions. It was discussed that maybe more demonstration of their use would help with the uptake of their use. In practice, the falls service has provided patients with them

to aid patients' independence and could have a positive effect on ambulance call-outs.

Another issue identified within the study was that the staff recruited did not appear to have had any research training provided and crew were not aware of the study that was being undertaken prior to the start the of their shifts. However, because crew are regularly shadowed by students and other health professionals, they were very open and willing to take part. I would argue that in my own practice, I have found that staff are generally not 'research aware' nor do they take part in studies unless a member of the team is also undertaking studies.

Another training issue identified from the findings of the study was that crew reported concerns about the knowledge and skills of staff working within care homes. The finding was that care home staff tended to call for an ambulance urgently in every case even though patients varied in their presentation. In practice locally, falls prevention education is provided to care homes who agree to take it up, however, this can be dependent on the interest from each care home. In the literature, most studies excluded care homes in decision making to contact ambulances, because it is the staff who make that decision not the patients (Logan et al, 2010). The studies that focused on ambulance crew only concentrated on their decision-making not that of care home staff (Evans et al., 2014, Snooks et al., 2017). Recently, in practice, following the study, the ambulance service designed a risk assessment package for care home staff to assess patients before calling the ambulance service. This is in the pilot stage presently. Ideas for further research and interventions will be discussed in the next chapter.

Theme 4: language used

The findings in this theme meet all four of the study aims. The language used to describe falls and interventions which emerged from the questioning added depth to the findings about how patients did not accept falls as being a possible problem for them. Even though patient participants had experienced falls and

were discussing their experiences, the majority still did not perceive or acknowledge that they had a problem with their balance that required interventions.

Leading on from the issue of patients not acknowledging falls risk, patients/carers participants were asked their opinion about terminology used in services and the perceived understanding of the language used. Patient participants were first asked whether they thought that the word ‘falls’ in services or clinics was appropriate, as there has been in-depth discussion about this word being used as having a negative connotation. Patients/carers expressed their opinions about the use of different language or words used to describe falls and interventions. Some felt that it was appropriate to use ‘fall’ or ‘balance going’ as the right words. Overall, patients felt ‘falls’ described the event they were experiencing or trying to prevent.

They were then asked about the words used for exercise programmes. It was explained that some services like to use the word ‘activity’ to describe exercise groups and did not like the use of the word ‘exercise’. One patient felt calling it ‘exercise’ could put some people off, believing that it is about ‘running around’, but if it was called ‘activity’ they may understand and be more prepared to take it up. From observation of the participants when discussing this topic of language use, some became annoyed that they felt they were being patronised or that services were trying to mislead them whilst others did not appear worried at all about it. The language used to describe falls and interventions which emerged from the questioning added depth to the findings about how patients did not accept falls as being a possible problem for them. Crew observed that they also used similar language employed by falls specialists to describe signs and symptoms of falls. These findings have added new evidence to the already established literature around the use of language (Yardley et al., 2008, Age UK, 2012). Ideas for further research and interventions will be discussed in the next chapter.

Theme 5: Patient transport

The findings in this theme meet two of the study aims: aim two, exploring the factors that affect follow-on care following a fall and aim four, exploring how the ambulance crew's management of falls' patients could be improved.

Two of the patient participants identified the issue of patient transport as a potential barrier in receiving healthcare or interventions which could have an effect on falls risk. The issue was the difficulty in the use of forms of transport to get to outpatient appointments. Within clinical practice, I have the flexibility to provide home visits when patients are physically unable to safely use transport. This was included in the findings because the issue could have a detrimental effect on the patient's decision-making in being referred to falls services. Although this area was not found in the literature search, this study has highlighted useful issues which can be recommended or introduced.

Summary

The second part of this chapter (page 143) has discussed the findings of the study. These have been critically discussed in relation to relevant research. The study has added to the limited evidence of patients, carers and ambulance crew with their experiences of falls in the domestic setting. Gaps in evidence have been identified and will be detailed in the next chapter together with recommendations in practice. These gaps will be directed at the level of policy development in practice to key stakeholders and clinicians. The final part of this chapter explores reflexivity and how it was utilised throughout the study.

Reflexivity

Finally, I have explored how reflexivity occurred throughout the study, which I brought to my consciousness to demonstrate how my world view influences my decisions which has enabled me to recognise the interaction between myself and the theory. I then will explore the multiple identities of the professional self-concept based on beliefs and values and as a researcher. Each of these will be

explored with their effect on participants and self-disclosure. Finally, the actions I took will be examined before concluding the chapter.

A major part of the Professional Doctorate programme is to focus on myself and my impact on the study. To be an effective critical reflector, I need to be a critical thinker which is essential to develop reflexivity, to avoid the research study becoming self-indulgent (Finlay, 2002, Lee, 2009). Underwood et al. (2010) described reflexivity as the acknowledgement and identification of my place within the phenomenon they are exploring. I have included my insights to examine the research process in my thesis. My aim was to be open and transparent about my personal positions and how these may have shaped the research, as I recognise that I am influenced by my personal concerns and interests.

By utilising reflexivity throughout the study, it has provided transparency in the research process, to be recognised as a being trustworthy and in turn, making the research findings authentic, credible to others and generalisable. It is essential to identify the multiple identities I have within the study. Multiple identities provide a different lens through which I interpret the data. These will be explored and the actions I took within the study will be detailed (Lee, 2009).

The first of the identities is that of the professional self: as a nurse consultant, I am the lead for the local service, and I provide an expert opinion to local service delivery and development. I have tried to approach the study in an open way to enable the study findings to be a true reflection of the experiences of the participants. One of my concerns was the issue with the power position dilemma within the field. This could have been detrimental to all participants in describing their experiences, particularly if they felt any negative information should be shared. However, on the journey of practitioner to researcher undertaking the Professional Doctorate, I have been able to embrace the ethnographic approach to qualitative study and myself in the study. In doing this, I am now being recognised as an expert in the field and I am consulted on strategic changes from an expert in practice and an academic perspective.

In the study, participants appeared to be very truthful in their feedback and this was also the case with the crew members. This may have been successful due to the fact that I disclosed my role in practice and as a researcher in the recruitment phase and gained their confidence. Within the first few weeks of recruitment and data collection, I utilised my research journal regularly and discussed any concerns I had with my study supervisor. This enabled me to improve my skills as a researcher. I also found that at times, I felt I was defensive of the service, trying to explain and justify the pathway and again with using reflexivity, I was able to adjust how I behaved. Another dilemma within the field was that as a clinician for the last 28 years, I found it very difficult not to offer any help or clinical advice. When these issues occurred, I utilised my research journal and support from my University supervisors which helped immensely.

The other identified lens is that of researcher and student. One of the aspects of the study was that I was undertaking a research study with another group of healthcare professionals. From the beginning of the study, I was open and transparent to all participants explaining my role in practice and as a researcher. I feel this provided transparency and truthfulness to the study. Also, as a student, I was the instrument of research, which added value to the study because I am an expert in the field which has helped me manage my biases and I was well placed to make sense of the study.

One aspect of the study I feel could have been enhanced, having reviewed and discussed the methods used, was that I should have been a participant researcher, as I feel this would have benefited the study from my perspective. It is an approach I will be taking in further research studies.

One of the findings in the study was that of secondary data which demonstrated that over the three months the study was undertaken, there was a 31% increase in referrals to the falls service by the ambulance crew. As already discussed, this could have been that the service had focused on referrals due to winter pressures. However, comparing the figures to the previous year in the same months, it is a major increase in referrals. In view of the increase, I feel it has

been as a result of the focus of my study. This is an area that could be further developed and researched and will be discussed in the next chapter. Throughout the study, challenges and issues that arose were analysed and adapted in a timely manner, therefore, not having a major impact or delaying the study. I feel the findings of the challenges that have been discussed have provided excellent learning resources for future researchers and will definitely enhance my research and clinical practice knowledge for future studies undertaken. The final section has detailed how reflexivity enables me to understand my own stance of an expert and a novice researcher and how it could have affected the study.

Table 17 below, shows my personal development, achievements and dissemination of my study and award that I received during my Professional Doctorate.

Table 17: Personal development and achievements

Date	Event	How	Feedback
April 2016	'Let's Talk' Research conference	Submitted abstract.	Not accepted.
April 2016	Annual University Research Conference (SPARC)	Submitted abstract, oral presentation.	Very interesting; needed to be 7 minutes long.
May 2016	PGR Celebration day	Oral presentation.	Positive response.
June 2016	National Ethnography conference Birmingham	Submitted abstract and accepted for presentation.	Unable to attend due to ill health.
September 2016	NHS National EXPO	Asked to present about my service. Also distributed study abstract, flyers to NIHR, NICE, NHS England.	Positive feedback and response.
November 2016	International Osteoporosis Conference	Submitted study and service abstracts. Poster	Positive feedback and response. No qualitative studies

	Birmingham	presentation of service accepted, and study flyers shared.	presented in the conference, identified gap.
February 2017	BGS Falls conference	Submitted abstracts on study & service.	Not accepted.
May 2017	Regional MSK meeting NHS England.	Asked to present about my service and included my research study.	Very good feedback; service is being used as an exemplar to be used across Greater Manchester. A lot of interest in Professional Doctorate study and my research.
May 2017	University of Salford Falls & Mobility Workshop.	Asked to present about my study.	Very positive feedback, linking practice to research.
June 2017	Falls Among Older People Workshop London.	Asked to do oral presentation at a National Workshop on Community Falls.	Went well discussed NICE research calls and opportunities, well received.
November 2017	European Falls, Fragility and Bone Health Fracture Conference Dublin.	Submitted 2 abstracts about my study & service.	Both poster presentations drew positive response. Published in European journal
November 2017		Asked to become Deputy Research and Development lead within my NHS trust.	Accepted request
December 2017		Invited to write an article in National Older Peoples Journal.	Not completed yet due to study and clinical workload
June 2018	EU Falls Festival Manchester.	Offered place to represent local borough. Late submission of abstracts for study and service, both accepted.	Received positive feedback

September 2018	National Falls Prevention Conference London.	Asked to present about my service at National Falls Conference and displayed my study poster.	Very positive feedback received
September 2018		Received Outstanding Contribution to Research and Innovation award from my NHS Trust.	
December 2018	International Osteoporosis Conference Birmingham	Submitted study and service abstracts and applied for early researcher fund, all were accepted.	Positive feedback received.

Chapter summary

The first part of the chapter encompassed the critical discussion of the overall study design which included the philosophical stance taken and critique of the methods used in consideration of their limitations. Secondly, I critically analysed and synthesised the study findings relating to established literature in this area and identified gaps and new evidence found in this study. Finally, I explored reflexivity which was inherent throughout the study, recognising multiple identities and actions taken within the study. The next and final chapter will detail conclusions of the study, make recommendations for policy, practice and further research.

Chapter 9: Conclusions and Recommendations

Unique contribution

The unique contribution that I have made is that the study has gained an in-depth understanding of the patient journey from patient and ambulance crews' perspectives and a better understanding of the falls pathway. The study has demonstrated a potential impact to improve patient journeys and experience and to inform improvement of the falls pathway. It has also added to the existing literature in falls prevention, by adding new insights of patients' experiences following a fall, and the issue of patients not acknowledging being at falls risk. The study has also added new findings to how the falls patient pathway works in practice in the community together with the ambulance service. Findings from the study have identified needs which require addressing and these are summarised in the recommendations below.

How the research questions were answered

The findings in this study met the study aim to explore the experiences of patients following a fall in a domestic setting from the perspective of patients, carers and ambulance crew. It also answered the research questions;

1. What are the experiences of falls patients, carers and ambulance crew of falls in a domestic setting?
2. What factors affect follow-on care received by patients following a fall in a domestic setting?
3. What factors affect whether falls patients are referred to a falls prevention service?
4. How can ambulance crew's management of falls patients be improved?

The following outlines recommendations from conclusions relating to policy and education, practice and research.

Policy and education

The recommendations above are based on the evidence that is presented in the study.

With an ageing population, there is ongoing increasing pressure on NHS services to provide quality and evidence-based practice. Falls is a major contributing factor to the increased pressure on services such as the ambulance service (NICE, 2013). One of the main issues with older patients is that falls, and ill health can increase falls risk (Banerjee, & Conroy, 2012). Research question 4 concerned how the ambulance crew's management of falls patients could be improved. The study has added new findings to the limited established literature in this area (page 25). It has also identified excellent practice and areas that require improvement, which all contribute to an effective and safe patient journey. The main recommendation to be concluded from the findings would be the introduction of more systematic training for all crew as well as a public health campaign for falls prevention advice to the public, both of which could be informed by the findings of this study.

The findings have confirmed that the falls pathway which is in place, works well in line with NICE guidance (2013), which provides evidence-based advice for the identification of people who have fallen or are at high risk, requiring referral for specialist multifactorial assessment and intervention.

<u>Practice</u>

Research question 1 was answered by the findings detailed in chapter 7, (page 105), which included the thematic analysis of the participant patients' and crews' observations, interviews and field notes. These provided a deep understanding of the patient journey following a fall and calling the ambulance service. Both crew and patients reported that patients do not acknowledge falls risk or reduced balance as a problem, in contrast to the professional perspective, which can lead to a reduction in engagement in falls prevention

programmes and actions (Yardley & Todd, 2005, Yardley et al., 2008, Age UK, 2012).

Research questions 2 and 3 were answered with reference to the findings from question 1, in which patients did not always acknowledge their own falls risk. The findings on crews' training and knowledge of the falls service would have an effect on whether they recommended referrals. Alternatively, the findings on language could also have had an effect on this due to patients' perception of falls prevention. These effects could have been positive or negative, due to the understanding of falls prevention by crew and patients. There was also the added and positive impact of including elements of the experiences of those who were referred on, providing the understanding of the important aspects of being referred.

Key issues based on the findings of the study lead to recommendations in practice:

1. Lack of routine data collected by the ambulance service of patients' information, who were not referred to the Falls Prevention Service and the reason for this.

Recommendation: Development of a system to gather, evaluate and action findings.

2. The need for an urgent response for patients following a fall.

Recommendation: Develop systems and strategies that effectively provide the urgent response following a fall or referral.

3. Patients are reluctant to acknowledge or recognise that they have a balance issue which could cause a fall.

Recommendation: Raise public awareness and understanding of falls risk.

4. Lack of crew training and awareness on falls prevention.

Recommendation: Develop robust education and development strategies that effectively raise crew awareness and knowledge on falls Prevention.

Further Research

Findings have exposed some gaps in the pathway which need to be further explored and developed.

The study identified areas in need of further research:

- Patients' and Crews experiences in undertaking falls prevention interventions to improve concordance with evidence.
- Experiences of patients who were not referred to the falls service by ambulance crew to explore why and what barriers are present.
- Impact of the lifting service on the ambulance services on falls call-outs.

Professional reflections

The Silver Book (Banerjee & Conroy, 2012) recommended ways in which community NHS and ambulance services can reduce emergency admissions by focusing on the skills and competencies needed by healthcare professionals to be able to assess and effectively signpost older people to the falls service.

The findings of the study together with the practice recommendations and ideas for further research will be systematically fed back to key stakeholders:

- The recommendation around patient education could draw on contemporary methods of effective patient involvement and utilise co-production with service users to produce authentic and user-friendly packages.
- Finding on the lack of acknowledgement of falls risk, could be addressed by increasing the public understanding and awareness on the identification of falls risk and how to reduce them.
- The need for a urgent response to falls prevention, needs to be addressed.

The crew training needs could be address by increasing their understanding and knowledge of falls prevention.

Study conclusions

The assumptions and perspectives chosen for the study were a combination of interpretive social constructivism and symbolic interactionism, all taking a naturalistic approach, and these were found to be effective within the study. Ethnographic methodology was found to be an effective way to gain an in-depth understanding of participants' experiences as it is concerned with the complex, messy and multiple realities which can be small in scale and unstructured. This combined approach has proved to be fundamental in this study.

Next steps

The Professional Doctorate has been successful at generating a research study relevant to practice that has addressed a gap in the evidence base around falls management and the use of ambulance services. It has created an early researcher in me and provided ideas that can be taken forward in practice and future research studies. I have already been approached to undertake a joint study from a local university and plan to apply for NICE funded studies in my area of practice. My aim now is to utilise my learning and development, to put the research findings into practice and to continue my development as an early researcher in other studies relevant to this area, and to continue to disseminate my study findings in my research career.

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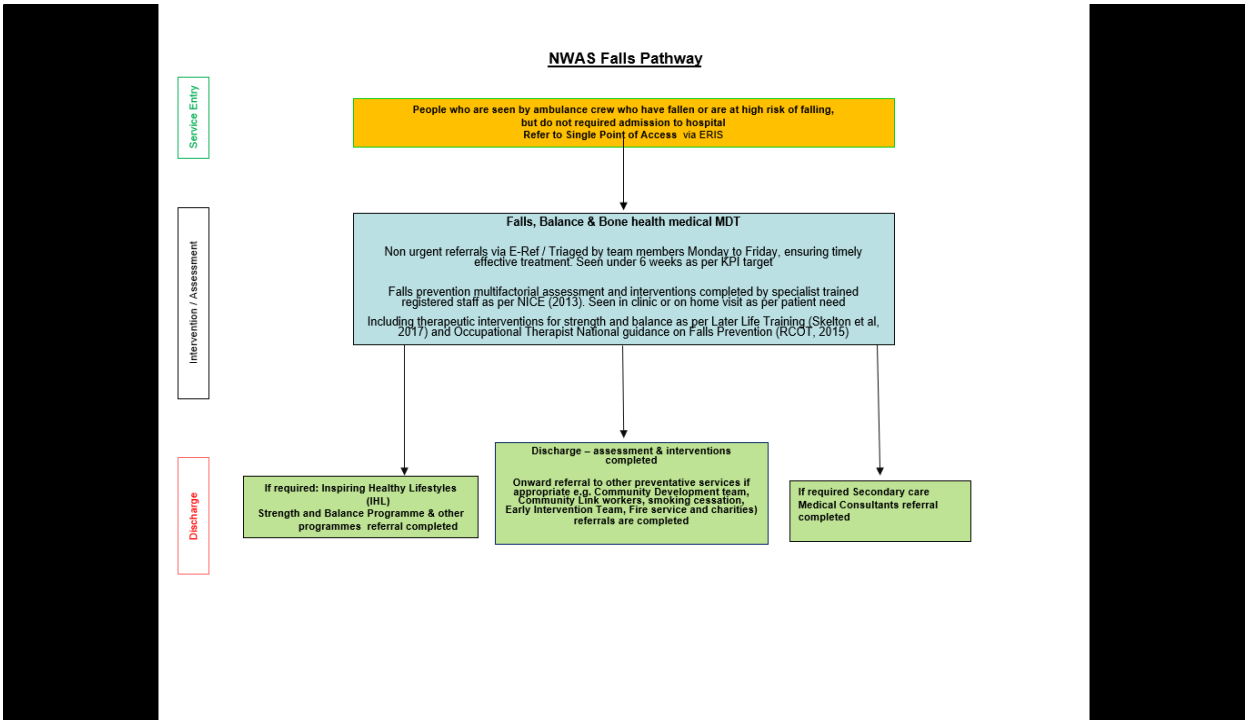
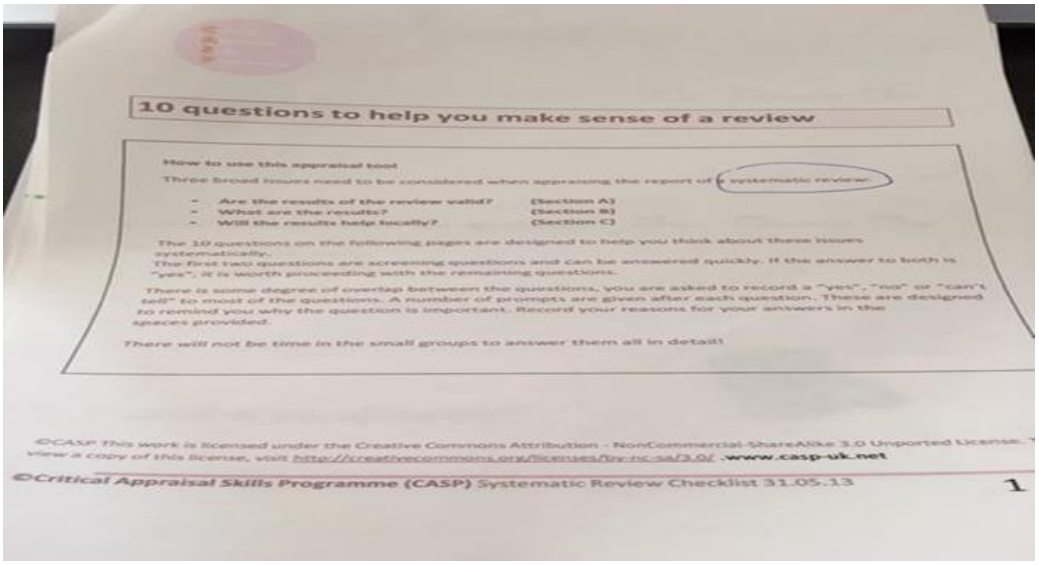
Appendix 1: Falls pathway



Appendix 2: Gannt chart

	May 15-Sept 15	Oct 15-Nov 15	Dec 15-Feb 16	Mar 16-May 16	June 16-July 16	July 16	Aug 16	Sept 16	Oct 16-Jan 17	Jan 17-Jan 19	Feb 19
Interim report											
Interim assessment											
Complete Ethics & submit											
Complete Literature review											
Write up Methodology											
Write up Methods											
Recruitment											
Data Collection											
Internal Eval prep and assessment											
Analysis											
Write Thesis											
Viva											

Appendix 3: Sample of CASP tool used



10 questions to help you make sense of a review

How to use this appraisal tool

Three broad issues need to be considered when appraising the report of a systematic review:

- Are the results of the review valid? (Section A)
- What are the results? (Section B)
- Will the results help locally? (Section C)

The 10 questions on the following pages are designed to help you think about these issues systematically.

The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions.

There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

There will not be time in the small groups to answer them all in detail!

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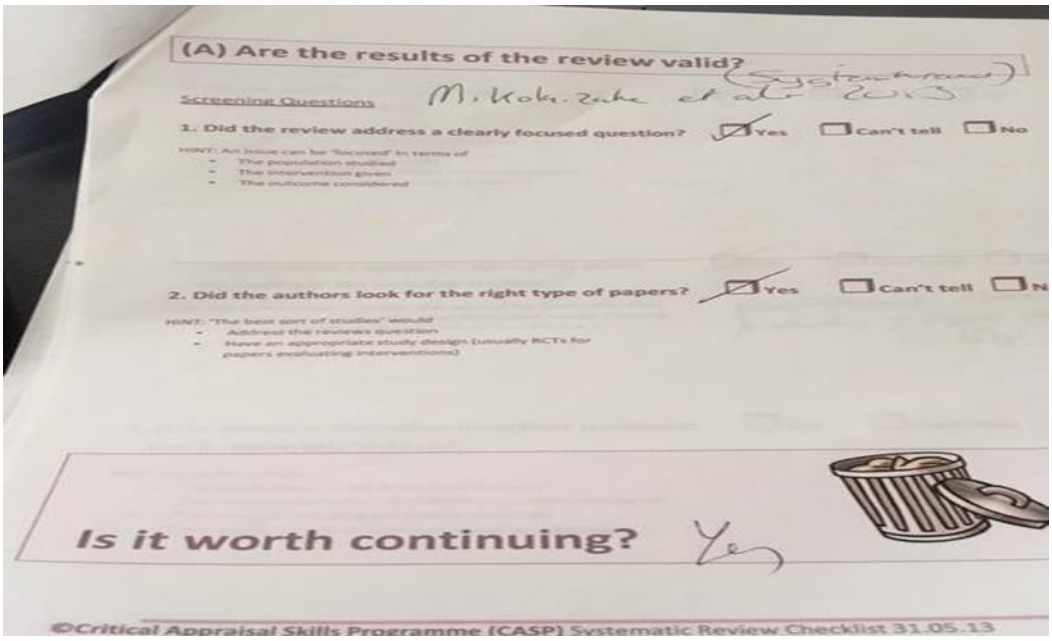


(A) Are the results of the review valid?

Screening Questions

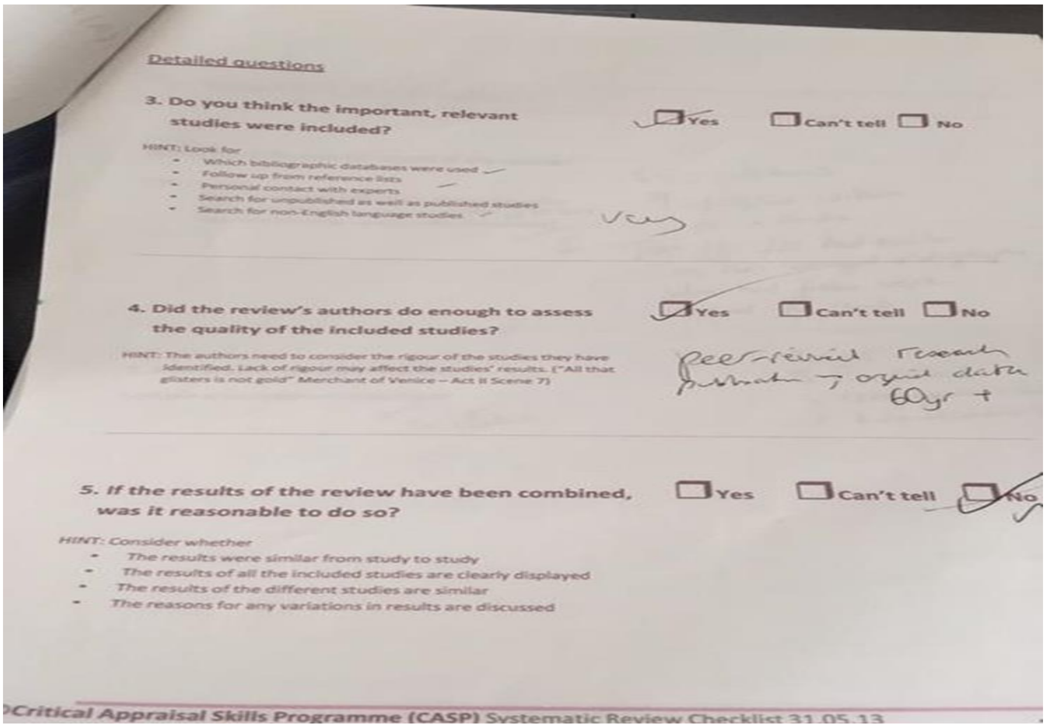
1. Did the review address a clearly focused question? ☑ Yes ☐ Can't tell ☐ No

HINT: An issue can be 'focused' in terms of
- The population studied
- The intervention given
- The outcome considered

2. Did the authors look for the right type of papers? ☑ Yes ☐ Can't tell ☐ N

HINT: "The best sort of studies" would
- Address the review's question
- Have an appropriate study design (usually RCTs for papers evaluating interventions)

Is it worth continuing? Yes



Detailed questions

3. Do you think the important, relevant studies were included? ☑ Yes ☐ Can't tell ☐ No

HINT: Look for
- Which bibliographic databases were used
- Follow up from reference lists
- Personal contact with experts
- Search for unpublished as well as published studies
- Search for non-English language studies

Very

4. Did the review's authors do enough to assess the quality of the included studies? ☑ Yes ☐ Can't tell ☐ No

HINT: The authors need to consider the rigour of the studies they have identified. Lack of rigour may affect the studies' results. ("All that glisters is not gold" Merchant of Venice – Act II Scene 7)

Peer-reviewed research publication → original data 60yr +

5. If the results of the review have been combined, was it reasonable to do so? ☐ Yes ☐ Can't tell ☑ No

HINT: Consider whether
- The results were similar from study to study
- The results of all the included studies are clearly displayed
- The results of the different studies are similar
- The reasons for any variations in results are discussed

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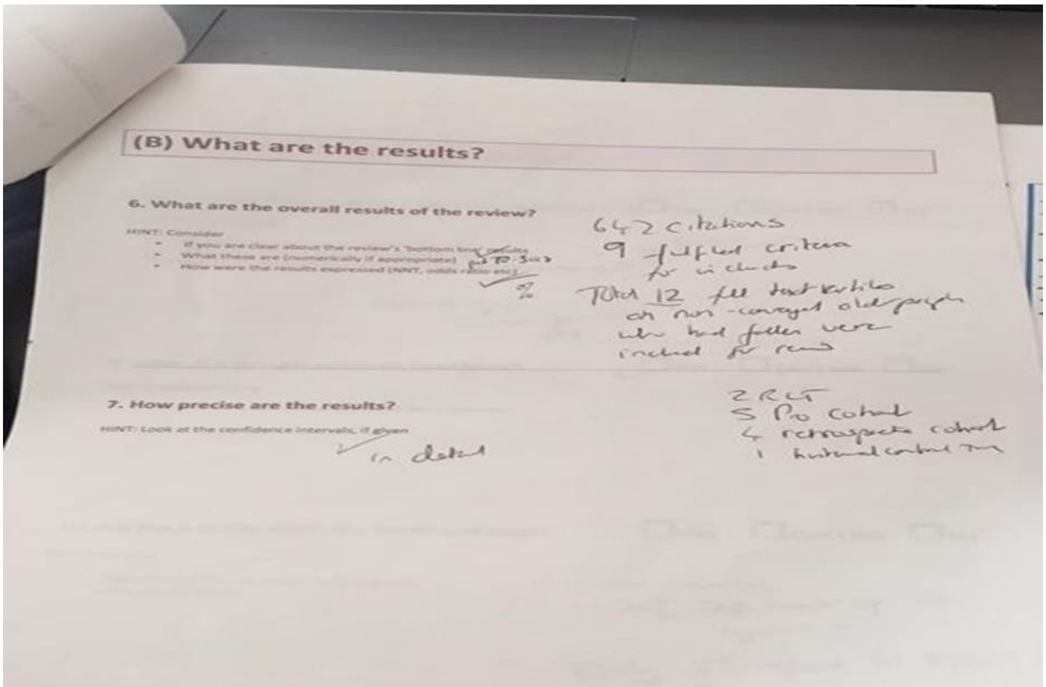

(B) What are the results?

6. What are the overall results of the review?

HINT: Consider
- If you are clear about the review's 'bottom line' results
- What these are (numerically if appropriate)
- How were the results expressed (NNT, odds ratio etc)

642 citations
9 fulfilled criteria for inclusion
Total 12 full text articles on non-conveyed older people who had fallen were included for review

7. How precise are the results?

HINT: Look at the confidence intervals, if given

in detail

2 RCT
5 Pro cohort
4 retrospective cohort
1 historical control

Appendix 4: 1st Search results

Databases	Population	Intervention	Outcome	Combined	Articles selected
Medline	2520240	108840	150599	1465	20
CINAHL	277691	20439	33225	301	16
AMED	5783	1000	1	0	0
Cochrane Library	4941	1387	3594	458	0
BNI					0
PubMed					1
CSP					0
NeHL				17	5
NICE					5
Total					47-20 =27

Appendix 5: 2nd search results

Databases	Population	Intervention	Outcome	combined	selected
Medline	25991	167244	75925	22	1
CINAHL	16579	61307	25617	10	3
AMED					0
Cochrane Library				61	0
BNI				2	0
PubMed					12
CSP					0
NeHL				106	7
NICE				3	3
Total					26-15=11

Appendix 6: Synthesis chart

Citation	Locality	Method	Findings
Weiss et al., 2003	California USA	Prospective screening study of elderly falls in the home	To determine if EMS could be a valuable partner in injury prevention. To determine if it was feasible to gather data prospectively. To assess if the data suggested the need for further interventions to help the elderly. To assess if the retrospective chart data was comparable to prospectively gathered data. A survey of people over 65 years identified 70 prospective elderly falls cases and 74 retrospective charts over a period of 2 to 4 months. Prospective findings found 53% of patients had problems in their environment. Data gathered found the need for preventative work to be undertaken which could have a positive effect on reducing emergency calls. Main weakness – only 4/29-point data survey, consistently collected.
Snooks et al., 2006	UK London	Data analysis of patterns of ambulance calls out to older people following a fall. 2 months data in three areas of London of healthcare contacts and deaths recorded.	8% of 999 calls were falls related. 40% of these were non-conveyed. N 2151, 534 over 65yrs, 194 (47%) non-conveyed, 86 (49%) contacted healthcare staff within 2 weeks, 83 (47%) called 999 at least once again. The main strength of the study which undertook an analysis of patients who had fallen and contacted the ambulance service over a two-month period, is that the team had extensive access to data from GPs, hospitals, healthcare professionals and coroners' records, which enabled the researchers to fully understand patient's journeys. The main weakness of this study was that it only focused on 2 month's data, which could be weakened by other outside influences such as winter weather or time of the year such as times of increased flu cases, which could both bias the outcomes. Increased risk of death 5.4, increased hospital admission 4.7, falls account for 3% of NHS spend. Called for RCT and clear pathways.
Newton et al., 2005	UK Northeast	Analysis of cost of falls to ambulance service. Used census data	Population- 41338 over 65yrs, over 7 months there were 1504 call-out to falls @ £115 each. 1339 were taken to A&E, 165 assists only. Total time taken 337.1hrs or 15.7days or 2.25 days per month cost £123/hr. Approx. cost of fallers £2-3000 with hospital cost,

			UK=50%, NZ=80%. More calls for assist only from sheltered accommodation in the days but increased to A&E from Care homes. Increased time for non-conveyed patients in comparison with A&E admission and low admission rates of 26% - No clear pathways.
Metcalf, 2006	UK North Hampshire	Pilot project Good, needs follow up work	Provided enhanced care from a rapid response team for those who called 999, not just falls but for those who had had 2 acute admissions or 2 falls in 6 months. Only for 1 month, had face to face meeting daily with ambulance service. 1000 calls, 800 to A&E, 177 non-conveyed, 33% of these had no regular input. 50% of calls were due to falls, all had full MDT and appropriate signposting.
Logan et al., 2010	UK Nottingham	RCT, over 4 primary care trusts n=240 older people living at home or in care homes non-conveyed Referral to falls service (received NICE 2004 guidance interventions) or to standard medical and social care.	Measured falls rates over 12 months, monthly falls dairies, functional measures of activities and postal questionnaires. Falls service intervention reduced falls by 55%; I would question this because it appears unrealistic. A weakness could be that it focused on care homes as well, which could have affected the response rates, as some care home patients may have had to rely on staff to report their falls. Also, the general focus on care homes could have had an unfair advantage on the study outcomes, because the staff would be reporting the falls to the study, which could have had unfair bias towards improved falls rates. Excellent study Analysis-intention to treat Suggested multicentre RCT
Comans et al., 2011	Australia, Queensland	Parallel observational study New pathway with educational package and follows up procedure compared to traditional pathways.	Education package with refer cards, pathways & had regular meetings to encourage more referrals to the falls service. Study 2008-2009 had a potential eligible patient number of 638. Domiciliary living over 65 yrs. Very low numbers of referrals in first 6 months only had 17(2.6%) referrals in 2 years. Had issues with compliance and recruitment. The main reason for non-referral was that the patient was not injured, this accounted for 72% of the patients, with only 26% of patients declining referral. Low powered study but had potential. Used varied data collection tools, MDT testing.

Halter et al., 2011	UK London	Only qualitative study	Interpretive phenomenological approach, which was designed to uncover the lived experience of the ambulance staff trained in the use of a clinical assessment tool, to aid conveying decision-making. 12 ambulance staff participated in semi structured interviews. The results highlighted the complexity of decision-making in this area Four areas of decision-making were identified: Pre-arrival- forming early opinions Initial contact, assessing the need for immediate action Continuing assessment Conveyance decision-making with negotiation for referral with the patient The study highlighted the need for support for staff in this area and the need to focus on new pathways which can offer alternatives to emergency care admissions. Study focused on decision making of the crew, utilising a clinical assessment tool, it could indicate why referrals are low due to low documented use of the tool, which included the referral pathways. Good study but didn't include declines by patients or patient's perspectives.
Snooks at al., 2012	UK Swansea	CRT with economic and qualitative components, of a new protocol for emergency ambulance paramedics which enable them to assess and refer patients following a fall to the appropriate community-based care. Protocol-SAFER 2	Randomly allocating 25 participating ambulance stations into intervention or control groups. Staff received training in the clinical computerised protocol. Over 65 years old and living within the Falls Prevention Service catchment areas and who were attended to by trial paramedics. Secondary outcomes included, quality of life, fear of falling and patient satisfaction reports obtained through postal questionnaires at 1and 6 months, other outcomes were of the rate of further emergency contacts for any falls or death. Plan to interview 60 intervention patients and conduct focus groups with the NHS staff to explore their experience of assessment and referral. The study results aren't published within this article.
Darnell et al., 2012	UK Yorkshire	National Survey Postal questionnaire to all 13 ambulance	Non-conveyed rates varied from 7-65% Had systems in place for telephone-based advisors or those who had fallen. Had 11 Reponses, highlighted the need for

		services	robust evidence to develop policy and practice to improve services for vulnerable people.
Sach et al., 2012	UK East Midlands	RCT inclusion over 60yrs, living at home or in a care home, who have fallen but non-conveyed to hospital.	Excluded people who were unwell Control group usual social and medical services compared to falls services. To assess the cost effectiveness of the falls service. Multiple functional and objective scales used. n= 157, 82=intervention, control= 75 CI 95%, 5.34 fewer falls over 12months. Falls services found to be cost effective and that it improved patient outcomes. Good study
NHS Confederation, 2012	UK	Briefing evaluation paper	The briefing provided an overview of the issue of an ageing population with falls call-outs for the ambulance service. It supported the work over 20 years of falls prevention in health systems, but it found there was gaps in patient journeys following falls and the lack of integration of falls and fracture service in health and social systems. Generally supported focusing commissioning on falls & fracture services in the community in conjunction with social care providers.
Tiedemann et al., 2013	Australia, New South Wales	Prospective cohort study N=262 people over 70yrs old, completed questionnaires.	Findings were that older vulnerable people will co-morbidities were likely to benefit from referral on the specialist team for evidence-based interventions. Monitored falls over 6 months, Good powered study
Simpson et al., 2013	Australia, New South Wales	Epidemiology of ambulance responses Retrospective analysis 12 months Excellent data and statistical analysis	Falls represent 5% of emergency calls, lower rates of non-conveyed patients of 25% Found need to develop pathways
Mikolaizak et al., 2013	Australia, New South Wales	RCT of iPREFER protocol Excellent study but no results yet.	Over 65yrs admitted to ED following a fall. Dairy over 12 months Single blinded, Excluded care homes concluded that there was little evidence of the effectiveness of feasibility of an alternative model of care to the present pathways in place that encourage direct referral to Falls Prevention Services by paramedic services

Simpson et al., 2013	Australia, New South Wales	Prospective observational Cohort study of non-consecutive emergency responses to older people aged 65 years or over. Over 6 months Used multivariate logistic regression modelling to identify predictors of non-conveyed.	Finding of new pain and abnormal physiology were strongly related to admission to A&E in comparison to those who has personal alarms and were non-urgent call-outs were more likely to be non-conveyed. Cohort over 65yrs, oct 2010 to end June 2011 over 9 months. It analysed 1484 cases eligible of which 28.2% were non-conveyed. Two key aims of the study were to identify clinical and operational factors associated with patients who had fallen, called the ambulance service and were non-conveyed, to develop a prediction tool for this group. The study found many factors that indicated frailty of the patient group, however, concerns were raised that there were variations in ambulance service approaches. Excellent in-depth statistical analysis
Mikolaizak et al., 2013	Australia, New South Wales	Systematic review Robust review of 12 studies	Found limited but promising evidence that show the right interventions can improve outcome for patients and for the development of robust pathways
Snooks et al., 2014	UK Swansea	CRT to evaluate the effectiveness, safety and cost effectiveness of a computerised clinical decisions support tool for paramedics attending older people with falls. SAFER 1	13 ambulance stations. 42 participants of 409 eligible paramedics who attended 779 older people who reported a fall. Outcome measures were that patients referred to a falls service, reported satisfaction of the process. Safety aspect, the data recorded any emergency contacts of death within one month, cost effectiveness to cost and quality of life. 17 intervention paramedics used the computer clinical decision-making tool on 54 (12.4%) of 436 participants, of this they referred 42 (9.6%) participants to falls services, compared with 17 (5%) of 340 participants seen by 19 control paramedics. No significant differences between the groups, job cycle times were found to be longer at 8.9 minutes in the intervention patients. Net cost of implementing the tool was £208 per patient and £308 without intervention paramedics referred twice as many participants to Falls Prevention Services with no difference in safety. Low uptake from paramedics and again found low percentage rates of referrals to services, tool was helpful.

NICE Practice Collection, 2014	East Midlands Ambulance Service (EMAS)	Evaluation of practice	20% of calls outs are falls approximately 90,000 per year. Covers combined population of 4.8million. Developed a Crisis Response Falls Team (CRFT), had 7 staff made up of paramedics, emergency care assistants trained in lifting techniques and diagnosis. Used 2 bariatric ambulance and developed pathway ways to identify appropriate patients. Also have a social work team to assess patients in the home after discharge and in A&E to speed up discharge. They can refer to a medical Consultant for falls if required. 2012-had 1300 referrals of which 1000 avoided admission to hospital. CRFT cost £778 but each admission cost £1556 saving of £640000. Conveyance rate for CRFT was 40% compared to 65% of the ambulance service. Claimed the intervention was likely to reduce recurrent fallers but no data was available. Evaluation of the service and one significant impact of a fall is fear of falling; this was found to be helped by the assessment undertaken. Patient feedback was positive and especially the social support which was given. Good effect service needed to know how many call-out was completed per day and why Occupational Therapists and Physiotherapists were not part of the team in view of the NICE guidance.
Ebrahimian et al. 2014	IRAN Tehran	Qualitative	18 EMS staff, semi-structured interviews which were analysed in in in a thematic approach. Degree of perceived risk in staff and their patients this theme was further categorised into patient's condition and the context of the EMS mission, patient's conditions were categorised from physical health status, so could social economic status and cultural background. The study had clear interview questions and interviews lasted average 36 minutes, until data saturation was complete this was found at the 16th interview however two more interviews were undertaken to ensure completeness. Study concluded that there are differing degrees of importance contributed to EMS staff decision about patients' needs for transportation.

Snooks et al., 2017	UK	Support & Assessment for Falls Emergency referrals (SAFER) 2 CRT & systematic review	CRT & systematic review of clinical effectiveness and cost-effectiveness of new protocols for emergency ambulance paramedics to assess older people following falls with referral to community-based care when appropriate. Finding from Snooks et al 2012 study published. Paramedics from 3 ambulance station in England and Wales, put into control and intervention groups, participants were aged 65 years and over attended by paramedics following a fall. Intervention group used a clinical protocol with referral pathway, training and support to change practice, control group continued as normal. Outcomes: primary, subsequent emergency contacts, death at 1 & 6 months. Secondary outcomes, pathway of care, operational indicators, self-reported outcomes and cost of care. Assessing outcomes remained blind to group allocation. Eligible patients -3073 by 105 paramedics from 14 stations. Results: no primary effect on death rates at 1 & 6 months. Emergency calls were reduced at 1 & 6 months 18.55 vs 21.8%. Rate per patient day at 6 months was 0.013 vs 0.017. 80% of patients in the intervention were referred to falls services compared to 1% in control arm. No adverse incidents were reported. Mean cost of intervention was £17.30 per patient. Focus groups had 58 patients, 25 paramedics, 31 stakeholders. Paramedics were satisfied with the intervention and felt more confidant to leave patients at home. Barrier to referrals included patient's social situation and their autonomy. Study suggested the need for further research in the understanding issues in implementation, the cost /benefit. Excellent study providing support and evidence for referral to falls services

Appendix 7: Patient / Carer information sheet

University of Salford MANCHESTER

North West Ambulance Service NHS Trust

Bridgewater Community Healthcare NHS Foundation Trust

Quality first and foremost

Participant Information Sheet: Patients /Carers

Study title: Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of patients who do not require admission to A&E.

I would like to invite you to take part in a research study. Before you decide I would like you to understand why the research is being done and what it would involve for you. Ask me if there is anything that is not clear. The study will explore the experiences of falling and contacting the ambulance service. It aims to explore the experiences of people who have had a fall and are seen by ambulance staff.

1. What is the purpose of this study?

- Each year, 35% of people over age 65 experience falls
- Approximately 45% are aged over 85 and live in the community
- Between 10%-25% will have a serious injury which has a negative impact on their quality of life
- Falls are an issue that can cause a lot of distress and fear and can lead to social isolation
- The main aims of the study are to gain an in-depth understanding of the patient's journey through the healthcare system following a fall from the perspective of patient, carer, and ambulance crew

2. Why have I been invited?

You have been invited to take part in this study because you have had a recent fall or are a carer of someone who has fallen and who were seen by the ambulance service and have not required hospital treatment or been referred to your local Falls Prevention Service.

3. Do I have to take part?

The decision to take part in this study is entirely voluntary. You may refuse to participate, or you can withdraw from the study completely or take a break as required at any time. Not taking part will not affect your NHS treatment.

4. What will happen to me if I take part?

If you decide to take part in the study, you will have a one-to-one interview with me. This will last for approximately 45-60 minutes and will be undertaken at your home or a place to suit you such as a local clinic. I will check your understanding of the study and ask you to sign a consent form. I will then ask you some questions relating to your experiences of a fall or being a carer of someone who fell, and the care you got from the ambulance service afterwards. The interviews will be relaxed and informal. There are no right, or wrong answers and I am very interested to hear about your experiences and views. With your permission the interviews will be audio-recorded. This is to allow me to accurately capture your story and experiences which I will have typed up into a transcript by secretarial staff authorised by my employer (Bridgewater Community NHS Trust. The audio-recordings, transcripts and your contact details will be stored securely. The study forms part of my Doctorate in Health and Social Care. Only my university supervisor and I will have access to your interview transcript.

5. What are the possible disadvantages and risks of taking part?

It is possible that you may become upset when talking about your experiences. If so, I will be sensitive to this and allow you to pause, stop the interview and continue only if you want to. You have the right to withdraw at any time during the interview without giving reason and your NHS care will not be affected as a result.

6. What are the possible benefits of taking part?

There is no direct benefit in taking part, however your participation will help to increase awareness of the area being studied and could improve healthcare services.

7. What if there is a problem or I want to complain?

If you have any queries or questions, please contact:

Anish Kurien

Research Centres Manager

G-08, Joule House, Acton Square, University of Salford, Salford, M5 4WT

Tel : 0161 295 5976 Email : a.kurien@salford.ac.uk

8. Will my taking part in this study be kept confidential?

Yes, I ensure your details are kept confidential. The documents relating to the administration of this research, such as the consent form you sign to take part and the typed record of your interview will be locked away securely. Your name will not be stored with the interview data it will be replaced by a code. The tape will be destroyed after it has been transcribed. The documents will be destroyed after a minimum of 5 years after the end of the study.

9. What will happen to the results of the research study?

Anonymised quotes may be used in research reports and publications. The study findings and any service developments arising from them will be shared in local NHS trusts and with other relevant stakeholders, and nationally and internationally in conferences and publishing. If you would like a summary of the study findings available in 2017, then please indicate this on your consent form.

10. Who is sponsoring the study?

The sponsor of the study has the duty to ensure that it runs properly and that it is insured. In this study, the sponsor is the University of Salford.

11. Who has reviewed this study?

All health and social care research directly involving individuals is looked at by an independent group of people called a Research Ethics' Committee, to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given approval by the University of Salford's Research Ethics' Panel and National Research Ethics' Service. The study has been approved by North West Ambulance Service (NWAS) and Bridgewater Community Foundation Trust (BWCH) research group.

12. What to do next?

For further information or to arrange to take part please contact me, using the details below : **Christina Heaton**

Telephone : 01942 481226
Work Mobile : 07919690872
Email: C.Heaton1@edu.salford.ac.uk

Thank you for reading this invitation and for considering taking part in this study.

Appendix 8: Invitation letter

North West Ambulance Service NHS
NHS Trust

Bridgewater Community Healthcare NHS
NHS Foundation Trust

Quality first and foremost

Salford University
The Crescent
Salford
M5 4WT

Date

Dear Sir / Madam,

I would like to invite you to take part in a research study that I am undertaking as part of my Professional Doctorate in Health and Social care. I enclose an information sheet to explain my study and who ask if you would like to take part, please contact me on the numbers or email below.

Yours Sincerely

Christina Heaton

Telephone : 01942 481226
Work Mobile : 07919690872
Email: C.Heaton1@edu.salford.ac.uk

Appendix 9 Crew information sheet

University of Salford MANCHESTER

North West Ambulance Service NHS Trust

Bridgewater Community Healthcare NHS Foundation Trust

Quality first and foremost

Participant Information Sheet: Crew Version

Study title: Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of patients who do not require admission to A&E.

I would like to invite you to take part in my research study. Before you decide I would like you to understand why the research is being done and what it would involve for you. Ask me if there is anything that is not clear. This study will explore the experiences of ambulance crew who see patients on call-outs following falls who are not conveyed to

1. What is the purpose of this study?

Each year 35% of people over age 65 experience falls and approximately 45% of those are aged over 85 and live in the community, as a result 10%-25% will have a serious injury (National Institute for Clinical Excellence [NICE], 2004, 2013). This can have a detrimental effect on the pressure on acute services (Banerjee & Conroy, 2012) which can have an impact on the ambulance services target of response to urgent cases within 8 minutes (DH, 2011). The study forms part of my Doctorate in Health and Social Care. The aim of the study is to gain an in-depth understanding of the experiences of patients' who have fallen and have called an ambulance from patient, carer and ambulance crew's perspectives.

2. Why have I been invited?

You have been invited to take part in this study because you are a member of ambulance crew working in the Northwest of England.

3. Do I have to take part?

Your decision to take part in this study is entirely voluntary. You may refuse to participate, or you can withdraw from the study at any time.

4. What will happen if I take part?

There will be 3 options for your involvement in the study. The first is observation of the shift observing practice. The second is for crew to take part in a 1-1 interview. The third is for you to take part in a group discussion. All crew are invited to take part in all of these options.

On the day of my observation shadowing crew, I will check if you understand the information given and gain your written consent. The observation will be informal and will not interfere with your clinical role. I may ask questions to clarify my thoughts and this will be done in a timely manner. The same check of your understanding and written consent will be gained prior to any interviews you take part in. The 1-1 interviews will take place in a private room at your ambulance station and will last for approximately 45-60 minutes. Group interviews will also be offered which may last 60-90 minutes. I will ask you some questions relating to your experiences of assessing patients following a fall at home and the service that you provide for them. The interviews will be relaxed and informal as there are no right or wrong answers and I am very interested to hear your views and experiences. If required, follow up interviews may be requested.

I will be taking some notes throughout the observation and interviews. With your permission the interviews will be audio-recorded, this is to allow me to accurately capture your story and experiences. These audio-recordings will be stored securely, and the tape will be destroyed after transcription. My university supervisor and I will be the only people to have access to your transcribed information.

5. What are the possible disadvantages and risks of taking part?

There are no known disadvantages or risk in taking part. You have the right to withdraw at any time during the study without giving reason. As a registered nurse I have a duty to discuss with managers if dangerous practice becomes apparent.

6. What are the possible benefits of taking part?

There is no direct benefit in taking part, however your participation will help to increase awareness of the area being studied and could improve services.

7. What if there is a problem or I want to complain?

If you have any queries or questions, please contact:

Anish Kurien
Research Centres Manager
G-08, Joule House, Acton Square, University of Salford, Salford, M5 4WT
Tel : 0161 295 5976 Email : a.kurien@salford.ac.uk

8. Will my taking part in this study be kept confidential?

Yes, I ensure your details are kept confidential. Your data will be anonymised and will not be identifiable. However, in group sessions, confidentially will be discussed with participants, but cannot be assured. The documents relating to the administration of this research, such as the consent form you sign to take part and the typed record of your interview

will be locked away securely. The documents will be destroyed 5 years after the end of the study.

9. What will happen to the results of the research study?

The study findings and any service developments arising from them will be shared in local NHS trusts and with other relevant stakeholders, and nationally and internationally in conferences and publications.

10. Who is sponsoring the study?

The sponsor of the study has the duty to ensure that it runs properly and that it is insured. In this study, the sponsor is the University of Salford.

11. Who has reviewed this study?

All health and social care research directly involving individuals is looked at by an independent Research Ethics' Committee, to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given approval by the University of Salford's Research Ethics' Panel and National Research Ethics' Service. The study has been approved by North West Ambulance Service (NWAS) and Bridgewater Community Foundation Trust (BWCH) research group.

12. What to do next?

For further information or to arrange to take part please contact me, using the details below : **Christina Heaton**

Telephone : 01942 481226
Work Mobile : 07919690872
Email: C.Heaton1@edu.salford.ac.uk

Thank you for reading this invitation and for considering taking part in this study.

Appendix 10: Crib sheet for observations

Crib sheet for participant's observations

This crib sheet is to frame my observations, and these are questions I will be asking myself.

What is the sequence of events from the ambulance call-out to completion of the assessment and action taken?

How do individuals communicate with each other?

What is the body language used by crew, patients and carers?

What is the tone of voice used throughout the interaction?

What are the Participants intentions?

Who makes decisions?

What information is shared?

What appears to influence decisions made?

Why do participants make certain decisions?

What questions require more clarification?

Which quick judgements are made?

If there is disagreement, is there any persuasion or coercion used?

Are the interactions positive?

Appendix 11: Interview questions

University of Salford MANCHESTER

North West Ambulance Service NHS Trust

Bridgewater Community Healthcare NHS Foundation Trust

Quality first and foremost

Patients/carers

Tell me about your experiences of having a stumble, trip or fall

Tell me about your most recent stumble, trip or fall

What is your experience of calling an ambulance following a fall?

Do you know of any alternative services to the ambulance service when you have fallen?

What do you feel should happen to you following a fall when you are seen by the ambulance service?

Do you feel you should routinely be taken to hospital following all falls?

Do you feel any part of this area can be improved?

Have you ever been referred to a Falls Prevention Service?

(if yes, what was your experience?) (If not why not e.g. refusal?)

Ambulance crew

Tell me about your experiences of attending falls in the home

What does your organisation require of you during attendance at a fall?

Talk me through how you deal with a falls patient from the moment you get the call to attend (Prompt – actions, thought processes etc.)

Do you know of any falls pathways or protocols? If yes what is your view of them?

Do you have the resources to deal with falls?

a) Personal level (prompt - time, targets, pressures, knowledge, skills etc.)

b) Organisational level (prompt - number of crews, shift overlap etc.)

What training have you had specifically about falls management?

What do you think should happen to patients who are not conveyed to hospital?

What are the reasons non-conveyed patients are not referred to the Falls Prevention Service?

How can ambulance crew's management of non-conveyed falls patient be enhanced?

Appendix 12 Patient Falls Prevention Service information leaflet

http://www.bridgewater.nhs.uk/ashtonleighwigan/fallspreventionservice/

Useful information

Additional advice or information is available from the Falls Prevention Service:

Telephone: 01942 481227

See our website for more information:

www.bridgewater.nhs.uk/fallsprevention

Patients testimonials:

"My balance is much better, I had lost my confidence but it is better now"

"I left my stick at home now as I am managing without it".

Local Pharmacy - Your local pharmacies offer a wide range of services including information and general advice on symptom relief medicines as well as a prescription collection and delivery service.

For impartial and confidential advice or information on the services provided by Bridgewater or to receive this leaflet in an alternative format call our Patient Services team on 0800 587 0562.

www.twitter.com/Bridgewater_NHS

www.facebook.com/BridgewaterNHS

Visit our website at: www.bridgewater.nhs.uk

© Version No: BRIDGE00098 – DATE October 2015
reviewed by Lay Reader Panel

Bridgewater Community Healthcare NHS
NHS Foundation Trust

Falls Prevention Service

Information for patients and carers on how to reduce the risk of slips and trips

Bridgewater
Healthcare at the heart of your community

Appendix 13: Crew consent form

University of Salford MANCHESTER

North West Ambulance Service NHS NHS Trust

Bridgewater Community Healthcare NHS NHS Foundation Trust

Quality first and foremost

Crew participant consent form

Study title: Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of patients who do not require admission to A&E.

Name of Researcher: Christina Heaton

To be filled in by the participant:

	Please read the following statements	**Please circle your response**	**Please initial below**
1	I confirm that I have read and understood the information sheet provided for the above study version 6 (23-9-16)	Yes / No	
2	I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	Yes / No	
3	I agree to being observed in clinical practice	Yes / No	
4	I agree to take part in a one-to-one interview	Yes / No	
5	I agree to take part in a group interview	Yes / No	
6	I agree to being observed during the interview by the researcher and notes taken that will be used in the research.	Yes / No	

7	I agree to have my interview discussion audio recorded.	Yes No	
8	I understand that my involvement in this study is voluntary and that I am free to withdraw at any time, without giving any reason.	Yes No	
9	I understand how the researchers will use my responses (study report, publications, teaching and publicity about the study).	Yes No	
10	I agree that my anonymised direct quotes can be used when reporting the study findings.	Yes No	
11	I understand that information from the study may be looked at by persons from the NHS Trusts where it is relevant to my part in the study. I agree to this.	Yes No	

To be filled in by the participant:

Name of participant	Date	Signature

To be filled in by the person obtaining consent:

I confirm that I have explained the nature, purposes and possible effects of this research study to the person whose name is printed above.

Name of investigator	Date	Signature

Appendix 14: Patient /carer consent form

University of Salford MANCHESTER

North West Ambulance Service NHS Trust

Quality first and foremost

Bridgewater Community Healthcare NHS Foundation Trust

Participant patient /carer consent form

Study title: Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of patients who do not require admission to A&E.

Name of Researcher: Christina Heaton

To be filled in by the participant:

	Please read the following statements	**Please circle your response**	**Please initial below**
1	I confirm that I have read and understood the information sheet version 5 (23-9-16) provided for the above study.	**Yes** **No**	
2	I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	**Yes** **No**	
3	I agree to take part in a one-to-one interview.	**Yes** **No**	
4	I agree to have my interview discussion audio recorded.	**Yes** **No**	
5	I agree to being observed during the interview and to notes taken that will be used in the research.	**Yes** **No**	
6	I understand that my involvement in this study is voluntary and that I am	**Yes** **No**	

	free to withdraw at any time, **without giving any reason** and without my medical care or legal rights being affected.		
7	I understand how the researchers will use my responses (study report, presentations, teaching and publicity about the study).	Yes No	
8	I agree that my anonymised direct quotes can be used when reporting the study findings.	Yes No	
9	I understand that information from the study may be looked at by regulatory authorities or by persons from the NHS Trusts where it is relevant to my part in the study. I agree to this.	Yes No	
10	I wish to be sent a summary report due in summer 2017.	Yes No	

To be filled in by the participant:

Name of participant	Date	Signature

To be filled in by the person obtaining consent:

I confirm that I have explained the nature, purposes and possible effects of this research study to the person whose name is printed above.

Name of investigator	Date	Signature

Appendix 15: University ethics' approval

University of Salford MANCHESTER

Research, Innovation and Academic Engagement Ethical Approval Panel

Research Centres Support Team
G0.3 Joule House
University of Salford
M5 4WT

T +44(0)161 295 2280

www.salford.ac.uk/

11 May 2016

Dear Christina,

RE: ETHICS APPLICATION HSCR 16-29– Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of non-conveyed patients.

Based on the information you provided, I am pleased to inform you that application HSCR16-29 has been approved. Please send a copy of the NRES approval letter once you have received it.

If there are any changes to the project and/ or its methodology, please inform the Panel as soon as possible by contacting Health-ResearchEthics@salford.ac.uk

Yours sincerely,

Sue McAndrew
Chair of the Research Ethics Panel

Appendix 16: Own Trust R&D approval letter

Bridgewater Community Healthcare NHS
NHS Foundation Trust

Research Department
Medical Directorate
Spencer House
1st floor, 89 Dewhurst Road
Birchwood
Warrington
WA3 7PG

Tel: 01925 867711
rachel.hall@bridgewater.nhs.uk
Twitter: @BridgewaterRes

12th September 2016

Christina Heaton
Nurse Consultant - Falls Prevention Service
Bridgewater Community Healthcare NHS Foundation Trust
Lower Ince Health Centre
Ince
Wigan
WN3 4NW

Dear Christina,

RE: Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of patients who do not require admission to A&E (BCHC201617).

I write to confirm that the above study has been granted R&D approval by Bridgewater Community Healthcare NHS Foundation Trust.

Permission for this study has been granted on the understanding that where necessary a favourable opinion from a Research Ethics Committee and authorisation by the Medicines and Healthcare products Research Agency (MHRA) has been obtained.

As the Chief Investigator you will take responsibility for the conduct of the research, and are accountable for this to the Trust and the research sponsor. On completion of your study, you are required to send a final report and a lay summary to the Trust within three months of the completion date. In addition, you must notify the Trust's Research Department of the following:

- Commencement and completion of the study;
- Numbers of Trust patients/participants recruited;
- Any significant changes to the study design, including amendments;
- Any further decisions made by a Research Ethics Committee and/or regulatory body regarding this study, including copies of relevant correspondence;
- Any serious adverse events on Trust participants or staff;
- Any suspension or abandonment of the study;
- Supply copies of publications relating to the study.

The study must be conducted in accordance with the Department of Health Research Governance Framework for Health and Social Care, Trust policies and procedures, and all relevant and applicable legislation/regulatory requirements, including International Conference on Harmonisation – Good Clinical Practice guidelines (ICH GCP).

Please contact me if you have any queries relating to this approval.

Chief Executive: Colin Scales Chairman: Harry Holden

Appendix 17: NWAS R&D Approval letter

North West Ambulance Service NHS
NHS Trust

Headquarters
Ladybridge Hall
399 Chorley New Road
Heaton, Bolton
BL1 5DD

Tel: 01204 498400
Fax: 01204 498423

www.nwas.nhs.uk

Christina Heaton

20th June 2016

Dear Christina

Re: Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of patients who do not require admission to A&E

Thank you for approaching NWAS NHS Trust with regard to your study, and for completing the Trust R&D Proposal pro-forma.

I am pleased to advise you following phase 2 review by the Clinical Leadership Group a decision has been made to formally approve and adopt your study into the NWAS current R&D portfolio as it meets the requirements to be considered as Research.

Please ensure that you have made yourself familiar with the NWAS R&D Framework requirements; the framework can be located on NWAS intranet or I can forward a copy on to you should you require.

Your project has been assigned the following unique number and this should be indicated on all correspondence with regard to your study: **NWAS 2016_2017 076**

The next step is for you to provide update reports, so that the Clinical Leadership Board and other sub-committees can be informed of your projects progress.

I take this opportunity to wish you well with your study, and do not hesitate to contact me should you require any further assistance with the NWAS R&D Framework process.

Kind Regards,

pp *M. Kane*
Clinical Quality Manager

Mary Peters
Senior Clinical Quality Manager

Appendix 18: HRA ethics' approval

NHS
Health Research Authority

Mrs Christina Heaton
Salford University
43 The Cresent
Salford
M5 4WT

Email: hra.approval@nhs.net

05 October 2016

Dear Mrs Heaton

Letter of HRA Approval

Study title:	**Experiences of falls in domestic settings and use of ambulance services: an ethnographic study of patients who do not require admission to A&E.**
IRAS project ID:	**209334**
REC reference:	**16/NW/0612**
Sponsor	**University of Salford**

I am pleased to confirm that **HRA Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications noted in this letter.

Participation of NHS Organisations in England

The sponsor should now provide a copy of this letter to all participating NHS organisations in England.

Appendix B provides important information for sponsors and participating NHS organisations in England for arranging and confirming capacity and capability. **Please read *Appendix B* carefully**, in particular the following sections:

- *Participating NHS organisations in England* – this clarifies the types of participating organisations in the study and whether or not all organisations will be undertaking the same activities
- *Confirmation of capacity and capability* - this confirms whether or not each type of participating NHS organisation in England is expected to give formal confirmation of capacity and capability. Where formal confirmation is not expected, the section also provides details on the time limit given to participating organisations to opt out of the study, or request additional time, before their participation is assumed.
- *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* - this provides detail on the form of agreement to be used in the study to confirm capacity and capability, where applicable.

Further information on funding, HR processes, and compliance with HRA criteria and standards is also provided.

Appendix 19: Amendment form to HRA

Notice of Amendment IRAS Version 5.4.0

Welcome to the Integrated Research Application System

IRAS Project Filter

The integrated dataset required for your project will be created from the answers you give to the following questions. The system will generate only those questions and sections which (a) apply to your study type and (b) are required by the bodies reviewing your study. Please ensure you answer all the questions before proceeding with your applications.

Please complete the questions in order. If you change the response to a question, please select 'Save' and review all the questions as your change may have affected subsequent questions.

Please enter a short title for this project (maximum 70 characters)
Experiences of falls in domestic settings and use of ambulance service

1. Is your project research?

(•) Yes ( ) No

2. Select one category from the list below:

( ) Clinical trial of an investigational medicinal product

( ) Clinical investigation or other study of a medical device

( ) Combined trial of an investigational medicinal product and an investigational medical device

( ) Other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice

( ) Basic science study involving procedures with human participants

( ) Study administering questionnaires/interviews for quantitative analysis, or using mixed quantitative/qualitative methodology

(•) Study involving qualitative methods only

( ) Study limited to working with human tissue samples (or other human biological samples) and data (specific project only)

( ) Study limited to working with data (specific project only)

( ) Research tissue bank

( ) Research database

If your work does not fit any of these categories, select the option below:

( ) Other study

2a. Please answer the following question(s):

a) Does the study involve the use of any ionising radiation?	( ) Yes	(•) No
b) Will you be taking new human tissue samples (or other human biological samples)?	( ) Yes	(•) No
c) Will you be using existing human tissue samples (or other human biological samples)?	( ) Yes	(•) No

3. In which countries of the UK will the research sites be located? *(Tick all that apply)*

[x] England
[ ] Scotland

Appendix 20: HRA amendments approval

From: nrescommittee.northwest-liverpooleast@nhs.net [mailto:nrescommittee.northwest-liverpooleast@nhs.net]

Sent: 27 March 2017 16:07

To: c.heaton1@edu.salford.ac.uk

Cc: Duncan.robertson@nwas.nhs.uk

Subject: IRAS 209334. Confirmation of favourable opinion for substantial amendment

Dear Mrs Heaton,

IRAS Project ID:	**209334**
REC Reference:	**16/NW/0612**
Short Study Title:	**Experiences of falls in domestic settings and use of ambulance service**
Date complete amendment submission received:	**16 March 2017**
Amendment No./ Sponsor Ref:	**1**
Amendment Date:	**10 February 2017**
Amendment Type:	**Substantial**

I am pleased to confirm that this amendment has been reviewed by the REC and has received a Favourable Opinion. Please find attached a copy of the Favourable Opinion letter.

Participating NHS Organisations in England – Confirmation of Assessment Arrangements

Further to the details above, I can confirm that this amendment will be assessed by the HRA to confirm that it meets the expected criteria and standards. An Assessor from the HRA will contact you, and you will receive separate notification that the HRA Assessment is complete. You should not implement this amendment at participating NHS organisations in England until the outcome of the HRA assessment is confirmed, and the conditions detailed in the categorisation section above have been met.

Please do not hesitate to contact me if you require further information.

Kind regards

Nafeesa Khanam

REC Assistant

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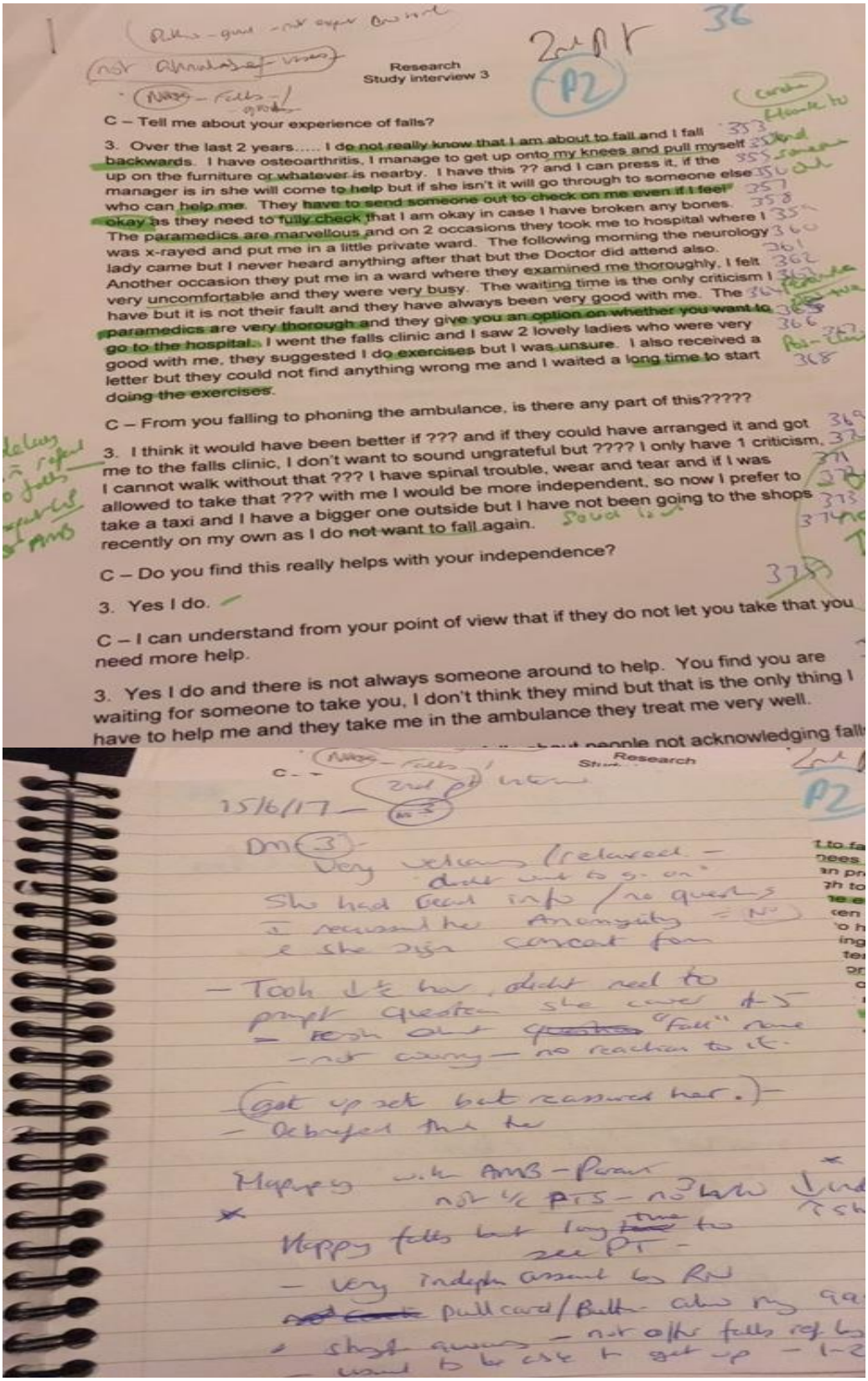
Appendix 21: Sample of transcript analysis & field notes



Research
Study interview 3

C – Tell me about your experience of falls?

3. Over the last 2 years..... I do not really know that I am about to fall and I fall backwards. I have osteoarthritis, I manage to get up onto my knees and pull myself up on the furniture or whatever is nearby. I have this ?? and I can press it, if the manager is in she will come to help but if she isn't it will go through to someone else who can help me. They have to send someone out to check on me even if I feel okay as they need to fully check that I am okay in case I have broken any bones. The paramedics are marvellous and on 2 occasions they took me to hospital where I was x-rayed and put me in a little private ward. The following morning the neurology lady came but I never heard anything after that but the Doctor did attend also. Another occasion they put me in a ward where they examined me thoroughly, I felt very uncomfortable and they were very busy. The waiting time is the only criticism I have but it is not their fault and they have always been very good with me. The paramedics are very thorough and they give you an option on whether you want to go to the hospital. I went the falls clinic and I saw 2 lovely ladies who were very good with me, they suggested I do exercises but I was unsure. I also received a letter but they could not find anything wrong me and I waited a long time to start doing the exercises.

C – From you falling to phoning the ambulance, is there any part of this?????

3. I think it would have been better if ??? and if they could have arranged it and got me to the falls clinic, I don't want to sound ungrateful but ???? I only have 1 criticism, I cannot walk without that ??? I have spinal trouble, wear and tear and if I was allowed to take that ??? with me I would be more independent, so now I prefer to take a taxi and I have a bigger one outside but I have not been going to the shops recently on my own as I do not want to fall again.

C – Do you find this really helps with your independence?

3. Yes I do.

C – I can understand from your point of view that if they do not let you take that you need more help.

3. Yes I do and there is not always someone around to help. You find you are waiting for someone to take you, I don't think they mind but that is the only thing I have to help me and they take me in the ambulance they treat me very well.

Appendix 22: An Example matrix used to support analysis