Abstract:

Purpose

Frailty increases the risk of adverse outcomes such as falls and disability and has a major impact on health and care services. Admission to hospital confers significant risks including deconditioning, delirium and hospital-acquired infection. In the UK, there has been a significant shift towards acute care at home using integrated 'hospital at home' (HaH) services as the delivery model. The purpose of this study was to explore the implementation processes and staff experiences of a Frailty Home Treatment Service (FHTS) in England.

Design and Methodology

Using a multi-method, qualitative case study design, data was collected using semi-structured interviews with seven external stakeholders of the FHTS. A focus group was also conducted with seven members of the FHTS team. Interviews and the focus group were audio-recorded and transcribed. Data was analysed thematically according to a implementation science conceptual framework.

Findings

Facilitating factors for implementation included a shared purpose and vision, the presence of 'champions' in leadership roles, the development of trusted relationships, a commitment to collaborative working, and a multidisciplinary skill-mix. Challenges included the need for clear eligibility criteria, management of staff workloads, and interoperable IT systems for digital information sharing.

Originality

This paper illuminates the factors which support implementation, maintenance and sustainability of integrated HaH services for frailty. These factors should be explored when services are implemented in other contexts. The impact on staff workload and training needs needs consideration.

Key words:

Integrated care, frailty, hospital at home, ageing, implementation, staff experience

Introduction:

Frailty is a major challenge facing older adults (Abbasi *et al*, 2021). It is defined as "a state of vulnerability to poor resolution of homeostasis following a stress and is a consequence of cumulative decline in multiple physiological systems over a lifespan" (Clegg *et al*, 2013). Frailty increases the risk of adverse outcomes such as falls and disability (Fogg *et al*, 2022) and whilst it is not synonymous with ageing, it is most prevalent in older adults (NHSI/NHSE 2019). Frailty has a major impact on service use. An estimated 5-10% of people attending emergency departments are frail (Conroy and Dowsing, 2013). Admission to hospital confers a significant risk of harm such as deconditioning, delirium and hospital-acquired infection (BGS, 2022). There has been a significant shift in the National Health Service (NHS) in England to provide acute care at home using 'hospital at home' (HaH) services as the delivery model. There is a growing body of evidence that such models deliver equivalent care to hospital in an environment that is preferred by older people and their families. Admission avoidance improves functional outcomes and reduces mortality (Pearson *et al*, 2017; Sheppherd *et al* 2021; 2022). Furthermore, models utilising the Comprehensive Geriatric Assessment

(CGA), an holistic assessment for older people, are cost-effective and help to avoid hospital admissions in older people (Singh et al, 2022).

The British Geriatric Society (BGS, 2022) describe frailty HaH as time-limited services which enable people requiring hospital-level care to receive this at home or in care homes, either as an alternative to hospital or by facilitating early discharge (BGS, 2022). The provision of care in a patient's home aims to improve patient experience and outcomes and facilitate integrated care through shared decision-making aligned with personalised care principles (NHSE, 2021).

A recent review by Westby *et al* (2024) traced the historical development of HaH for frailty (Lewis *et al*, 2006; 2017), culminating in UK guidelines for patients with acute exacerbations of frailty-related conditions (NHSE, 2023). HaH is now seen by policy-makers as providing cost-effective ways of relieving the pressures experienced by acute hospitals (Hernandez *et al,* 2024). The ambition of NHS England is to scale-up capacity to 40-50 'beds' per 100,000 people and have allocated £200 million to support implementation (NHSE, 2023).

However, a specific delivery model for frailty HaH has not been mandated and it is acknowledged that different operating models exist (NHSI/NHSE 2019). Two basic models have been proposed: Long-term HaH which is characterised by pro-active treatment of older people at risk of a crisis, and short-term HaH which provides reactive, urgent care for those already in crisis (Westby *et al,* 2024). For both, the driver is to avoid hospital admissions and support early discharge. A systematic review (Sempe et al, 2019) found a wide variety of teams delivering frailty HaH services, each differing in size, composition and setting. Gonzalez-Colom et al (2024) found HaH is delivered in a heterogeneous case-mix which may result in heterogeneous outcomes. In conclusion, HaH has been implemented in many different ways with limited understanding of how best to implement them.

Given the proliferation of HaH for frailty in the UK, there is an urgent need to understand how best to set-up and run services to ensure they are sustainable, and to understand how services affect the workforce. In March 2020, a HaH service – the Frailty Home Treatment Service (FHTS) - was set up in the South of England, comprising Advanced Clinical Practitioners (ACPs) senior nurses or other health professionals, trainee ACPs, Geriatricians, General Practitioners (GPs) family doctors, and speciality doctors trained in the care of older people. The population served by the FHTS is around 580,000 (Duggal et al, 2021). There were 2,600 patients in the service between July 2021-June 2022 with an average of 25 patients per day treated. The commonest age group was 85-89 years but a significant proportion (27%) were aged over 90 years. The service carries out an assessment of people in their own homes, community hospitals or care homes, and works with multiple disciplines across primary and community care, mental health services, social services and the voluntary sector. Following an urgent referral to the service, a Senior Clinical Decision Maker (SCDM), a senior health professional who undertakes 'triage' of referrals, provides advice and guidance to the referring clinician, undertakes a telephone or video assessment with the patient, arranges a visit by a member of the team or re-directs the referral to other community teams or primary care. The service is staffed by members of a wider frailty service who rotate to provide acute cover. Patients are seen face-to-face and virtually, depending on clinical need.

Frequent changes in institutional and health policies, patients' needs, and local resources create a challenging environment for implementation of complex interventions (Gesell *et al*, 2021). The aim of this paper is to explore the barriers and facilitators of the implementation of the FHTS service, using a multi-method qualitative, case study design.

Methodology and methods:

The COsolidated criteria for REporting Qualitative research checklist (COREQ) has been applied (Tong, *et al,* 2007).

The Research team

Authors JM, PC and MG carried out data collection and analysis. JM and PC have doctoral qualifications. Two are female and one is male. All were employed as health researchers at the time of the study and are experienced in qualitative methods. None had an established relationship with the FHTS. The purpose of the study and professional background of the researchers (JM and PC are nurses) was known to participants at the start of the study.

Study design:

The design was a multi-method, qualitative case study (Yin, 1998). Here, the 'case' is the FHTS. Nolte's framework (2018) of implementation processes was used as the conceptual model. A number of models have been employed to explore the determinants of successful implementation of innovation in healthcare. Nolte (2018), on behalf of the World Health Organisation, carried out a review of the main frameworks and factors that have been identified as supportive for the successful introduction of innovation in service organisation and delivery. It therefore, comprehensively brings together the factors that support implementation, scale, and spread, namely organisational structure, leadership and management, stakeholder involvement, resources, effective communication, adaption, monitoring and feedback, and evaluation.

(TABLE i here)

Data was collected between March-August 2022. All members of the FHTS were approached and invited to take part in a focus group aiming to explore perspectives and opinions through interactions between team members (Tausch and Menold, 2016). A focus group schedule was derived from the 8 dimensions of Nolte's (2018) framework and included open and closed questions and prompts. Participants were approached by email. Seven members of the FHTS agreed to take part in the focus group, out of a total 12. Those who did not take part were unavailable at the time of data collection. The focus group took place face-to-face at the FHTS office and lasted 1.5 hours. Field notes were written both during and after the focus group. The session was audio-recorded and transcribed. The transcript was returned to participants to check for accuracy.

External stakeholders were identified by a project steering group using a purposive sampling technique to include staff with experience of working alongside the FHTS. These included healthcare professionals from within the community health service, hospital staff, care home managers, primary care staff, and service commissioners. Participants were approached by email to take part in an individual interview. An interview schedule was derived from the 8 dimensions of Nolte's (2018) framework and included open and closed questions and prompts. Seven stakeholders agreed to be interviewed, representing each professional group or setting. A representative from the ambulance service did not respond to the invitation to participate. Interviews were conducted online using MS Teams and lasted 1 hour. Each interview was audio-recorded and auto-transcribed. Transcripts were returned to the participants to check for accuracy.

Data was analysed thematically by two researchers (PC, JM) (Flick, 1998). External stakeholder participants were assigned a unique identification number i.e 'P01–P07'. Members of the focus group were not identified individually, rather the identifier 'FG' was used. Analysis was both deductive and inductive in that the 8 dimensions of Nolte's (2018) framework were set-up *a priori* as 1st level themes, and sub-themes were inductively derived from the data. Each interview transcript

and the focus group transcript were coded separately in a process of assigning sections of text to the themes. Each theme therefore, consisted of a number of codes which were then grouped together into sub-themes (2nd level themes) and illustrated by quotes. This coding tree was then compared and discussed by the two researchers until a consensus was reached. The themes of organisational structure was combined with leadership and management as there was considerable overlap, and monitoring, feedback and evaluation were not deemed to be significant factors in explaining the implementation of the FHTS. The final coding tree consisted of 5 themes and 13 sub-themes, specifically, Leadership and management (sub-themes: shared purpose and vision, governance arrangements, leadership quality), Stakeholder involvement (building relationships, challenging misconceptions and raising awareness, collaboration), Resources (skill-mix, job satisfaction, workload pressure, skills development and training), Effective communication (referrals in and transitions out, co-location, digital information sharing), and Adaptation. A summary of the main findings was presented to the project steering group for discussion.

Ethical approval was gained from the University of Kent Research Ethics Committee (Reference 0664).

Results:

(TABLE ii here)

Leadership and management

Shared purpose and vision

The service was set up as an immediate response to the Covid-19 pandemic, during which avoidance of hospital admission for frail, older people was of vital importance. There was a strong sense of collaboration and 'doing the right thing' in a time of crisis:

> *"Everybody sort of embraced the challenge of moving to a home treatment service in response to the pandemic, to try to do the best for people living in the community" (FG)*

Over time the aims of the service crystallised around hospital admission avoidance, treatment comparable to the care available in hospital, and patient choice.

> *"It's to avoid hospital for those patients who don't want to go to hospital but want treatment at home and to ensure that their wishes are carried out" (FG)*

Governance arrangements

In terms of management and governance structures, members of the FHTS reported to the SCDM. At a strategic level, the team reported to the service commissioners (funders):

> *"On a day-to-day basis, we have a senior clinical decision maker and generally you will report to that person" (FG)*

> *"Ultimately they report through to us, as commissioners" (P06)*

Leadership quality

A charismatic leader was important for building relationships and engaging others:

> *"What you need is passion. [Name's] the most passionate speaker and she can get anyone caught up in the excitement of what she's doing. If I speak to her for half an hour, I think 'this is definitely the right thing'" (P05)*

Stakeholder involvement

Building relationships

The FHTS built relationships with individuals and teams including care homes, GPs, hospices and other teams within the community health organisation. This was facilitated by a history of working together:

> *"I think there's pre-established links because we've known [Name] from previous visits to the home. I think that helps to form good practice and to have a relationship" (P08)*

> *"Those relationships that they've built with others, like the care homes [...]. It's about people, and relationships, and politics at the end of the day" (P06)*

Challenging misconceptions and raising awareness

The team took opportunities to challenge misconceptions and educate referrers:

> *"If we get a referral that's inappropriate or not quite in the way that it should be made, we will then have a conversation individually with that GP surgery […]. We'll send an e-mail or we might talk to the lead person or practice manager and say, 'look, this is actually what we do'" (FG)*

> *"We go to the hospital all the time and we constantly try and reiterate it" (FG)*

However, the level of awareness of the service, particularly among GPs and care homes was still challenging:

> *"Probably a lot of the GPs aren't aware of the service" (P05)*

Collaboration

Working collaboratively with colleagues within the community organisation was seen as effective:

> *"Definitely there has been more collaboration between community teams, and they will often link in with things like the virtual hubs and the care home meetings, so there's collaboration that way as well" (P07)*

The multiple professionals who make up the FHTS were believed to enhance collaboration:

> *"I think GPs are working more collaboratively, because the FHTS is made up of different professionals, there's lots of nurses, specialist nurses, so we're working between other doctors, other ACPs" (P07)*

Resources

Skill-mix

The skill-mix of the team included ACPs and trainee ACPs as well as a Consultant Geriatrician and Speciality Doctors. There was also a wider team of professionals including Occupational Therapists and Physiotherapists:

> *"We actually have a much bigger team of practitioners from various backgrounds" (FG)*

Job satisfaction

Team members described a hugely rewarding job, largely due to the appreciation of older people and their families:

> *"There's that constant reward, that feeling your patients give you when they're so happy they don't have to go to hospital, that keeps you going" (FG)*

As well as this reward, working within a committed team enhanced job satisfaction:

> *"I think it was the dream job because it's a team of dedicated, passionate people that just love managing frailty and supporting older people" (FG)*

Workload pressures

There was a considerable impact on FHTS staff in terms of workload due to the size of the team and geographical spread:

> *"We're such a small team, but cover a big area" (FG)*

There was an increasing volume of patients with no upper limit, creating unpredictable demand:

> *"Our caseload is never ending. There is no upper limit […] so it's quite unpredictable work" (FG)*

This high workload coupled with the emotional demands of the job, resulted in feelings of pressure and stress for some:

> *"If you're out on hot [acute] visits sometimes I don't even get to the office because it's one after the other after the other and it's not till you get home and you think wow, that was hard" (FG)*

The SCDM role was cited as being particularly stressful, with practitioners experiencing 'decision fatigue':

> *"Decision-making, that is the most difficult bit of the job, and even the most senior people will get decision fatigue doing that, having to make constant decisions, not actually physically seeing the patient" (FG)*

Members of the team described an impact on work/home balance, impacts on family and working late:

> *"It just puts a huge amount of strain and pressure on people and you've still got families and homes to go to, lots of staff have children so everybody juggles everything" (FG)*

Skills development and training

Perceived lack of skills resulted in lack of confidence and feelings of guilt in some team members:

> *"Some trainees feel guilty or not as good as others and feel that they offer a suboptimal service to the patient" (FG)*

Effective communication

Referrals in and transitions out

The process of referring into the FHTS was not always described easy, with a number of referrers highlighting a lack of clear criteria for referrals:

"It's a bit ambiguous as to what they take, and I don't know whether it's dependent on the person you speak to" (P01)

This lack of clarity for referrals was also highlighted by the FHTS team:

"Who we accept and who we don't accept depends very much, I feel on who's taking those calls. One day somebody might accept something and the next day, the other person who's in charge, won't accept that referral" (FG)

In terms of care transitions, care is transferred back to the GP, although there is some anxiety about lack of follow-up:

"I worry, 'does the GP even know we've been involved'? We are sending constant almost sort of daily letters that go straight to their service, straight to their inbox but are they even seeing that?" (FG)

Lack of timely communication was also of concern to some GPs:

"The challenging bits have been feedback […]. Sometimes it's hard to know what's happened. We do get the documentation eventually, but if you're following the patient up, you don't know if they've had IV antibiotics, fluids, or, you know, are they now dying" (P07)

Co-location

Shared office space for teams working together was not seen as essential:

"We've talked a lot about sitting people in one area, I don't necessarily think they need to do that, but it is good to have somewhere they can come as a team and have that relationship building" (P06)

Digital information sharing

Sharing information digitally was problematic due to a lack of interoperable IT systems. A shared system is recognised as a strategic priory:

"We can't see what they write, they can't see what we write, and I think that might sometimes lead to mis-communication" (P07)

"The shared medical record needs to be a priority for us" (P06)

Adaptation

There were differences in how the FHTS collaborated with other individuals, teams and services across the different localities within the geographical footprint of the service. This was due to a number of factors including differences in the way in which services have historically been commissioned, and different levels of maturity of the Primary Care Networks (PCNs), confederations of GPs:

"We all work in different areas of [Locality] and actually the area that I work in will be different to the area that [Name] works in […]. Every smaller locality will have its nuances" (FG)

"They [GP practices] still want to work individually and not together as a PCN" (FG)

Discussion:

Leadership and management

The implementation of complex healthcare interventions requires leadership and management which is supportive of and committed to change and can articulate a clear and compelling vision (Nolte, 2018). It has been observed in other studies that where managers do not embrace the HaH model, support for the service is reduced (Lewis *et al*, 2021). A non-hierarchical team structure and inclusive management style led to high job satisfaction in a study by Karacaoglu *et al* (2021). In our study, there was a shared vision of 'doing the right thing' during a global emergency. Support for the goals of HaH is reinforced by policies aimed at reducing rates of unplanned hospital admissions and improving the integration, quality and cost-effectiveness of care (Lewis *et al*, 2021). In this study, national policy and regional commissioning structures closely aligned with the implementation of the FHTS. The FHTS had transparent governance arrangements, common standards and reporting structures which have been described as key building blocks for HaH (Westby *et al*, 2024). A charismatic leader was important to build relationships, motivate and engage others. The value of such 'champions' is commonly cited in the literature (Coleman *et al* 2023; Westby *et al*, 2024; MacInnes *et al*, 2024).

Stakeholder involvement

Engagement and involvement of health and care individuals and teams is vital for integrated, multidisciplinary teamworking. A 'team of teams' or inter-team and intra-team collaboration is advocated in which there is mutual support, trust in shared goals and reciprocal learning (Karacaoglu et al, 2021; Westby *et al*, 2024). Members of the FHTS went to considerable lengths to engage GPs and other primary care staff, community teams, hospital, care home, hospice, ambulance service staff and other stakeholders. These relationships were key for receiving referrals into the service and continuing care following discharge. Relationships were facilitated by a history of previously working together and the development of trusted relationships over time. A history of difficult relationships between hospital and community services has been cited as a barrier to the success of HaH for frailty (Pearson *et al*, 2017). Building productive working relationships between teams requires recognising each other's strengths and limitations and a commitment to configuring services to deliver patient-centred care (Pearson *et al*, 2017).

The FHTS skill-mix was seen as a facilitating factor for the involvement of GPs and nursing teams. This is supported in other literature in which a lack of doctors involved in delivering HaH was a barrier to implementation as GPs perceived the service to be nurse-led and did not meaningfully engage (Lewis *et al*, 2021).

Challenging misconceptions about the nature and management of frailty and educating others about the FHTS was important for collaborative working. Stakeholders reported that the FHTS team were approachable, knowledgeable, skilled, and responsive. Engagement was not seen as a 'one-off' activity, but required ongoing commitment and reinforcement due, in part, to staff turnover but also resistance to change by some colleagues. It has been argued that lack of engagement in HaH, is a performance management issue (Lewis *et al*, 2021) though arguably this could result in a blame culture and be damaging to the development of trusted relationships.

Resources

Dedicated and ongoing resources including funding, staff, infrastructure and time are important facilitators of service change implementation, maintenance and sustainability. There was a good skill-mix of different professionals. Expertise and skills from different specialities has been cited as an

essential component of HaH (Lewis *et al*, 2021; Westby *et al,* 2023). This multi-disciplinary team is of primary importance for successful integration and should be safeguarded (Lewis *et al*, 2023).

FHTS staff found their job highly rewarding due to the appreciation of older people and their families and being part of a supportive team. High job satisfaction in HaH has been reported elsewhere (Anwar *et al*, 2024; Karacaoglu *et al*, 2021). However, some staff experienced stress and pressure due to high and unpredictable caseloads. This resulted in staff often working late which negatively impacted on work/life balance. Those triaging referrals also experienced a high emotional burden. Given the challenges around recruitment and retention of healthcare staff, described by the Kings Fund (2024) (a health and care policy think-tank), staff welfare is of paramount importance.

In terms of skills development, staff within the FHTS took responsibility for their own learning but some experienced insecurity at not having the advanced skills of other team members. Reviews of skills or competencies needed for urgent care HaH (Vaartio-Rajalin *et al*, 2019) highlight the need for extensive clinical experience and previous senior roles in acute hospital settings, physical assessment skills, non-medical prescribing qualifications and Masters level education. Such knowledge and experience enables practitioners to analyse the whole situation for a patient (and carer) and supports independent decision-making (Vaartio-Rajalin *et al*, 2019).

Communication

Effective communication within and between organisations is clearly important for integrated working. There was generally good communication with other community teams internal to the organisation but this was more variable outside the organisation. In terms of referrals into the service, there was some lack of clarity around the eligibility criteria which was perceived as being dependent on which SCDM takes the referral. The challenges of enrolling patients in HaH programmes has been described by Biederman *et al* (2024) and includes service and patient-related factors. In the original frailty HaH models eligibility criteria focused on screening tools to predict decline and risk of hospitalisation (Lewis *et al*, 2021). However, there needs to be a balance between being flexible and responsive to patients' needs, versus a clear criterion for referrers.

Co-location is often described as a facilitating factor for integrated working. A shared space can create a positive culture of collaboration and teamwork, and increases connectiveness (Low *et al*, 2017; Westby *et al*, 2024). The UK Government manifesto endorses 'Neighbourhood Health Centres' which bring together services 'under one roof' (The Labour Party, 2024). It remains to be seen whether there will be a shift to HaH becoming co-located with other services and the impact this may have on communication and collaboration.

Digital information sharing was problematic due to a lack of interoperability across the health and care system. Effective 'real-time' data sharing and information management are described as instrumental to the successful implementation of HaH (Lewis *et al*, 2013; Westby *et al*, 2024). A single electronic record is the long-term goal, but for now digital information sharing remains challenging.

Adaptation

As this study was of a single service, findings on the adaptation of HaH for frailty to local contexts are necessarily tentative. However, even within this one service, variation to local context was apparent due to different service configurations and the maturity of PCNs. We know from other studies of implementation of complex interventions that such adaptation is necessary for successful scale and spread (MacInnes *et al*, 2023; Low *et al*, 2017).

Limitations:

The recruitment of professionals external to the FHTS was challenging. Most notably, there was no representation from the ambulance service staff who refer into the FHTS. The study involved a small number of participants within a single case study so analysis was necessarily limited to this service, however an implementation science approach allows for insights that are transferable to other HaHs.

Conclusion:

Implementation factors of leadership and management, stakeholder involvement, dedicated resources, effective communication and adaption to local context have been explored in relation to a community-based HaH for frailty. Facilitating factors for implementation include a shared purpose and vision, the presence of 'champions' in leadership roles, the development of trusted relationships, a commitment to collaborative working, and a multi-disciplinary skill-mix. Challenges include the need for clear eligibility criteria, management of staff workloads to prevent burn-out and interoperable IT systems for digital information sharing. These factors should be explored when implementing HaH for frailty in other settings. The precise ways in which services are adapted to local contexts should be further explored.

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