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Extended Research Article

Organising general practice for care homes: a multi-method study

Barbara Hanratty[1*] Rachel Stocker[1] David Sinclair[1] Katie Brittain[1] Karen Spilsbury[2] Daniel Stow[1] Louise Robinson[1] and Fiona E Matthews[1]

[1]Population Health Sciences Institute, Newcastle University, Newcastle upon Tyne, UK
[2]School of Healthcare, University of Leeds, Leeds, UK

[*]Corresponding author Barbara.hanratty@newcastle.ac.uk

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Abstract

Background: General practice provides first-line National Health Service care for around 400,000 care home residents. Good primary care can enhance residents' health and well-being and optimise use of hospital services.

Objectives: This study aimed to explore the relationships between organisation of general practice and the perspectives and experiences of residents, general practice and care home staff, outcomes and costs.

Design: Survey of general practices (2018), qualitative study (2019), analysis of primary care data (2019–21).

Policy context: National Health Service England Vanguard funded innovation in services for care homes in five areas (2015–8); Enhanced Health in Care Homes introduces standardised care home healthcare processes in England (2020–4).

Setting: England: national survey; qualitative work in three areas (two Vanguards); analysis of national primary care data across early implementation of Enhanced Health in Care Homes and the COVID-19 pandemic.

Participants: One hundred and fifty general practice survey respondents; 101 interviewees (general practitioners, practice managers, receptionists, care home managers, nurses, senior carers, residents, relatives, commissioners) in three areas; 103,732 care home residents ≥ 75 years, registered with participating practices in Clinical Research Datalink Aurum 2019–21.

Results: Qualitative analysis identified three themes concerned with general practitioner services to care homes: relational processes, communication and organisation. Continuity of care, sensitivity to the skills of care home staff and routines of the home, along with a willingness to dedicate time to patients, are all crucial. Different structures (e.g. scheduled visits) provide opportunities to develop effective, efficient care, but flounder without established, trusting relationships. The way in which new initiatives are implemented is crucial to acceptance and ultimate success: telemedicine was an example that generated efficiencies for the National Health Service, but could be a burden to care homes, resented by staff and perceived as a barrier to overcome. One hundred and fifty practices responded to our survey, a majority staffed by ≤ 5 general practitioners. Larger practices were more likely to have a nominated general practitioner for care homes and make weekly scheduled visits. Analysis of primary care data found that in practices with a higher number of care home residents, patients had more contacts with primary care and fewer urgent referrals. Between 2019 and 2021, total contacts and estimated costs increased, and urgent referrals and polypharmacy fell.

Limitations: Sparse evidence of systematic change in Vanguard areas limited our conclusions about specific initiatives. Implementation of national policy during the COVID-19 pandemic complicates data interpretation.

Conclusions: Larger practices or those with higher numbers of care home residents were more likely to adopt ways of working that are associated with higher-quality care. However, trusting relationships between care homes and a motivated, adequately resourced primary care workforce may be more important than models of care, in enhancing primary care for care homes. General practices and care homes find creative ways around initiatives that are not perceived to offer any benefits, emphasising the need for local flexibility when implementing national initiatives.

Future work: Future work could address how best to promote ways of working that prioritise trusting relationships; the absence of care pathways specific to care home patients, and the impact of Enhanced Health in Care Homes on system-wide costs.

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Supplementary material can be found on the NIHR Journals Library report page (https://doi.org/10.3310/YNDV6358).

Supplementary material has been provided by the authors to support the report and any files provided at submission will have been seen by peer reviewers, but not extensively reviewed. Any supplementary material provided at a later stage in the process may not have been peer reviewed.

Glossary

Care homes Provide accommodation and personal care for people who need extra support in their daily lives. Personal care can include help with eating, washing, dressing, going to the toilet or taking medications, for example.

Care homes with nursing or nursing homes Care homes that employ registered nurses, who are present 24 hours/day.

Care Quality Commission The independent regulator of all health and social care services in England.

Clinical Commissioning Groups Clinically led statutory National Health Service bodies responsible for the planning and commissioning of healthcare services for their local area.

General practitioner A medical doctor who treats acute and chronic illnesses and provides preventive care and health education to patients. The general practitioner is normally the point of first medical contact within the healthcare system, providing open access, dealing with all health problems regardless of characteristics of the person concerned. The general practitioner co-ordinates care, working with other professionals in the primary care setting, and manages the interface with other specialities, taking an advocacy role for the patient when needed. General practitioners adopt a person-centred approach, orientated to the individual, his/her family and their community. A particular feature of general practice is that a relationship is established with patients over time.

Integrated care system Integrated care systems are partnerships of organisations that come together to plan and deliver 'joined-up' health and care services. Forty-two integrated care systems were established in England on 1 July 2022.

National Healh Service England It is a non-departmental public body of the Department of Health and Social Care. It oversees the planning and operation of the commissioning of the National Health Service in England.

Primary Care Network Groups of neighbouring general practices, working together with local service providers, to offer more co-ordinated care for their local populations. Typically, they cover a population between 30 and 50,000 people. The formation of Primary Care Networks was introduced in the National Health Service Long Term Plan in 2019 and implemented the same year.

Relational practice A way of working that prioritises the establishment and maintenance of helpful interpersonal relationships.

Telehealth The provision of health care remotely by means of telecommunications technology.

Telemedicine The remote diagnosis and treatment of patients by means of telecommunications technology.

List of abbreviations

CCG	Clinical Commissioning Group
CGA	comprehensive geriatric assessment
CHIG	Care Home Interest Group
CQC	Care Quality Commission
EHCH	Enhanced Health in Care Homes
ENRICH	Enabling Research in Care Homes
GP	general practitioner
HCA	hierarchical clustering analysis
LPZ	Landelijke Prevalentiemeting Zorgkwaliteit
PPI	patient and public involvement
SBAR	situation, background, assessment, recommendation
VOICE	Valuing Our Intellectual Capital and Experience

Plain language summary

Most people who live in care homes are older adults. General practitioners look after their day-to-day medical care, working with care home or community nurses. In England, there have been moves to improve health care for people in care homes. In this study, we looked at how general practitioner services could be delivered to get the best care for care homes. We surveyed practices, interviewed more than 100 people in three different areas of England (pre-COVID) and analysed information from electronic healthcare records in primary care using a large research database. Our qualitative study identified three areas that general practices working with care homes should focus on. These were relationships, the way care is structured, and how changes are introduced. All three need to be in place, to improve experiences and care for care home staff and residents. One hundred and fifty practices replied to our survey – around half made planned visits to care homes, and nominated one person for this work. Bigger practices were more likely to work in ways that should provide good-quality care for care homes. Our analysis of healthcare records (2019–21) showed residents in practices with larger numbers of care home residents saw their general practitioners more often and had fewer urgent referrals. Over the time that policy changes were first introduced in England, residents had more contact with practices, prescribing improved, urgent referrals fell and estimated costs went up. This study provides support for changes being introduced by national policy but emphasises the need for trusting relationships between primary care and care home staff. Future challenges include developing and retaining a skilled primary care workforce that wants to work with care homes. Care pathways to guide general practitioners and care homes when a resident is ill may also be helpful, along with more in-depth analysis of the cost implications.

Scientific summary

Background

General practice provides the point of first medical contact within the healthcare system for residents of UK care homes. Good primary care may enhance residents' health and well-being and optimise use of hospital services. Yet there has long been a widely held view that care home residents do not receive high-quality primary care. Care homes are challenging settings in which to implement the vision of dignified, person-centred care outlined in government policy. General practitioners (GPs) are tasked with working in partnership with residents, helping them to find their voice, while working more efficiently, and integrating with other community and secondary care services. There has been great heterogeneity in the organisation of general practice services for care homes, both in the number of practices providing services to an individual care home, and in nature, frequency and regularity of primary care contacts with a particular home. NHS England funded the Vanguard initiative (2015–8) to identify and support innovative ways of working with care homes in five areas. This was followed by the introduction of a new policy [Enhanced Health in Care Homes (EHCH), implemented 2020–4] to standardise aspects of health care for residents. This report will address the question of how the organisation of GP services impacts on care home residents' and staff experiences and examine selected aspects of care over time as the new policy is first introduced. The overall aim is to identify effective ways of serving this important group of patients.

Objectives

The aim was to identify effective ways of organising general practice for care homes and understand the experiences of residents, general practice and care home staff.

Research questions

1. In what ways is the organisation of general practice for care homes associated with better resident outcomes and experiences?
2. What are the implications of different models of GP involvement for residents' service use and costs?
3. What are the perspectives of residents, relatives and staff in general practices, commissioning organisations and in care homes, on different ways of organising primary medical services for care homes? Which are acceptable and associated with positive experiences for staff, residents and relatives?

Methods

Methods: survey of general practices working with care homes

A fixed-response e-mail survey was designed for completion by practice managers, administrative staff or GPs in England. The survey collected data on practice and care home characteristics, GP staff visits to care homes, and ways of working. Seven items were closely aligned with the organisational changes that occurred in the areas where NHS England Vanguard care home initiatives were introduced. Information about the survey was distributed to Clinical Commissioning Groups (CCGs) who circulated to practice managers by e-mail. Individuals who were interested in participating were sent an information sheet and consent form, followed by an electronic copy of the study questionnaire. The data were aggregated and analysed using frequencies and percentages. Hierarchical clustering analysis was used to classify practices into groups based on their responses.

Methods: qualitative study

Interviews were conducted with GPs, practice managers and receptionists, care home managers, nurses, senior carers, residents, relatives and service commissioners. Interviews explored perceptions of the different models of general

practice care, positive and negative consequences of different ways of working, how different models of care influence staff experiences, job satisfaction and resident and family experiences, and the underlying structures, processes and values that perpetuate these models.

Fieldwork was conducted in three contrasting areas of England. Two had recently implemented new models of GP care for care homes, and the other had had no recent innovation. We used information collected in the survey to target care homes of a variety of types (residential/nursing/mixed), area-level social disadvantage and local GP practice size. Commissioners were recruited via existing links with the research team, public CCG/local authority staff lists and snowball sampling (where participants suggest another potential participant working in a similar commissioning role).

The interviews were audio-recorded, transcribed and analysed using a thematic approach. Line-by-line coding generated an initial thematic framework that was refined as data collection progressed. The finalised framework was then placed into a wider structure of context, organisation, individual and system to ensure consistency of coding and agreement/refinement of themes. Our approach was both iterative and inductive; we interrogated the data to answer our research questions and also identified new themes.

QSR international NVivo 11 (Warrington, UK) software was used to manage the data.

Methods: quantitative study

We analysed data from Clinical Research Datalink Aurum, which contains longitudinal primary care records of 14.8 million individual patients. Residents aged 75 years + who contributed person-time for all or part of 2019 or 2021 were included. Data on contacts, referrals and prescribing were extracted. Analyses were completed using R version 4.2.2 (The R Foundation for Statistical Computing, Vienna, Austria) and IBM SPSS 29.0.0.0 (241) (IBM Corporation, Armonk, NY, USA).

Public and patient involvement

We recruited a patient and public involvement (PPI) group from our larger Newcastle University supported Care Home Interest Group (see *Report Supplementary Material 1*). The intention was to seek views on study design, procedures, analysis and dissemination. Attendees were from a range of backgrounds. Some had no direct experience of this sector. Others were current or former care home staff, local authority, NHS or third-sector employees. The group met twice per year, with an average attendance of eight (plus the study team). We used role-play and actors to engage the PPI group in the data analysis.

Findings

Our survey showed that general practices with larger staff numbers and patient list sizes were more likely to adopt working practices thought to be associated with higher-quality care. These included the provision of scheduled visits, taking part in multidisciplinary team meetings and facilitating specialist nurse input into care homes. Analysis of primary care data from 103,732 care home residents produced complementary findings. Care home patients of practices with higher numbers of residents had more contacts with general practice staff and were less likely to have high numbers of emergency referrals. Between 2019 and 2021, the total number of residents fell, and there were fewer practices with a high number of registered care home patients. Total contacts and monthly contacts were higher in 2021, which may reflect more intensive end-of-life care, associated with a higher death rate during the COVID-19 pandemic. Compared to 2019, the proportion of residents who were referred urgently was lower, but levels of '2-week wait' referrals were similar. The proportion of residents without polypharmacy was higher in 2021 than 2019, and the proportion with excessive polypharmacy was also lower. Applying standardised costs to our data suggests that increasing contacts over time may increase primary care costs by up to £35,000 per annum for an average care home. This increased expenditure is unlikely to be offset by improvements in prescribing or referral practices. This issue merits more detailed scrutiny, with consideration of hospital admissions and individual drug costs to produce an accurate system-wide picture.

We identified three main themes in our qualitative study, relating to general practice services to care homes – relational processes, communication and organisation. The interaction between these three was critical to enhancing care. Trusting relationships are at the heart of effective general practice for care homes. Our findings suggest that continuity of care, sensitivity to the skills and expertise of care home staff and a willingness to dedicate time to patients were crucial. Different structures provided opportunities to develop effective, efficient care, but could flounder if relationships were not established. The potential of the ward round model, for example, was realised only when relationships were constructive. The way in which innovation is introduced is crucial to acceptance and ultimate success. Telemedicine was an example of a new way of working that generated efficiencies for the NHS but could be a burden to care homes, resented by staff and perceived as a barrier to overcome. The ingenuity of general practice and care home staff to circumvent initiatives that offered no perceived benefits to themselves, or care home residents, was evident, and emphasised the need for local flexibility when implementing national policies and to support grass roots innovation.

Implications for health care

Recognise the importance of relationships

Our findings suggest that good care and outcomes for care home residents will lie in models of care that enable effective working relationships to thrive. This finding adds to the body of evidence that emphasises the importance of human factors in service improvement and development. It suggests that an emphasis on reorganisation and innovation may be insufficient on its own. The challenge for service commissioners and providers will be finding the resources (particularly time) to foster constructive relationships across organisations.

Training of health professionals

The importance of relationships and respect for staff expertise point to a need to develop primary care expertise and interest in care home health. Developing a motivated healthcare workforce for care homes, skilled in caring for older adults with multiple long-term conditions and frailty, should be a priority.

Primary care networks and integrated care systems

Continuity of care from primary care professionals allows relationships to develop. Our findings suggest that designating individuals for specific care homes and allowing protected time is helpful. We also know that size of practice is also associated with other ways of working that may produce better quality of care. A critical mass of personnel is key to facilitate specialisation and allow allocation of staff to specific activities of interest, such as care home visits and multidisciplinary team meetings. Structural changes in the NHS, such as the establishment of primary care networks, may be helpful in ensuring that appropriately skilled primary care staff are available across all areas.

Scheduled visits for care homes

Scheduling regular visits is widely perceived as a way of enhancing the quality of health care for care homes. This study suggests that this intervention has potential to introduce efficiencies into care delivery and it is generally well received by homes.

Implementation of change

Our findings support a considered approach to implementation of new initiatives. Ongoing evaluation of the process of embedding an intervention into practice is essential, including scrutiny of the intended and unintended consequences. Telemedicine, for example, may reduce the need for GPs to visit care homes, particularly out of hours. However, it can increase care home staff workload, if they are drawn away from their usual duties.

Multidisciplinary working

This study suggests a lack of awareness within care homes of the potential benefits of pharmacist input. However, it is also possible that our interviewees' narratives reflected care homes' lack of influence on the location and actions of NHS pharmacy staff.

Recommendations for research

Research into promotion of relational practice between care homes and primary care

Promotion of ways of working that prioritise helpful relationships in health and social care (relational practice) has potential to enhance outcomes for care home residents. Previous work has established the importance of an atmosphere of respect and trust, a purposeful focus on relationships; and a physical environment that supports nurturing of relationships and individual autonomy. Our work identified additional factors that may be influenced by general practice – continuity of care, sensitivity to the expertise of care home staff and a willingness to dedicate time to patients. How to foster and sustain these attitudes and values, in the dynamic and pressurised environment of English primary care, is an important concern.

Implementation research

Our findings provide support for the changes being introduced in the EHCH Framework. However, they also point to a need for a greater understanding of how to introduce change into the complex setting of primary care for care homes. Unintended consequences of new initiatives, and a failure to take into account the human relationships involved are important but often overlooked challenges. Innovation that is taken up enthusiastically by a subset of the community may flounder when it is rolled out to other practices and care homes, with different interests and challenges. General principles to guide implementation already exist. This study suggests that there may be a place for the evidence to be synthesised to produce a practical toolkit for health and care home organisations embarking on service redesign.

Greater use of ethnographic methods

General practices and care homes are small, autonomous organisations, with ways of working that have often developed over years. Both are businesses, dependent on securing the trust of their current and future clients. For all of these reasons and others, insights into the way in which these organisations work, may be particularly difficult to obtain with standard qualitative interviews. Staff may be reluctant to reveal perceived flaws in their work or organisation, or keen to present their colleagues in a good light. Ethnographic methods offer an approach that allows the researcher to observe what is happening day to day and develop a deep and nuanced understanding of the workings of complex and impenetrable organisations. Greater acceptance of the value of ethnography by research ethics and research governance committees is needed to facilitate more widespread use of the approach in primary care and care homes.

A whole systems approach

The data presented in this study emphasises the needs for a whole systems approach to evaluative research in primary care and care homes. A change in one aspect of working leads to planned and unexpected consequences in other parts of the system. The impact on increased primary care contacts on hospital and primary care costs is an important topic for further study, to evaluate impact across the system. Further detailed work on the cost of changing ways of working in primary care may be helpful to support arguments for change, and appropriate allocation of resources.

Care pathways

This study identified a lack of guidance or care pathways specific to care home residents, either for general practice or care home use. Whether the complexities of older adult care can be safely incorporated into general guidance is an important question. However, our findings suggest that this is a void that will be filled by measures from secondary care (such as the national early warning score). Researchers could usefully address the question of whether care pathways or best practice guidance would improve the outcomes and efficiency of resident care, and be feasible to develop.

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Chapter 1 Introduction, background and aims

Introduction

General practice provides first-line medical care for residents of UK care homes. Proactive, holistic primary care offers the potential to reduce avoidable admissions to hospital[1] and enhance residents' health, well-being and quality of life. Yet, there is some evidence, and a widely held perception, that care home residents do not have equitable access to high-quality primary care. Care homes are challenging settings in which to implement the vision of dignified, person-centred care outlined in government policy.[2] General practitioners (GPs) are tasked with working in partnership with residents, helping them to find their voice, while working more efficiently, and integrating with other community and secondary care services. There has been great heterogeneity in the organisation of general practice services for care homes, both in the number of general practices providing services to an individual care home, and in nature, frequency and regularity of primary care contacts with a particular home. This report will address the question of whether and how the organisation of GP services impacts on care home residents' and staff experiences and outcomes, in order to highlight effective ways of serving this important group of patients.

During the course of this study, NHS England published and has started to implement a strategy to enhance health care in care homes that encompasses primary care.[3] Enhanced Health in Care Homes (EHCH) took some of the initiatives from the Vanguard areas in this study, and proposed their implementation across England between 2020 and 2024.[4] The quantitative component of our work has been adapted to present a national picture that crosses the early implementation of EHCH and the peak of the coronavirus pandemic. We also note that a relevant NIHR-funded study published its findings.[5] Similarities and differences to these research outputs are highlighted.

Background

Care homes

Care homes are institutions that provide accommodation and personal care for people who need support in their daily lives. There are more than 11,000 care homes in the UK, varying in size from fewer than 10 beds to over 100.[6] The average home has 20 beds (median 29); 1 in 10 homes has more than 50 beds. In the UK, the care home market is dominated by private sector, for-profit, providers. Seventy-six per cent of residential places, and 86% of nursing places, were provided by the private sector in the UK in 2017.[7] The largest 25 providers (by market share) are responsible for 31% of all care home places; the remainder are owned by independent or small chain providers.

Two different types of care homes can be distinguished. Care homes with nursing (nursing homes) have 24-hour onsite registered nursing staff. Care homes without nursing (residential homes) offer personal care, such as help with washing, dressing and going to the toilet, but no nursing input. In practice, many homes combine nursing and residential care in the same building, for residents with differing needs. This formal definition of what a care home is belies the fact that they are also people's homes. A majority of residents are older people, who move into care homes when they can no longer be supported in the community. The decision to move out of their own, or a family member's home, is seldom an easy one, and many moves are prompted by a crisis event. Care homes inspire strong emotions among the general public, and misconceptions about the quality of the environment and care are common.

All care homes are regulated by the Care Quality Commission (CQC), and inspected every 3 years to ensure minimum standards of care are met.[8] Care home residents are funded by the local authority or by themselves (or their families) depending on needs and financial circumstances. A means test is applied by local authorities to determine if individuals requiring social care are eligible for support. Below a certain threshold, the local authority pays for all social care costs. This consumes a significant part of the budget, with social care overall accounting for more than half (57%) of net local authority spending in England.[9] If a care home resident has complex physical or mental health needs, they may be eligible for NHS funding, via NHS Continuing Healthcare, which then covers all care home costs. However, the funding model for social care in England is expected to change in the future. A planned government Green Paper has

been delayed for a number of years, but there is cross party consensus in the UK Parliament that this issue requires urgent action.

First-line medical care in care homes is provided by general practice. They operate with funding from the NHS, via General or Personal Medical Services contracts and a pay-for-performance scheme, the Quality and Outcomes Framework. In some areas, a local enhanced services scheme operates to incentivise general practices to input into care homes. The CQC surveyed English Primary Care Trusts in 2010, and found 40% were offering such payments.[10] Beyond NHS funding, a small proportion of care homes pay a retainer fee to GPs for medical services or visits, but there are few data available on these arrangements or payments.[11,12] In homes with onsite nursing, care is provided by GPs working with the nurses employed by care homes. For residents in homes without nursing onsite, care is managed by the GP, with input from district nurses, funded by the NHS.

Care home residents as National Health Service patients

The approximately 400,000 people who live in UK care homes represent 4% of the population aged ≥ 65, and 16% of those aged ≥ 85. Old age, poor self-perceived health, functional impairments and multiple comorbidities are all common.[13,14] More than three-quarters of residents have some cognitive impairment, and the most frequently occurring medical diagnoses in this population are dementia, hypertension, osteoarthritis and cerebrovascular disease.[15,16] Median length of stay (from admission to death) in a care home is 15 months, and mortality rates among English care home residents are four times higher than older adults living in the community.[9,17,18] Care home residents' wide-ranging care needs would predict regular, appropriate contact with health services, and care home residents do make frequent use of health care, both general practice and hospital.[17,19–23]

Organising general practice for care homes

In the UK, general practice has responsibility for providing healthcare services to care home residents. The primary care focus on the health of the whole person, combining physical, psychological, and social aspects of care, makes them ideally placed for this work. Relationships between general practice and care homes vary at a number of different levels. Some care homes will have one general practice looking after all the residents. This may mean that people have to leave a GP they know well, when they move into a home. For older adults who have longstanding relationships with particular practices or clinicians, this disruption to relational continuity may be unwelcome and distressing.[12] In 2009, 85% of care homes worked with more than one GP practice,[24] but since then, there has been a gradual shift for care homes to work with a single GP surgery.[4,25,26] Larger homes are more likely to encourage residents to switch GPs and have one practice that serves all residents.[27] General practices also vary in the frequency and regularity with which they schedule visits to care homes, and traditionally, there has been little guidance for GPs to clarify their obligations to care homes.[28] Proactive visiting is expected to enhance the quality of care and reduce the need for ad hoc GP visits and unscheduled hospital admissions. However, evidence to support improved resident outcomes when one GP practice is attached to one care home is limited. It is important to acknowledge that changes implemented to enhance the efficiency of general practice delivery in this setting may have adverse consequences for continuity and patient choice.[29] Care homes have been found to impact significantly on GP workload in some, but not all studies.[20,21] Good working relationships between care home staff and general practices, care appropriate to resident need, and effective governance and incentivisation of care are all viewed as facilitators of care home residents' access to health care. Around half of residents, family members and staff surveyed by the CQC in 2012 report good access to GPs.[30]

Care homes in the UK may work with only one, or several, GP surgeries. In some areas, this has been driven by Clinical Commissioning Groups (CCGs) and NHS England encouraging practices to link with care homes. However, in the majority of cases, the arrangement results from care home expecting new residents to become patients of a particular GP practice when they arrive. The converse of this is that some general practices have responsibility for the health care of all residents in a particular home, whereas others have patients spread across multiple care homes. It is unclear how this variation influences patient outcomes, and how much importance residents and families place on choice of GP surgery and maintaining continuity if individuals move into a care home which has a specific, allocated surgery.

Future demands

General practice in England is facing unprecedented challenges, driven by workforce shortages, and an increased overall demand from patients. The number of GP consultations increased by 15% between 2010–1 and 2014–5,[31] while the

number of full-time equivalent GPs in England fell by 4% between 2016 and 2018.[32] Older people (aged over 85 years of age) and children consistently have the highest consultation rates.[33] As the number of people aged 65 and over in England is projected to increase by 20% between 2014 and 2024, demand on primary care will continue to rise.[34] This means that even without any change in late life dependency, more care home beds will be needed in the future to match demographic shifts. Current estimates are that an extra 71,000 care home beds will be needed by 2025.[35] These figures illustrate the importance of understanding how GPs work with patients living in care homes, as this is a growing component of the workload in primary care.

Care home residents and general practitioner services

For care home residents, the decision to consult a healthcare professional, and the practical arrangements, may all be made by care home staff. This has not been the subject of extensive scrutiny, but there is some previous work to suggest that residents accept staff taking on this agency role, and the older people come to rely on staff monitoring and responding to changes in their health status.[36] In turn, care home staff are expected to (a) know enough about each resident to notice health changes (which may be compromised in homes with a high staff turnover), (b) be able to judge whether the resident requires primary care input and (c) effectively communicate health-related information to primary care.[36] Residents and families expect that care home staff are able to do this, but this is not always the case. Residents may be reticent to ask to see a doctor, if they perceive some health problems to be age-related,[37] or influenced by age-related changes in cognition that affect help-seeking decisions. In short, care home residents have to rely on others, usually care home staff, to advocate for them so that their care needs are met.[38] Care home staff must balance their advocacy role for an individual with care home and wider health service priorities.[39] A minority of residents prefer to co-ordinate their own GP care themselves, when able, and residents who are able, could be supported to engage with care home staff over decisions about their care.[36]

Improving health care in care homes: recent research

Integrated working between health services and care homes was the subject of a longitudinal mixed-methods study, completed in 2013.[40] This work highlighted how residents rely on care home staff to interpret their health status, and make appropriate contact with primary care services. Decisions, internal to the care homes, seldom involved a joint review or discussion, and usually did not include the resident or family member. Similarly, care co-ordination processes aimed at integrating care were usually informal and negotiated with individual staff members, rather than formalised, system-wide ways of working.[40] The authors concluded that there were three key factors influencing integration between care homes and primary care: (1) engagement around resident care that focuses on specific domains of knowledge; (2) the opportunity for staff from both sectors to collectively address integrated working issues, as they develop shared knowledge and (3) the development and improvement of practice, built on shared resources and knowledge, which meets the needs of the older person.[40] The absence of a single body to act as a conduit to the care home sector appeared to be a significant barrier to achieving integration of care.

Healthcare provision to UK care homes has also been the subject of a realist inquiry. The evaluation used a mixed-method longitudinal case study design, and found that healthcare services for care homes achieved better outcomes for residents when NHS-based staff were given time to develop relationships with care home staff, especially when their work with care homes was formalised and roles clearly specified. Expertise in the care of older people, particularly in dementia management, also enhanced relational working. Commissioned services that enabled networks of multidisciplinary NHS teams to work around care homes, also promoted better outcomes, especially when they were able to take some aspects of care from GPs.[29] This confirmed the findings of a realist review from the same team, that had looked at how different healthcare service delivery models for care home residents support and improve health and well-being-related outcomes. Strategies that support joint working appeared to explain acceptance and uptake of healthcare interventions. Financial incentives or sanctions, agreed protocols, clinician expertise and structured approaches to assessment and care planning all could support relational working, but were insufficient to achieve change in themselves.[5]

Improvements to health care delivered within, and for, care homes have also drawn expertise from beyond general practice. Implementation of comprehensive geriatric assessment (CGA) in care homes has been considered in a recent realist review. This study identified three essential components, all requiring a multidisciplinary team; structured comprehensive assessment, care planning and working towards patient-centred goals. The need for professional

support for structured assessments was highlighted, if findings are to be acted upon. Overall, CGA appeared to improve outcomes, including objective measures of quality of care, healthcare use, prescribing and resident satisfaction.[41,42]

There are numerous other quality improvement approaches that are being implemented by care homes, which are not dependent on general practice services. The Landelijke Prevalentiemeting Zorgkwaliteit (LPZ), for example, is a tool for measuring the prevalence of common care problems that supports data collection to drive or measure the impact of quality improvement initiatives in the sector. A study is under way to evaluate the implementation and impact of LPZ on patience care in English care homes.[43]

This study in context

In most parts of England, there has been no history of medical services designed for care home residents. GPs have provided first-line medical input, making their own decisions about how best to organise services to meet the needs of their care home residents. This has undergone recent and rapid change. The CQC and the British Geriatrics Society reported on deficiencies in the care provided to care homes and the need for enhanced quality of care.[44–46] Despite much agreement on the need for change, there was little robust research evidence to guide commissioners and practices looking for new ways to improve the delivery of primary care services to care homes. Time pressures for GPs, relationships with care home staff, a lack of clarity over the boundaries of responsibility and the balance between reactive and anticipatory care have already been identified as challenges to improving care for residents.[36,47–50] A structured, proactive approach to relationship building and working between care homes and general practices has widespread support from professional bodies and commentators.[44,51] Integrated care between care homes and primary care may increase the quality and cost-effectiveness of care,[24] but previous attempts to promote integrated and personalised care have been criticised for overlooking the role of medical services in the community.[52] A shift to more regular, proactive care home visiting has the potential to reduce hospital admissions, but its wider and long-term impacts are unknown.[53]

In the absence of a body of evidence or expert consensus, several different initiatives were implemented in England in 2015. Six organisations were selected by NHS England, to develop different ways of working with care homes in what were termed ‘Vanguard’ sites. The aim was to identify and fund promising initiatives and ways of working, for future roll-out across the country. The care home Vanguards all adopted different approaches, including linking one general practice to a care home, multidisciplinary team meetings and integrating telehealth links with the local NHS. Thus, the Vanguards provided a natural experiment, as they attempted to produce systematic change in health care for care homes, within a defined local area. In other parts of the country, local innovations proceeded without specific funding, and in many areas, practices continued without change.

The proposed study will examine different ways of delivering GP services to care homes, in order to identify those associated with the best experiences and outcomes for care home residents and staff and general practices. It capitalises on the NHS England Vanguard initiative and subsequent national roll-out of EHCH, to capture the experiences and consequences of specific, new ways of working. The overall aim was to identify effective (and if possible, efficient) ways of organising general practice for care homes, and to evaluate the impact on the experiences and outcomes of residents, general practice and care home staff. The findings will be of use to care homes, and commissioners and providers of primary care for care homes. This report presents qualitative enquiry to address organisation and experiences (questions 1 and 3 below), and analysis of primary care data to respond to question 2.

Research questions

1. In what ways is the organisation of general practice for care homes associated with better resident outcomes and experiences?
2. What are the implications of different models of GP involvement for residents’ service use and costs?
3. What are the perspectives of residents, relatives and staff in general practices, commissioning organisations and in care homes, on different ways of organising primary medical services for care homes? Which are acceptable and associated with positive experiences for staff, residents and relatives?

Chapter 2 Study objectives, design and methodology

Study objectives

The original study objectives are listed below. This report presents findings from the GP survey, qualitative study and analysis of primary care data. The qualitative study and survey were the largest component of the work, and address questions 1 and 3.

1. In what ways is the organisation of general practice for care homes associated with better resident outcomes and experiences?
2. What are the implications of different models of GP involvement for residents' service use and costs?
3. What are the perspectives of residents, relatives and staff in general practices, commissioning organisations and in care homes, on different ways of organising primary medical services for care homes? Which are acceptable and associated with positive experiences for staff, residents and relatives?

Design

Survey of general practices working with care homes

A fixed-response e-mail survey was designed and piloted for administration by practice managers, administrative staff or GPs in England. The methods are described in *Chapter 3*. The protocol and study materials are in *Appendix 3* (see *Report Supplementary Material 2*).

Qualitative study

The qualitative study took place in three contrasting geographical areas in England named in this report as moors and dales, northern city and towns and rural. In each area, we first recruited care homes and where possible, each care home was then used as a focus for data collection with staff from any associated GP surgeries.

Qualitative, semistructured interviews were conducted with stakeholders from each care home and GP surgery. Interviews explored experiences and perceptions of GP care for care home residents. The findings from each care home cluster were compared within and across geographical areas, to understand similarities and dissimilarities of their context and ways of working.

Commissioners: selected headline findings from the qualitative work with general practices and care homes were put to senior commissioners in discussion, rather than formal interviews. This approach was chosen as a means of eliciting frank views, avoiding concerns over the recording and transcribing of interviews. It was also judged to be a more appropriate, cost-effective way of achieving our intended aim of understanding how people in commissioning organisations might use the study findings in their work.

Analysis of primary care data

Care home residents were identified within a primary care research database and information on their care analysed from 2019 to 2021. The methods are described in *Chapter 5*.

Qualitative methods

Setting

Fieldwork was conducted in three areas in England. We deliberately chose two areas that had recently implemented new models of GP care for care homes, and two with no such recent innovation. The intention was to allow comparisons of different innovations in care, and of innovation with usual care. (The geographical locations have been anonymised for reporting purposes.)

Moors and dales is a large area in England, which has recently implemented an innovative model of GP care for care homes. This area is characterised by former mill towns, areas of material disadvantage, and in some localities, a high proportion of the population are drawn from ethnic minority populations.

Northern city is an urban area England, which has also seen some innovation in GP care for care homes. Spread across a large geographical area, it is in the 25% most disadvantaged areas in England.

Towns and rural covers a large geographical area in England, with two small cities and several towns. This area is mostly affluent, especially in more rural areas, but with pockets of social disadvantage.

Participants

Participants were purposefully selected from all three areas (*Table 1*). We recruited from the following groups:

- Care home staff – including managers, nurses, healthcare assistants and carers. We included both nursing homes, residential homes, and mixed homes in the study, but excluded care homes for younger adults/children.
- Care home residents.
- Relatives of current care home residents. (Note that it was not necessary for the resident to participate).
- GPs – working in the same geographical area/CCG, and ideally those working with the care homes recruited to the study.
- General practice administrative/reception staff – including practice managers, reception managers, and other types of administrative staff.
- Commissioners – of NHS care, or local authority/health and social care, for older adults.

We used information collected in the survey to target care homes of various types (residential/nursing/mixed), area-level social disadvantage and local GP practice size. This allowed us to ensure variation in GP ways of working within each geographical area. Commissioners were recruited via existing links with the research team, public CCG/local authority staff lists, and snowball sampling (where participants suggest another potential participant working in a similar commissioning role).

Sampling and recruitment

We approached care homes via the National Institute for Health Research ENRICH (Enabling Research in Care Homes) group, within local Clinical Research Networks. Care homes interested in research can join the ENRICH 'research ready' care homes network. This is a group of care homes who may be interested in taking part in research, willing to

TABLE 1 Interview participants

	Study area		
Interviewee role	**Moors and dales**	**Towns and rural**	**City**
Care home managers	3	6	3
Care home nurses	6	10	4
Care home healthcare assistants	3	2	1
Care home residents	3	11	5
Care home relatives	1	7	9
GPs	1	6	5
GP managers	2	5	3
Practice nurses	1	0	0
Total	20	47	30

Note
Numbers and roles of interviewees by study areas.

be approached by researchers. Research facilitators working for the Clinical Research Network advised the research team on relevant ethical and governance aspects of conducting research in care homes, and contacted research-ready care homes on their database to introduce the study to managers, with a view to recruiting their care home. The research team also had existing links with care homes in the locality, which were used for recruitment where possible. Care homes were given a one-off payment for participating in the study, following standard procedures and to express the gratitude of the research team. Most managers reported that they would add these funds to the residents' social activities fund.

When a manager agreed that a care home would take part in the study, a date for a full day visit from a researcher was agreed. Most care home managers chose to be interviewed first, and then went on to identify and approach other potential staff participants. These included nurses, carers and healthcare assistants. If the staff member was available and interested at the time of the researcher's visit, they were given an information sheet and a verbal explanation of the study. Where possible care home staff who wished to participate, were interviewed on the same day in a quiet area of the care home. Before all interviews, informed consent was obtained and consent forms signed.

Residents who were eligible to be interviewed were nominated by the care home manager or other staff member (usually an interviewee). Staff were asked to identify residents who had capacity to consent and were physically well enough to take part in an interview on that day. Initially, residents were approached by the staff member, and asked if they would be interested in a research study about their GP care. If there was a positive response, the staff member introduced the researcher to the resident. The study was then explained and any questions answered, and an information sheet given to them to read and keep. For residents who were willing to take part, the researcher confirmed the resident's capacity to consent, under the principles of the Mental Capacity Act 2005, took written consent, and conducted the interview that day in the care home.[54] Residents were asked where they preferred to have the interview; some chose their rooms, others chose a quieter part of the communal lounge.

Family members, or close friends, of residents were approached informally by a care home staff member, either when they came to visit the resident or over the telephone. Where possible/available, family members of those residents already participating in the study were approached, in addition to family members of residents not involved in the study. If initial interest was expressed, staff passed on an information sheet (supplied by the interviewer). If the family member/close friend was willing to take part, they were asked to contact the interviewer and a suitable date and time for the interview was arranged. In practice, the majority of these interviews were conducted over the telephone at a later date. Family/close friend participants were also able to choose if they would prefer a joint interview with the resident; in practice, one family member/resident dyad chose this.

General practices working with care homes recruited into the study were approached via e-mail to the practice manager. The e-mail briefly outlined the study, with a participant information sheet attached containing further information, and invited GPs and GP staff to participate. If the member of staff was willing to take part, a telephone or in-person interview was offered. In practice, all GP staff interviews were conducted over the telephone. In some areas, recruiting GPs who worked with care homes involved in the study was difficult. Reasons for declining an interview were primarily due to working time pressures. In conjunction with the Clinical Research Network, we chose to approach other general practices working in the same CCG, but not necessarily providing care to the care homes recruited in this study, in order to gain a general picture of how practice worked in those geographical areas.

Commissioners were identified through NHS and local authority public staff listings, and through research facilitators at the local Clinical Research Networks. They were approached via e-mail in the same way as general practice staff. All interviews were conducted over the telephone.

Data collection

Interviews were carried out between June 2017 and June 2018 and lasted up to 60 minutes. Interviews with care home staff, residents and relatives, and GPs and GP staff, were carried out by one research associate. All interviews were audio-recorded, with the consent of participants, and conducted in a quiet area where possible or over the telephone. Interviews explored perceptions of the different models of general practice care, positive and negative consequences of different ways of working, how different models of care influence staff experiences, job satisfaction

and resident and family experiences, and the underlying structures, processes and values that perpetuate these models. Interview topic guides for each group of participants can be found in *Appendix 4* (see *Report Supplementary Material 3*).

Data analysis

Qualitative study

Qualitative interviews were transcribed verbatim by a Newcastle University approved transcription service and checked for accuracy by the researcher who conducted the interview. Transcriptions were supplemented at the beginning with some brief contextual information by the interviewing researcher, using field notes taken at the time. QSR international NVivo 11 (QSR International, Warrington, UK; NVivo qualitative data analysis software; version 11 2015) software was used to store and manage the data. Interviews were analysed by the research team using a thematic approach as detailed by Braun and Clarke (*Table 2*).[55]

Transcripts were read and reread by the research team to become familiar with the data (phase 1). Analysis started with line-by-line coding (phase 2), which allowed the team to generate an initial thematic framework from the data (phase 3). These transcripts, and subsequent interviews from later data collection, were coded into the themes in the framework within NVivo. The thematic framework was primarily descriptive rather than conceptual, including themes, such as information sharing, care setting, working relationships and routinised working practices. The coding frame and thematic framework were refined when data collection led to the identification of new themes, or modification of the meaning/structure of existing themes (phases 4 and 5). The finalised framework was then placed into a wider structure of context, organisation, individual and system to ensure consistency of coding and agreement/refinement of themes. Our approach was both iterative and inductive. Data collection and analysis occurred simultaneously. Themes were allowed to emerge, but we also interrogated the data to answer our research questions. This allowed for a comparative analysis between care home clusters, and between geographical areas.

TABLE 2 The six phases of thematic analysis

	Phase	Description
1	Familiarising yourself with your data	Transcribing or checking transcriptions Reading and rereading transcriptions Noting initial ideas about the data
2	Generating initial codes	Coding interesting features of the data in a systematic fashion Collating data relevant to each code
3	Searching for themes	Collating codes into potential themes Gathering all data relevant to each potential theme
4	Reviewing themes	Checking if themes work in relation to codes and coded extracts Checking if themes work in relation to the entire data set Reviewing data to search for additional themes Generating a thematic map (framework) of the analysis
5	Defining and naming themes	Refining the specifics of each theme and the overall story the analysis tells Generating clear definitions and names for each theme
6	Producing the report	Selection of vivid, compelling extract examples to illustrate theme Final analysis of selected extracts Relating the analysis back to the research question(s), objectives and previous literature

Note
Adapted with permission from Braun and Clarke.[55] This is an Open Access article distributed under the terms of the Creative Commons Attribution Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. The text includes minor additions and formatting changes to the original text.

TABLE 3 Patient and public involvement group members

Role/background	Gender	Organisation
Member of the public	M	Voice North member
Member of the public	M	Voice North member
Member of the public	F	Voice North member
Champion/member of the public	F	Healthwatch
Project manager	F	Healthwatch
Locality manager	F	Skills for Care
Regional operations manager	F	Alzheimer's Society
Service manager	M	Alzheimer's Society
Community matron – nursing homes	F	Local NHS Trust
Research facilitator	F	Local Primary Care Alliance
Frailty lead	F	Academic Health Science Network
Older persons activity consultant	F	Local Consultancy

Ethics and governance

Survey

The study was approved by the ethical review board of Newcastle University (Ref: 6207/2016). The Health Research Authority considered the protocol and advised that they would consider this study to be service evaluation and it did not require research governance approvals.

Qualitative study

Ethical approval was granted by the Health Research Authority on 1 March 2017, reference number 17/SC/0076. Sponsorship and insurances were provided by Newcastle University. Research governance approvals were awarded by the local NHS Research and Development organisations spanning over the three Clinical Research Networks, and nine CCGs, covering the three geographical areas in this study.

Patient and public involvement

Shortly before the start of this study, the study team convened a Care Home Interest Group (CHIG), from our base in the Population Health Sciences Institute at Newcastle University. A website was created (http://go.ncl.ac.uk/carehomes) to highlight our care-home-related research, the research team and information about the CHIG. We then asked for volunteers from the CHIG to join study-specific patient and public involvement (PPI) subgroups. The Newcastle University supported the PPI network (Valuing Our Intellectual Capital and Experience, or VOICE)[56] worked with us to send an e-mail invitation to join the group – and the wider CHIG – out to their registered PPI members. Interested individuals were asked in the e-mail to fill out a form, on the VOICE web pages, with their contact details and a brief description of their working/personal background relevant to care homes/health research. VOICE collated responses into a database and shared this with the research team, who then contacted respondents with further information about joining the group. The website and invitation to join the CHIG and study subgroup was also advertised via e-mail, and at in-person presentations, to relevant stakeholder groups, such as local authority long-term care oversight teams and dementia alliances. The research team took control of the database provided by VOICE, and added more interested individuals as further contacts were received.

The aim of the study-specific PPI group was to inform study design, procedures, analysis and dissemination. The group met twice per year, with an average attendance of eight (plus the study team). We were keen to ensure meetings were

relevant, interesting and mutually beneficial: aligned to the PPI good practice principles set out by the NIHR INVOLVE national advisory group (www.invo.org.uk/find-out-more/how-to-involve-people/information-for-researchers/). Attendees were from a range of backgrounds. Some had no direct experience of this sector. Some were current or former care home staff, local authority, NHS or third-sector employees (*Table 3*).

At the first study-specific meeting, we introduced the research to attendees, and sought advice from them on interview schedules. The interview topic guide for care home residents was modified in light of the group's feedback. Once interviews had been completed in two geographical areas, we held another study meeting to present emerging data to the group and conduct some collaborative analysis. This is described in detail, later in this report in *Appendix 3*. The collaborative data analysis session brought new thinking to our interpretation of data, particularly participants' discussion around continuity and familiarity with staff and residents; resident choice; frustrations with bureaucracy; and staff respecting each other's expertise and needs. We held a follow-up session towards the end of data collection to see if the additional data would modify the group's previous interpretation, and to consider overarching findings, implications and dissemination. The wider CHIG continues to run and is involved in shaping our ongoing care home research portfolio.

Chapter 3 Survey of general practices: working with care homes

This part of the study addressed the question of how different general practices provide their services to care homes. It aims to collect objective information on different ways of working and see if it is possible to classify practices into groups (typologies) according to how they organise care for care homes.

Methods

Drawing on the changes to primary care practice in the NHS England Vanguard care home initiatives, and our knowledge of general practice, we developed an online/e-mail survey. This used 24 items to collect basic data on practice and care home characteristics, GP staff visits to care homes, and ways of working. Seven items were closely aligned with the organisational changes that occurred in some of the Vanguard site areas. The study was approved by the ethical review board of Newcastle University (Ref: 6207/2016).

The survey was piloted with five GPs. A requirement to answer every question was removed, as it led to rapid attrition, but the questions were unchanged. Information about the survey was distributed to CCGs in our region, for inclusion in their bulletins. Some CCGs circulated to practice managers by e-mail. Individuals who were interested in participating were sent an information sheet and consent form. Practices who returned the consent form and indicated that they wish to take part were sent an electronic copy of the study questionnaire.

The data were aggregated by the survey software, and analysed using frequencies and percentages. Hierarchical clustering analysis (HCA) was used to classify practices into typologies (groups) according to how they organise care for care homes.[57,58] HCA works in two steps, first to determine a similarity measure and then a linkage method. We used an agglomerative algorithm which is the most used and available in Stata® (version 15) (StataCorp LP, College Station, TX, USA) software. Given the size and nature of the data, all questions were reduced to binary variables. Because of the number of missing values, we used the Gower method to obtain the dissimilarity matrix.[58] To join the most homogeneous classes, we applied different linkages including, single, complete, average and weighted average linkages and then we compared their results. Lastly, we determined the optimal number of clusters using Calinski–Harabasz pseudo-F index stopping rule. Stata (version 15) [Stata Statistical Software: Release 15 (program), College Station, TX: StataCorp LLC; 2017] was used for this analysis.

Multiple imputation

Many of the responses used in HCA had one or more missing values.[59] We applied multivariate imputation using chained equations on questions with missing answers from some general practices. This method imputes variables iteratively through fully conditional specifications of prediction equations. For instance, the first question with missing values (say q_1) is regressed on all other questions ($q_2, q_3, \ldots, q_p, Z$), restricted to individuals with observed q_1, to then predict the missing values of q_1 based on model parameter. The same procedure was repeated for all questions with missing values. This procedure is described in the following equations.

$$
\begin{aligned}
q_1^{t+1} &= g_1(q_1|q_1^t, \ldots, q_p^t, Z, \phi_1) \\
q_2^{t+1} &= g_2(q_2|q_1^{t+1}, x_3^t, \ldots, q_p^t, Z, \phi_2) \\
&\ldots \\
q_p^{t+1} &= g_p(q_p|q_1^{t+1}, \ldots, q_{p-1}^{t+1}, Z, \phi_p)
\end{aligned}
$$

Here, t is the iteration number varies from 1 until convergence at $t = T$ ($t = 1, \ldots, T$), p is the number of questions with missing value(s) to be imputed ($p = 21$ in our case), Z represents complete questions (two questions in our case), ϕ_1 represents the model parameter and $g()$ stands for the model; here we used logistic regression since all concerned questions were binary.

Results

We received 150 responses from GP practices located in 19 CCGs. Participation rates of practices by CCG ranged up to 30%. The denominator is unknown, so we make no comment about response rates. Half of responses were from CCGs taking part in NHS England Care Home Vanguard initiatives. The remainder were from CCGs that had not instituted any systematic changes in healthcare delivery for care homes. Five CCGs were represented by a single participant response. Sixty-five per cent answered all seven questions (*Table 4*).

Around half of the practices were made up of more than five GPs. A similar proportion made scheduled visits to care homes to see their patients, most of which were weekly. Unscheduled visits were made more than once/week, for three-quarters of respondent practices. A majority (68%) have staff other than GPs visiting care homes. Most practices had 10 or fewer care homes to visit, with more than half of practices estimating that they had between 40 and 100 patients in care homes. Responses are set out in full in *Table 4*.

Multiple imputation

Multiple imputation was used to address the problem of item non-response. The data set included 23 questions that contributed to the imputations in different ways. Imputation was used for 15 questions with missing answer(s); 6 questions were not included because of perfect prediction. We used all these questions in order to obtain the most relevant imputed values, even though only the seven quality-related questions were required for the main analysis. We imputed 10 data sets and performed HCA on each. The aim was to check if the missing values had an impact on the final clusters. In this light, we combined the dissimilarities of these imputed data sets by averaging them to form a single dissimilarity matrix, namely 'combined' [combined matrix = (matrix1 + . . . + matrix10)/10], and then performed HCA based on this dissimilarity.

Appendix 4, *Table 11* shows pseudo-F values of the Calinski–Harabasz stopping rule. The highest value from original and imputed data sets pointed to three clusters. Clusters of the imputed and original data sets were different (not displayed), with 32% of all practices were classified differently after imputation. This can be seen in the dendrogram in *Appendix 4*, *Figure 1*.

We found more differences when we examined the distribution of individual question across clusters. The clusters found were defined as follows: Cluster 1 consisted of small practices (large practices accounted for 0% in original and 17% in combined), with GPs who organised unscheduled visits (3% and 15% of scheduled visits from original and combined, respectively), and employed other staff to visit care homes (100% in original and 7% in combined). Cluster 2 consisted of large practices (83% in original and 98% in combined), GPs who organised scheduled visits (75% in original and 75% in combined), attended multidisciplinary meetings (51% in original and 33% in combined), and employed other staff to visit care homes (91% in original and 84% in combined). Cluster 3 consisted of both small and large practices (39% and 16% of large practices in original and in combined, respectively), and with GPs who organised scheduled visits. We also compared clusters from original data sets with those from each of the imputed data sets based on the degree of dissimilarity, the minimum was 25% and maximum was 69%. This shows how a standard HCA approach produced unstable clusters. Reasons for differences between the clusters from original and imputed data sets (including combined) are twofold: either the missing values had an impact on the final results, or there were ties somewhere in the process that could cause these differences. Hence, the second method was applied. We kept the linkage method and number of clusters selected in a standard HCA approach. We used weighted average linkage in multidendrograms to find three clusters. Finally, we compared different results, especially those from original and combined imputed data sets.

Multidendrogram approach

Standard hierarchical clustering (in the above analysis) that uses pair-group algorithms suffers from non-uniqueness. This problem occurs during the merging process when there is more than one way to merge the two closest clusters

TABLE 4 Survey of general practice characteristics and ways of working

Frequency (*n*) and percentage (%) for each question			
Question item		***n***	**%**
How many (whole time equivalent) GPs (partners and salaried doctors) are there in your practice?			
	< 5	75	49.0
	6–10	58	37.9
	11–15	12	7.8
	> 15	4	2.6
	Missing	4	2.6
How many nurses are employed by your practice?			
	< 5	114	74.5
	6–10	30	19.6
	11–15	1	0.7
	> 15	3	2.0
	Missing	5	3.3
How many patients are registered at your practice?			
	< 5000	40	26.1
	5000–10,000	58	37.9
	> 10,000–15,000	37	24.2
	> 15,000–20,000	9	5.9
	> 20,000	5	3.3
	Missing	4	2.6
Are you federated with any other practices?			
	Yes	79	51.6
	No	70	45.8
	Missing	4	2.6
Can you estimate how many of your patients are currently living in care homes?			
	None	9	5.9
	1–10	20	13.1
	11–20	9	5.9
	21–30	16	10.5
	31–40	7	4.6
	41–50	10	6.5
	51–100	33	21.6
	> 100	40	26.1
	Don't know	4	2.6
	Missing	5	3.3

continued

TABLE 4 Survey of general practice characteristics and ways of working (*continued*)

Frequency (*n*) and percentage (%) for each question			
Question item		***n***	**%**
How many care homes have one or more of your patients as residents?			
	None	9	5.9
	1–10	121	79.1
	11–20	14	9.2
	21–30	2	1.3
	Don't know	4	2.6
	Missing	3	2.0
Do your GPs make scheduled visits to care homes?			
	Yes	77	50.3
	No	71	46.4
	Don't know	1	0.7
	Missing	4	2.6
How often does a doctor from your practice make a scheduled visit to a care home, on average?			
	Once a day	4	2.6
	Once a week	54	35.3
	Once a fortnight	4	2.6
	Once a month	5	3.3
	Less often than once a month	5	3.3
	Not applicable	50	32.7
	Don't know	3	2.0
	Other	18	11.8
	Missing	10	6.5
Do your GPs make unscheduled visits to care homes (e.g. in response to a request from the care home)?			
	Yes	130	85.0
	No	13	8.5
	Don't know	1	0.7
	Missing	9	5.9
How often does a doctor from your practice make an unscheduled visit to a care home, on average?			
	Once a day	31	20.3
	Once a week	33	21.6
	Once a fortnight	10	6.5
	Once a month	8	5.2

TABLE 4 Survey of general practice characteristics and ways of working (*continued*)

Frequency (*n*) and percentage (%) for each question			
Question item		***n***	**%**
	Less often than once a month	6	3.9
	Not applicable	13	8.5
	Don't know	9	5.9
	Other	35	22.9
	Missing	8	5.2
How often would an individual care home receive a visit from a doctor in your practice, on average?			
	Once a day	11	7.2
	Once a week	60	39.2
	Once a fortnight	11	7.2
	Once a month	7	4.6
	Less often than once a month	10	6.5
	Not applicable	10	6.5
	Don't know	9	5.9
	Other	28	18.3
	Missing	7	4.6
Do your GPs attend multidisciplinary meetings in care homes?			
	Yes	44	28.8
	No	92	60.1
	Don't know	7	4.6
	Missing	10	6.5
Do any other staff employed by your practice go out to visit patients in care homes?			
	Yes	95	62.1
	No	51	33.3
	Don't know	1	0.7
	Missing	6	3.9
Which staff employed by your practice go out to visit patients in care homes?	Practice nurses	79	51.6
	Nursing assistants or phlebotomists	44	28.8
	Counsellors or psychologists	1	0.7
	Pharmacists	34	22.2
	Physiotherapists	6	3.9
	Occupational therapists	4	2.6

continued

TABLE 4 Survey of general practice characteristics and ways of working (*continued*)

Frequency (*n*) and percentage (%) for each question			
Question item		***n***	**%**
Do any care homes make payments to your practice for your services?			
	Yes	2	1.3
	No	141	92.2
	Don't know or prefer not to answer	5	3.3
	Missing	5	3.3
Is there a local enhanced service payment?			
	Yes	51	33.3
	No	79	51.6
	Don't know or prefer not to answer	16	10.5
	Missing	7	4.6
Do any care homes pay you to provide out of hours care, outside of usual NHS provision?			
	Yes	0	0.0
	No	144	94.1
	Don't know or prefer not to answer	5	3.3
	Missing	4	2.6
Do you have one or more specific GPs who look after your patients in care homes?			
	Yes	71	46.4
	No	77	50.3
	Don't know	1	0.7
	Missing	4	2.6
Do care home residents have specific or named GPs in your practice?			
	Yes	120	78.4
	No	28	18.3
	Don't know	1	0.7
	Missing	4	2.6
Are care home residents able to choose their GP within your practice?			
	Yes	80	52.3
	No	62	40.5
	Don't know	5	3.3
	Missing	6	3.9

TABLE 4 Survey of general practice characteristics and ways of working (*continued*)

Frequency (*n*) and percentage (%) for each question			
Question item		***n***	**%**
Do you ever keep patients on your list, if they move to care homes outside your practice area?			
	Yes	26	17.0
	No	114	74.5
	Don't know	9	5.9
	Missing	4	2.6
Do your care home resident patients receive onsite visits from secondary care doctors (e.g. geriatricians)?			
	Yes, regular visits	5	3.3
	Yes, as a special request	29	19.0
	No	35	22.9
	Don't know	80	52.3
	Missing	4	2.6
Does your practice have any shared health records with care homes?			
	Yes	18	11.8
	No	105	68.6
	Don't know	24	15.7
	Missing	6	3.9
Does your practice use any technology to provide care to residents in care homes, for example computer tablets or computer terminals in care homes?			
	Yes	40	26.1
	No	107	69.9
	Don't know	3	2.0
	Missing	3	2.0

(i.e. when more than one minimum distances between different clusters are equal or simply when ties occur in the merging process). Thus, different dendrograms are possible depending on the criterion used to break the ties (usually a pair-group approach simply chooses at random). To overcome this issue, we applied the multidendrogram method, which deals with ties by combining more than two clusters at the same time. When there are no ties, this method gives the same results as the pair-group approach. In short, with this method, the dendrogram (or hierarchical tree) obtained is unique and independent of the order of the elements in the dissimilarity matrix.[60] In this analysis, we used R 3.5.1 (The R Foundation for Statistical Computing, Vienna, Austria) software through the linkage function from the 'mdendro' package.

Results: multidendrograms

Using this approach, we noticed a greater difference between the results from original and imputed data sets compared to standard HCA. Even the degree of dissimilarity between original and combined has increased, since about 57% of practices were classified differently. We found a big difference in cluster size, the smallest cluster consisted of no more than 11 practices while the largest contained 93 (from combined) and 72 (from the original data set). With this

approach, clusters from the original data set can be defined as follows: cluster 1 consisted of small practices, conducting unscheduled visits (74%), with other staff to visit care homes. Cluster 2 consisted mainly of large practices, with GPs who organised scheduled visits. On the other hand, the characteristics of clusters based on combined dissimilarity were as follows: cluster 1 can be defined in the same way as cluster 1 from the original data set, except for the size of practice. This cluster consisted of both big (48%) and small practices. Cluster 2 consisted mostly of large practices (89%), with GPs who organised scheduled visits to care homes (89%), attended multidisciplinary meetings (67%) and had other staff to conduct visits (100%). They were also receiving a local enhanced service payment (71%) and using prescribing technology (94%).

The characteristics of clusters with and without imputed data were somewhat different, but their general definition remained almost the same (see *Appendix 4*, *Table 12*). These differences were more evident in the multidendrogram approach than in standard hierarchical clustering.

Taking the results of standard hierarchical clustering, three clusters were identified among the general practices. Cluster 1 was defined as small practices, where GPs made unscheduled visits at least once a week, but other healthcare staff also visited the practice patients in care homes. Cluster 2 consisted of practices that organised frequent scheduled visits to care homes. Cluster 3 membership was made up of larger practices with more than five GPs and other staff to visit patients in care home. They organised frequent scheduled visits and attended multidisciplinary meetings.

Chapter 4 Findings: qualitative study

This qualitative research explored the challenges GPs and care homes face when they work together. It sought to understand how different responses to these challenges may influence the delivery of care. Increasing levels of dependence among residents, along with more and complex health conditions, provide the context for care delivery by multiple providers. While different services have their own values, aims, structures and processes, across health and social care, all are currently contending with constrained resources and frequent organisational change.

At the centre of this dynamic and complex system are the care home residents, staff and families with needs and expectations, alongside individual general practices, striving to provide care that is holistic, dignified, effective and efficient. Care homes are a particular and often unique setting for qualitative data collection. Before our themes are outlined below, we present a short section from our analysis that reflects the participants' perspectives on the care home context. COVID-19 does not feature in any participants' narratives as these data were collected before the peak of the pandemic. However, the implications of the findings for current practice are discussed in *Chapter 6*, taking into account the pandemic and changes that have ensued.

We present three overarching themes from our data (organisation, communication and relationships), and two minor themes (medications and finances). Where possible, the findings are organised around the micro (individual), meso (organisational) and macro (system) factors that influence the organisation and delivery of resident care. We aim to examine the interplay between these levels, and how each shapes and is shaped by the changing demands and nature of care. Our intention is to bring new insights into primary care for care homes, through the perspectives of those who experience and provide care in that setting.

The context of care delivery

Increasing needs of residents over time

Care home residents require help with day-to-day activities and are often living with multiple health conditions and varying degrees of frailty and disability. Complex problems require a collaborative multidisciplinary response, so that at any time, input may be needed from general practice, community and specialist services working in collaboration with care home staff. In this study, GPs described the changing nature of their input to care homes. They observed that people who may have been living in care homes with nursing in the past, were now more likely to be in a residential care setting; while in care homes with nursing, the residents were more unwell, prescribed multiple medications and more likely to require end-of-life care than had been the case. All of these changes had increased the demands on primary care services for care homes, particularly homes without nursing. GPs expressed a desire to provide individualised, dignified care, but acknowledged that they needed to find the time to do this.

> *We have significant numbers of old people in care homes which are increasingly more complicated, and historically some of the patients that are discharged to these care homes from hospitals are discharged to die. And I'm getting a call to say, 'We've just registered this patient, and they probably have two or three weeks to live', with a significant impact time-wise. You know, because [local care home] specifically is not far off – parts of that are not far off from an acute geriatric ward at a hospital. And that's where we're at, and suddenly for, in effect £85 a year, you have 30 patients on a wing there which are complicated, dying, bedbound.*
>
> *GP 1, MD, works with MD care homes 1 and 4*

Care home staff echoed the GPs' view that the healthcare needs of residents had increased in recent years. Residents were perceived as having more concurrent illnesses, of greater severity, compared to 10 or 20 years ago. This gradual increase in residents' needs had consequences for care homes. The demands of care and all the associated work, both within and without the home, made it more difficult for them to provide for their residents without input from a GP or other healthcare professional. Visits from GPs to see residents were more frequent, a shift that was evident even to residents living within care homes.

I think a lot of the difficulties stem from what homes were like twenty years ago, ten years ago. They didn't have such poorly people, whereas the guys that we have now are really poorly and very complex so the workload on the practice is a lot. If we take somebody on who's got very, very complex needs, that impacts on the surgery because we'll be ringing them up and saying, 'We've got somebody here with 24 medications. Could you do some repeats for us please by tomorrow?' That's really difficult when they don't even know them and they might be on complex psychotic drugs or antipsychotic drugs.

Care home manager 1, TR care home 3

[Int: [So you've lived here] ten years, okay. Okay. So, you've been here and you've presumably seen any changes in how GP care is organised here?] I think that, actually, we have more GPs in this, whatever they call themselves. We get different ones, and I think we seem to have more people in need of the GP now. When I first came here we didn't seem to have the GP coming in like they do now.

Care home resident 1, TR care home 2

Theme 1: organisation

Routines

Routines shape the way in which organisations function and they had a central place in the narratives of the working lives of respondents, whether from general practice or care homes. However, the routines of the general practice surgery and the routines of the care home, as described, are quite different. Both are businesses, providing care for older people, but the care home is both a place of work and a home, a place to share meals, socialise and receive visitors. Care homes had routines that reflected the rhythms of home life: waking, mealtimes, bathtime, bedtime. They also had routines that were located in the processes that they follow when providing care for residents. In contrast, general practice routines were set within the working day, with the attendant urgency to complete all tasks before evening.

Routines were seen as a way of enhancing efficiency and standardised care, with processes that were followed by all staff. However, routines that make working practices more efficient in one setting could be alien to staff in another setting. The daily routines of care homes–of staffing changes, medication rounds, set mealtimes and visiting times–enable structured, streamlined care delivery.[61] Visits from external health care and social care staff have the potential to disrupt such routines of care home life, especially if the timing of their visits clash with an established routine within the care home (such as a mealtime). Care home interviewees felt that people outside of this setting had limited understanding of the routines and working practices of homes. Equally strong feelings were apparent among general practice staff, who felt that care homes failed to understand the requirements of their routines.

I don't think people understand what actually goes on in a care home other than the people that work there and these nurse specialists. I think even the GPs who visit on a very regular basis, only have snap shot of the window.

I think you need a service that is bespoke to care homes because I think we are very different. I don't think we should have to fit in with the GP surgery.

Care home manager, City, care home 3

A number of care home respondents talked about the need to contact the surgery early in the day, to notify them about a resident who was ill. Care home staff could be left waiting on the phone for extended periods, and then have to wait for someone from the surgery to call back. The time allocated to communicating with GPs in this way had a direct impact on the number of staff left within the care home to carry on with the daily work. If a care home was working with multiple general practices, each of which had its own working routines, the disruption to the care home could be considerable.

At that time we had three surgeries because obviously the residents were registered with three different surgeries. To get in with each surgery works differently, they have their own little ways, they like to manage things. So it was difficult for us, because where we are situated, well you have to do bloods and things like that, you know.

> *Because each of the surgeries do things slightly differently, where one person will accept a telephone call, another person will accept a fax, another person wants the repeat scripts doing on a proper appointment. It's like, 'Which surgery? Right. It is that surgery where you can send a fax'. The job is quite busy anyway, and you have just got so much to remember. I've sent faxes to [GP surgery 1], and they don't want faxes. I'm like, 'I am so sorry'. 'Well, I told you . . .' 'I know you have told me this before. I have even got it written down'. You know. I always feel like I am in the wrong.*
>
> *Care home manager, MD, care home 4*

General practices were more concerned with repeated calls, or calls late in the day from care homes to request visits. Frustration at the perceived lack of organisation was met by irritation from care home staff who felt that it was not always possible to predict if a resident would become unwell later in the day and need an urgent visit. For most homes, the practical difficulties of confining requests for medical input to the early part of the day were impossible to overcome.

> *The only other thing that I would change is, and I understand why they do it, but again it's a bureaucrat that has thought this up. Not someone who works with people. Are you going to have all these requests in by 11 o'clock or else, unless it's an emergency, blah, blah, blah, blah, blah, and even then, maybe not. It's sort of like, 'Right, so if someone's going to be ill, they'd better make sure they're ill before 11 o'clock'. So, what happens if they suddenly start vomiting chunks at 11:10? Oh, how inconvenient of them. You know?*
>
> *On other surgeries, if I've called, I don't know, around five o'clock and I consider an emergency visit, I receive, 'Well, why just now? We're almost closing'. I say, 'Yes, but now the resident became poorly'. I can't, I don't know, have a dream, or have something in the morning that this person is going to be sick at five o'clock.*
>
> *Care home nurse 2, TR, care home 1*

One manager highlighted that some routines or processes were imposed by the GP surgeries, but the care homes could see other ways of working that could be more efficient. The faxing of patient-related requests to GPs was cited as an example of a process that worked well, but inefficiencies were introduced when certain information could not be sent in this way. Other routines that were mentioned related to processes internal to the care home. When a new resident arrived, there were steps that staff followed to ensure residents are registered with and seen by a new general practice, without it creating a large amount of extra work for the care home staff.

> *We have to sit on the phone and that's wasting everybody's time, it's our time, the receptionist and GPs . . .*
>
> *Care home carer, MD, care home 4*

A number of care home staff spoke about how the delivery of GP services would disrupt the daily routines of the homes. A common example was the timing of GP visits to care homes, which could become disruptive to meals. Visits from GPs over lunchtime were perceived as inconvenient by care home staff, and one resident in this study also remarked on GPs' tendency to repeatedly disrupt their meals.

> *I mean, in a hospital you've got protected mealtimes. You would never do a consultant's round at a lunchtime, would you? When all the nurses and everybody is trying to – why are we doing it here? We're doing it because it's a convenient time for the doctor's round.*
>
> *The only issue is GPs arriving at mealtimes, but we can't do anything about that. They've got to come when it's convenient to them, but we have protected mealtimes. So it means if they arrive at mealtimes, it's taking a member of staff away, off the floor [. . .] We have to take the residents out of the dining room to go and see them, and that's interrupting their lunch.*
>
> *Care home manager, MD, care home 5; This quotation was used in our patient and public engagement work and is reproduced in Stocker et al.*[62]
>
> *You're busy having your meal, and somebody will come, a nurse will come and say, 'The doctor's here to see you'. 'Thank you. Oh, dear'. [What happens? You just have to leave your lunch?] You just have to leave what you're having, yes. It's not every time, but if people asked me, 'The doctor will be coming', I say, 'Well, don't bet on it it's not lunchtime'. I'm sorry, I shouldn't say that.*
>
> *Care home resident 1, MD, care home 3*

Although care homes can delay mealtimes, they had to consider what is most important for residents and staff. Disruptions to mealtimes may have implications for more than just nutrition, as they can represent a daily focal point for residents, and an opportunity for social interaction.[63] The afternoon was perceived as a more appropriate time for the GP to visit, when staff and residents had more time.

One GP surgery had asked that residents should make the trip to the surgery if they are mobile, rather than waiting for home visits. From the care home's perspective, this was impractical, particularly if they had a number of residents with appointments at different times and even different surgeries. Few homes had sufficient staff to be able to take a member of staff away from the care of many residents for prolonged periods, without impacting on the overall level of service provided.

It is clear that the routines and rhythms of life in general practice and care homes are so often independent of each other. Without any plan of how they might come together, these routines can easily come into conflict. When GP service delivery was planned and negotiated with care homes, the service became part of the routines of the home and no longer disruptive. Understanding, and willingness to accommodate, the needs of others were key, especially at an individual level.

> *If someone's gone downhill and we've got no explanation for it, the GPs will come but we'll always try and let them know earlier on in the day because it is difficult for them to manage to suddenly, in the middle of everyone being in surgery, who's going to go? They've got to balance the waiting room full of people compared to the time to come and see ours. So we will use the out of hours service as it gets to that five/six o'clock time.*
>
> *Care home nurse 1, TR care home 4*

Scheduled GP visits appear to provide a practical step towards embedding primary care in the routines and rhythms of homes. In this service, along with many others, the care homes felt that a bespoke service was needed.

> *And we just, you know, we stuck to the same two days and I think the routine just got embedded in, and it became part of their working week, the Tuesdays and Thursdays they would come here.*
>
> *Care home manager, City, care home 1*

Roles and role substitution

As GPs and care home staff reflected on the change in health and functioning among care home residents over time, they noted in particular the increasing healthcare needs of people living in care homes without nursing (residential homes). Looking after residents with a number of medical conditions and high levels of dependency was recognised as a source of strain for staff who had not had any healthcare training. This was a common concern for participants across this study, despite working in care homes that ranged in size from a handful to over 50 beds, and located in a wide range of settings from disadvantaged urban to more comfortable rural areas.

> *The residents that we've got – certainly on the residential level, from my experience – are on heaps of medication. I've never known so many. It seems to be that, nowadays, each individual is on 10 times more medication than they ever used to be, so it's not your straightforward residential [care needs]. They are quite complex individuals, and there are a lot of outpatient appointments to negotiate. The team that we've got down here do seem to be on board with that and they're actually working quite well.*
>
> *Care home nurse 1, TR care home 6*

The absence of onsite health professionals was most keenly felt when staff needed to communicate with general practices. They commented on the difficulty of finding the right words, and not having medical terms at their fingertips. In contrast, registered nurses were perceived as being familiar with clinical language and able to observe and report on a wider range of symptoms, when compared to staff without nursing qualifications. In care homes without registered nurses, non-clinical care staff were obliged to communicate with GPs. The absence of registered nurses was something that staff would remind the GP of, when requesting a visit. This served to reinforce their demands for support but may also have been an acceptable way of conveying their lack of confidence in making health-related decisions.

> *I did say to one of the GPs once, and the owners have said as well. I said, 'You've got to remember that these girls are carers and they've got somebody saying, "I need a doctor"'. They're not nurses.*
>
> *Care home manager 1, TR care home 5*

In one of the study areas, visiting specialist nurses were available for some homes without onsite nursing, but not others. This contrast allowed GPs to see how much the specialist nurses both enhanced the quality of care provided for residents and also reduced the demands placed on the practice. GPs were able to delegate some tasks to the nurse specialists that would otherwise be the responsibility of their practice nurses, conserving their own resources and freeing up staff time for other patients. In one case, a large group of practices took the decision to fund a specialist nurse for care homes without 24-hour nursing, to ensure an equitable service for the care homes that they looked after.

> *The patients at the pure residential homes don't get the same quality of care, I don't think. Because, not from the ward round base because they're just seeing me, whereas the patients that live in homes that have got their own nurse specialist, they can visit the home, a couple of times a week, they've got more time to speak to relatives [. . .] It's difficult to say but if you look at it differently, that quality is worse but I still think that all the residents are getting looked after well, but I think they get a better service when they've got the older nurse specialist working there as well.*

> *So, if [the care home]'s got a flow of nursing residents then they've got an older person's nurse specialist who will then look after all the residents in the home, including residential but if you have purely residential homes which is what [associated care home] is, then they've got no nursing flow, no nursing patients so, they don't get an older nurse specialist.*
>
> *GP 4, City, does not work with a care home in this study*

> *You get different services in if you have nursing in the building. A nurse specialist is attached to the care home if there is nursing and residential in the same building. We don't have access to that wonderful facility because we're just residential. That nurse specialist assists, liaises and does, I think, probably quite a bit of work for the GP.*
>
> *Care home manager 1, City care home 3*

Families were reassured by the provision of specialist nursing services, even if this level of care was not necessarily required by their relative.

In a similar way, some GP surgeries were able to allocate care home visits to a specific (practice-based) advanced nurse practitioner, rather than a GP. Opinions on the merits of this approach varied, with many care home staff expressing a preference for seeing a GP. The nurse practitioner would often need to discuss medications and referrals with a GP at the surgery, rather than organising it there and then. This slowed the process, and occasionally resulted in a later visit by a GP, if the care home staff felt that the nurse practitioner had failed to take the correct course of action.

> *A lot of the time now, you tend to get the nurse practitioner, who is acting on behalf of a GP, which is frustrating and, in the long run, silly, really, because 9 times out of 10, they might not be able to always pick up or deal with that situation. They don't know a full history of that individual, and then one or two days later, you're still having to ring back up and ask for a GP to come out and see that person. It's wasted time in the long run. [. . .] You've not been satisfied with the answer that she's given you to a problem . . .*

> *She's either not done anything and said everything is fine, where, then, you feel like you've wasted time, or with what she has provided or given as the answer, you find that it's not quite helping or it's not quite right. Therefore, you've ended up having to get the doctor out anyway.*
>
> *Care home senior carer 1, TR care home 5*

This delay was not, however, confined to GPs. The electronic prescribing system was widely used, but not trusted to be rapid. Homes would revert to the more traditional paper prescriptions when they wanted certainty about treatments.

> *Half of the time, GPs don't prescribe either. They'll go back and do it at the surgery. They do it electronically. If it's antibiotics, I have started to ask for a prescription so we can fax it off. At least get it up in case there's a delay.*
>
> *Care home senior carer 1, MD care home 4*

Some care home nurses criticised a system that required another nurse to visit the home to give injections or take bloods. These were tasks that care home nurses may have the ability to perform, but were not allowed to, because of the systems they worked in, outside of the NHS.

> *Basic things about people needing bloods prior to appointments, or bloods prior to screenings. I don't understand why we can't just do that. That is a bit frustrating to me, but again I think that is just because of my history [working in an NHS setting], and I think why should a GP have to send a district nurse to a nursing home and walk past [another] nurse? And an example, this morning, two nurses and a student came in to give somebody a Tinzaparin injection and change a patch. I could do that with my eyes shut, and so I am kind of not sure why that level of care isn't just transferred? Because it is not a- I'm not saying it is not an important injection, of course it is important to the patient having it, but it is not something that needs guidelines or special training to give it; it is just a subcutaneous injection of Tinzaparin. I'm not quite sure why two nurses needed to come in and do that.*
>
> *Care home nurse 2, City care home 2*

GPs and GP staff frequently lamented what they perceived to be the inefficiency of care home staff, when requesting prescriptions or home visits. Care homes with higher levels of agency or temporary staff, who were not aware of the agreed protocols when they contacted the GP surgeries, generating more work for the practice staff. This had a distinct negative influence on working relationships.

One of the most pressing challenges discussed by community services was how to provide urgent care to care home residents in a way that is both efficient and effective. All general practices could be approached during working hours, for care homes to request advice or a visit. The practices would then make a decision on how quickly they should respond, and in some cases, they also had to identify the most appropriate health professional to attend. Some practices had a dedicated GP to respond to all of the care home requests. Others had access to a paramedic service, urgent care team or community nursing staff. These services supplemented traditional GP care, and could be dispatched to care homes, depending on the problem being addressed. Such role substitution was welcomed by GPs, as it reduced their workload, when home visiting is particularly time-consuming.

> *It's called the home visiting service, and in effect that has been funded to employ paramedics, and one of their roles is specifically to support care homes. [Int: How has that kind of worked for you?] Transformed my working life. [Int: Really?] Yes, yes, absolutely transformed it because, as I say, [care home] would typically give us five or six visits a day. Now what we've then said is, can we try and do this in a more organised way?*
>
> *GP1, MD, works with MD care homes 1 and 4*

However, care homes preferred to see a GP, implying that a visit from a paramedic was an inferior outcome. This care home nurse describes selling the problem to the practice, to achieve the desired GP visit.

> *Well, we request a GP, but more often than not we get a paramedic. I'll be honest, it depends on how you sell the problem, and it is to do with salesmanship, how you sell the symptoms, as to whether or not they'll come out themselves. We try to sell it as hard as we can. You stress certain things. The more things that you can stress, and then the more data you can provide them with, like oxygen sats, BP. So, you've got your basic obs, and then the more symptoms, and the more severe the problem that you can suggest, without giving a diagnosis, because we're not qualified to diagnose, the more chance you have of a GP coming out.*
>
> *Care home nurse 2, MD care home 2*

Urgent care is, by its very nature, unpredictable and often needed outside of surgery opening times. The NHS 111 system provides a central point of telephone contact for people requiring out of hours care. When care home interviewees talked of NHS 111, its perceived lack of flexibility was a dominant theme, particularly operators' adherence to routines and scripts that were not always fitted to the situation or the resident's problems. For the care

home staff member, NHS 111 often appeared to present a barrier or time delay to accessing a GP, similar to the one presented by the in hours processes led by the reception staff.

> *The 111. The bare bones of the system, the idea is good. Its implementation is very poor. Some of the pathways that they have with 111 need to be questioned, and people need to be told, who are on the phone that. Yes, I understand you have a pathway, but just because 90% of people fit into that, you've still got the outliers. We're talking about an outlier, which means you're going to have to go down the other bit of the pathway. They treat it like a computer program, rather than a tool for making an informed judgement.*
>
> *Care home nurse 2, MD care home 2*

> *I would change when I ring 111, I know there is a button for healthcare professionals and an option for that, but sometimes you get a call answerer who will insist on you being in the same room as the patient, which is not always possible. I'd change that and I'd change the needing to go through the, 'Is the person cyanosed? Is the person breathing?' and all the assessments you've done in the first place anyway.*
>
> *Care home nurse 1, MD care home 2*

The 'ward round'

The 'ward round' emerged as an important concept in this study. It is a term borrowed from hospital, where it describes the regular medical staff visits to hospital patients, for the purpose of making decisions about patient care. Talk of a ward round suggests a medical model of care that many would see as inappropriate in a home environment, and it is interesting to note that this language originated from the commissioners, rather than general practice or care homes. We have adopted it in this section of our report, because it was the term used by our interviewees.

In the context of primary care and care homes, 'ward round' was used as shorthand to describe scheduled, and protected time for general practice staff to visit care homes. The idea was that this model of care offers continuity and a predictable service, alongside the flexibility of responsive mode general practice care. Typically, practices would schedule a weekly visit, and encourage care homes to save all non-urgent problems for that visit. The GP or nurse would then be able to see a number of residents. This would mirror the process of a hospital ward round, but a key difference is that residents, and staff would be unchanging. The longer-term relationships that can be formed in primary care, allow the GP or practice nurse to get to know both care home staff and residents.

Care home staff described the efforts they made to prepare for the GP visit, making sure they had relevant information available about the residents' current problems and medical history. Many care homes had agreed protocols and procedures with the GPs, for arranging visits. This gave staff the space and legitimacy to prepare, without having to spend time telephoning the GP appointment line. As GPs and care home staff got to know one another through this regular visiting arrangement, lengthy explanations of resident history or particular ways of working became unnecessary. This internal shorthand that is often seen in established relationships, made communications less laborious, and was only possible because different parties were familiar with each other and the residents.

GP staff highlighted the difficulty of finding sufficient time to make multiple home visits in a day. By asking care home staff to collect requests for visits for a certain day of the week, GPs and GP staff were able to plan their day, and make efficient travel plans. This relied on the GPs having sufficient trust in the care home staff to make appropriate decisions about the urgency of the visit. If relationships were constructive, suggestions from either party, to change the ways of working, were welcomed and put into place where possible, something that care home staff, in particular, welcomed.

If there was no ongoing relationship between GP and care homes, the care homes tended to be more critical of the service provided. One care home suggested that they would ask a practice to send a different GP, if the allocated GP was perceived to be unlikely to meet their expectations – either by being slow to refer, or unlikely to prescribe what the home thought the resident needed.

> *There's one surgery that's hard to get, there's one particular GP who is hard to get to come out and you know if it's their patient you think, 'Oh, it's him', and you think, 'I'm not going to get a home visit today', but it's literally one and I think I'm not the only person with that opinion. You can ask for another GP in the same practice, which is what I do, I just*

> *circumvent it and go round it if you will and ask who's available and if there's somebody else or if I could have a phone consultation, you know, there are ways to deal with things.*
>
> *Care home nurse 1, MD care home 2*

Care home staff would also approach specific teams, such as the mental health team, rather than the GP if they felt that the response would be more appropriate or quicker. Thus, care home teams were using their insight and expertise into the systems of care to get the best for their resident, whether by standard means, or by working around the usual pathways.

> *[The community mental health liaison nurse] would then go back and then they'll task the GP, and then the medication obviously becomes far more quicker to us, because if the GP comes, he will go back to the surgery and then write a letter to the psychiatrist and the psychiatrist, then by the time they come here they've killed us all off really. So it's just a bit quicker if it goes around that way really.*
>
> *Care home manager 1, MD care home 1*

> *We were also finding that there was a delay in referrals [from the GP] as well for tissue viability and mental health input as well. It was just having a knock-on effect on the whole. Obviously, the CQC weren't very happy with that either. There, we just started to refer directly because it could really slow things down for the rest of them.*
>
> *Care home manager 1, TR care home 4*

In this study, there were examples of where the ward round approach was a positive innovation, facilitating good working practices across the two settings and enhancing care delivery. The 'ward round' provided a way of formalising a predictable service, and supporting the development of good working relationships and practices. This was the experience in a large (60 bed) mixed care home, located in a disadvantaged area. This care home had a linked GP who worked alongside a specialist nurse, in delivering primary care to the residents. Both care home and GP spoke positively about their working relationships, and how the ward round facilitated optimal and appropriate care that met residents' healthcare needs. The ward round in this case ensured that the GP visited the care home every week, at a designated time. However, there was flexibility built into this arrangement, with the GP making visits outside of this time when needed. Formalising the visits, so the GP was expected and trusted to appear at the scheduled time, was key to strengthening working relationships. The linked GP felt that one of the key challenges to delivery of better care for both primary care and care homes was delayed communication and sharing of health information in a timely manner. These two organisations overcame this challenge by keeping each other informed, through telephoning or sharing hospital letters, about resident health and care.

For others, the 'ward round' was perceived as a means of restricting access to services, with an overall negative influence on resident care. The manager of a 35-bed care home in an affluent area, shared their views of primary care that was delayed, reactive, fragmented and uncoordinated. The linked GP was perceived to have little understanding of what happens in a care home. As a result, the care home felt that the ward round was a way 'rationing' care for residents, with little flexibility for the GP to visit outside of this allocated time.

Theme 2: communication

Communicating between care homes and primary care

Communication with health services was not straightforward, and it was clear from our data that care homes undertook a range of preparatory work, before approaching the GP. All had their own procedures for identifying residents who should be seen by a doctor. In addition to individual resident care records, some homes maintained a written or computerised log that was used by the nurses and carers, to record and monitor health issues in their resident population. Staff would also highlight such information during face-to-face shift handovers, and these data would form the basis of requests for doctor visits. This was often a challenging time for staff, when they were concerned about a resident who may need a GP visit. Staff shift changes tended to occur in the morning, often at the time when a GP surgery wanted to receive requests for home visits.

Within the care home, the decision to request a GP visit is often part of a complex process, taken by the team, and involving discussion and collaborative working. Many care home managers stressed the importance of effective internal communication within their staff, to build a picture of health concerns that are active or anticipated within their resident population. Some of the larger homes were made up of separate units for residents with and without nursing care needs. A minority of managers would encourage care staff from one unit within the home to consult with registered nursing staff from elsewhere in the home, about a resident's need for a GP visit. This sharing of expertise across the home offered the potential for the development of staff confidence and skills and efficiency. However, other homes maintained strict demarcation between units providing different levels of care, and did not encourage such interstaff consultation.

Structuring communication

In care homes with a link to a specific GP practice, it was customary for the doctor to schedule a visit to the home on a particular day or days of the week. Typically, care home staff would fax a list of residents for the GP on the morning of the visit. These lists were often required by a specified time, with practices having varying levels of flexibility to see additional patients who were added onto the list later. This arrangement was dubbed a 'ward round' by the care homes in one particular area, who adopted this hospital-based terminology used by the CCG.

In care homes without a linked GP surgery, the staff would call the relevant GP surgeries with a list of visit requests when needed. Depending on the size of the home, this could occur on an almost daily basis. One larger home tried to minimise duplication of work by collating the visit requests from all the different units within the home, and tasking one specific member of staff to phone the GP surgeries.

> *Obviously, I spend a lot of time ringing through. Especially first thing in the morning when you're ringing to do your first lot of bookings. It can be Caller 10 and then you're sat there on hold. It's like you're Caller 987. You just think, 'Have we really got time to be just sat?' You can be doing your notes but waiting. Then you've got somebody else's notes open and you're talking about someone else. Then you end up getting flustered. [I'd like] a direct line [to the surgery], mainly for emergency only and initial appointments if you've got to get through.*
>
> *Care home senior carer 1, MD care home 4*

> *Making all these phone calls and even sometimes chasing up prescriptions from the surgery it's taking lots of time. That's taking my time, my time that I could give to my residents and actually enjoy them better and give them what they need rather than spending time on the phone with the surgery. Sometimes this is what is annoying me. My time should be for residents. I should not chase up prescriptions.*
>
> *Care home nurse 1, TR care home 3*

Some homes had agreed to use particular communication tools to structure their interactions with the GP surgeries. The situation, background, assessment, recommendation or SBAR protocol, for example, was mentioned by a number of homes, though only appeared to be in active use in one participating home. A paper form was completed by the care home staff, documenting the components of SBAR, to justify requests for weekly visits. This was then sent by fax to the GP surgery. The care home staff felt that this was a time-saving approach, as it took longer to communicate with the surgery by telephone.

> *We use the SBAR. On a Thursday, which is his usual day to visit us, we prepare all the information of who he's going to be seeing when he comes here, what the concern is. We fax that off in the morning, so then he can look at the notes back in the surgery before he comes here.*
>
> *Using the SBAR saved them time: 'it's very effective with not getting tied up with the phone lines, and trying to actually get to speak to somebody'.*
>
> *Care home nurse 3, TR care home 4*

This home primarily worked with two GP surgeries. Only one had agreed that they could use SBAR to request visits from them. The other had refused. Again, this care home felt that it saved them time in telephoning to request a GP visit.

I did ask about the SBAR system – 'Could we just SBAR information across and they could determine whether or not it required a visit or a call?' – but they won't allow us to do that. We can wait up to 40 minutes to get through to them on the line to get an appointment, and when we do get through, we then have to wait for a call back, which can be later on in the day.

Care home nurse 6, TR care home 4

Delegated responsibility

When people moved into care homes, the job of asking for a GP consultation passed from either the resident or their relatives to the staff. This was accepted and welcomed by the majority, who perceived some benefits to the new arrangement. A number of respondents remarked on the speed with which they are seen by GPs, compared to when they lived in their own homes, for example. Others were happy to have a perceived burden lifted.

I think it's a wonderful service. The ease, they make it so easy.

[Before moving into the care home] I could contact them easily enough, but you'd have to wait, possibly, two, three weeks. Here, it's immediate.

Yes. It takes all the stress away. Yes, it's very, very efficient and easy.

Resident 11

When resident and staff judgements diverged on the need for, or urgency of a consultation, views of the process were far less satisfactory. Questions about the resident's health, seeking reasons for a consultation request or suggestions to 'wait and see' could all be seen as intrusive and controlling by residents. Care home staff were required to assume a gatekeeping role, irrespective of the level of agency exercised by the individual resident. Information was expected by general practices, to help the care home staff to make informed requests and enhance the efficiency of the general practice. Residents, particularly those with recent experience of the autonomy of independent living, sometimes reacted with annoyance.

Then, from the hour of 11 o'clock, while he's here, he'll see you but it's up to the nurse in charge to think, 'Does it warrant you making an appointment with him?' You know, it might be wasting his time.

This resident returned to this issue later in their interview:

You know, if you want to see the GP, you need to see the nurse and they ask you what you want to see him for? Then they will monitor it to see if it's worth me making an appointment or is it just going to waste their time? So, you get people, a bit like myself who think, 'Well, blow it, why should I bother? I'm never going to get any satisfaction'.

Resident 9

Whether the resident response to staff gatekeeping was positive or negative, they shared a sense of the futility of challenging the systems. Using humour to share insights into their situation, this resident talked about relinquishing control of medications.

I'm afraid I'm rather like a chicken in a nest. I just open my mouth and they pop I presume the right tablets in.

Resident 17

Information sharing

The interviews explored how health-related information about care home residents is shared between GPs and care homes, and the challenges and consequences of different models of information sharing. Three subthemes were identified in our analysis – care homes in the dark, technological barriers and informal work-arounds.

Care homes in the dark

Sharing of information between health services and care homes was a subject that elicited strong feelings among interviewees. Care homes sit outside of the NHS, and there are many ways in which their separateness from statutory services is made apparent. A perception that they were overlooked in information flows, served to amplify any existing feelings of isolation from mainstream care. A consequence of exclusion from the NHS was that care homes had developed their own ways of working and their own individual information technology (IT) systems. The homes in this study had no access to data from any of the GP software systems, and at the time of our interviews, no direct links with the NHS e-mail system. Many participating care home staff felt that they were excluded from an information flow, to the detriment of the residents under their care. This also increased the responsibility that they carried, to monitor the resident's health and care.

> *We don't have access to System One, so that's one of our problems. We can't check out whether, you know, someone's diabetic checks have been done in the last year, that kind of thing. So, you know, we have to keep an eye on things.*
>
> *Care home nurse 2, MD care home 4*

Some suggested that knowledge of residents' health status and family circumstances helps staff to provide appropriate care, particularly for people who have recently moved into the home. One care home in this study tried to remedy this information gap, by routinely requesting a full medical history from the GP for each new resident, to help them to build a picture of their care needs. This absence of a common health record contrasted unfavourably with the access for other healthcare professionals, such as district nurses. In some areas, after seeing a care home resident, the district nurses would update their records, which were visible to the GP's staff. This was supplemented by e-mail alerts to notify the doctors of treatments or changes. Without access to NHS e-mail, or any local authority social care networks, care homes relied on faxes, post and telephones for information sharing.

> *Community nurses dealing with care home residents have access to the community side on our EMIS system, and then they can just type up their consultations in there. So they let us know via email who it is that they've been to see, so the information gets passed to the GP and then the GP can make a note of who they've seen, and then they can see what's happening.*
>
> *GP practice manager 1, MD, works with care home 3*

Technological barriers

Technological innovation is often promoted as the answer to information sharing. Telemedicine provided an example, in our data, of how technology may operate in unintended ways. Telemedicine was up and running for care homes in one of our areas, and planned in another. It describes a digital link, both audio and video, from care homes to specialist nurses in a local centre. The service is accessible to care home staff, to ask for advice in or out of normal working hours. Instead of calling the GP, care homes with the telemedicine service would first consult the specialist nurses, who provide advice or recommend a course of action, including transfer to hospital. If GP involvement was needed, the telemedicine nurse would then telephone the general practice directly, effectively providing a triage service for calls from care homes. In theory, this service was meeting a need for time-sensitive information sharing.

Among primary care interviewees, the introduction of a telemedicine system was welcomed, as it was expected to reduce GP workload, by cutting the number of care home visits. However, where it was already operating, it was not without problems.

Care homes were ambivalent about the telemedicine service. For some, it was a positive intervention that provided easy, direct access to healthcare professionals. The opportunity for less experienced care home nurses to talk with a colleague was perceived as a support for clinical decision-making. It also reduced the burden of responsibility felt by nurses working in isolation in care homes.

> *An advantage to Telemeds would be they take the responsibility from you, another nurse has looked at it and said, 'Well I'm taking clinical responsibility for the decision that's been made', and that's very nice because you think, 'What a relief', but it's a bit of a waste of time.*
>
> *Care home nurse 1, MD care home 2*

Telemedicine was also perceived to be of benefit to the residents, providing prompt response to problems.

> *I think [the telemedicine] worked quite good to be fair because you speak to the nurse. I was on my own one evening, I had a lady, symptomatic, she was bleeding, catheter, this and that. She has a bit of pain to it as well. It was towards the afternoon now and the nurse said, 'Okay, [manager], what you can do in the meantime, give her some lukewarm water with a little bit of bicarb in it because that will also get the crystals out of the bladder and relieve the burning that's there if nothing else. You can do that after every one and a half hours until the GP turns up with the antibiotics'. Of course, honestly, by the time the GP came, the urine was all clear, the burning was a bit better. Do you understand what I mean? Because you speak to the nurse, to a nurse and you can have that kind of conversation.*
>
> *Care home manager 1, MD care home 1*

This interpretation of the telemedicine service as providing collaborative, supportive discussion was not universal. Many care home staff felt that telemedicine presented an additional layer of gatekeeping, and a barrier to the GP service. In one area, care home staff used the telemedicine equipment for all non-emergency contacts, and if care home staff called the GP surgery to request a visit, the receptionist would instruct them to use the telemedicine service instead, so that they can be triaged by a nurse first. This was seen by some, as the nurse in the telemedicine service replicating the clinical decision-making of the qualified nurses in the care home, and by implication, failing to appreciate the skills and expertise of care home staff. There was also a feeling shared by primary care and care home participants, that the telemedicine service had limited flexibility. They were, for example, unable to modify their processes and respond differently to requests from registered care home nurses compared to those from non-clinical care staff.

> *Our Telemedicine doesn't work, and to be honest with you, it's a bureaucrat that has thought that up, not a medical person, because why is a nurse asking a nurse to triage somebody? It doesn't make sense. I can see where, in the residential care services where they don't have a qualified nurse, that it works and they need that layer of professional oversight. In the nursing care services, it is an unnecessary impediment [. . .] I'm going to be honest, it is frankly insulting to the qualified staff to have another qualified staff [triaging the resident].*
>
> *Care home nurse 2, MD care home 2*

Concerns over the speed of response were common, with homes reporting long waits for a video consultation, taking staff away from routine care of residents. The speed and quality of the interaction could be compromised by recurrent technical issues relating to the video connection. In addition, the telemedicine nurse was often not a nurse prescriber, and the home would then experience further delays for medications to be prescribed, dispensed and sent to the home. To address these concerns, one practice had developed an informal understanding with the care homes that they served and encouraged them to bypass the telemedicine system and make direct contact with the GP.

In the area that does not currently have a telemedicine service, one of the local GP consortia had plans to set one up. This was welcomed by care home staff, who felt that the existing GP service was not responsive to their needs, and they had no alternative sources of advice or support.

In other cases, technology was available, but not universally accepted. For example, some GP practices had laptops that they could use during home visits, allowing them to access and update patient data during care home visits. Although this offers the potential for time-saving and enhancing the accuracy and completeness of records, use of mobile technology was not embraced by all. Technical challenges were cited as reasons for not adopting technological solutions, but this may have masked a reluctance to change long established practices.

> *I don't use the laptop, no. I don't use the laptop at all. I don't do that. I don't know- It's possible that some of the younger doctors do who are a bit better at IT, but I don't use the laptop. I go with a printout. I'm a bit old-fashioned – probably really old-fashioned. I look at the notes before I leave, I print out the notes and I take them with me and then I come back to the surgery, type everything in, do everything that needs doing. [. . .] I think it's quite difficult to get a signal, so then it's useless. You take your laptop, you can't link into System One, therefore, you can't access the records. [Int: Oh, I see. Then, you're stuck aren't you?] The thought of doing that would fill me with dismay. So I print it off the old-fashioned way.*
>
> *GP 1, works with TR care home 2*

Informal work-arounds

It was far more usual for data to be shared between care homes and the NHS using older modalities, most often paper, sent by post or fax. This approach was open to errors and delays, and viewed as outdated by homes who had already incorporated technology into their care practices. The maintenance of faxes within the NHS obliged care homes to communicate in this way, however reluctant they were to use a system that was cumbersome and potentially insecure. Old technologies could also be useful for care homes, to circumvent barriers put in place by external systems, and help to speed up access to services. However, with the scheduled removal of faxes from the UK NHS, this is set to change in the short to medium term.

> *At the moment, my biggest frustration is we have to fax everything. Who uses faxes? I just think we should have moved beyond it. We should have access to NHS Net and we haven't. So if it's all about security, give us access to NHS Net and we'll send it that way. If it's all about organisation, surely you can deal with emails. A big organisation like [GP surgery group], they're the second biggest practice in the country, they should be able to deal with emails. It shouldn't be that difficult but we've had ongoing discussions, 'At the moment, please fax them, that's our system'. So the fax machine I think literally just pops out into . . . it's in the right room for them to organise and NHS Net is person specific and if that person is on holiday, how are we going to access it. So it is difficult for them, I get it but it isn't helpful for us to organise ourselves to send a typed fax. So I've got nurses who have got access to PCs on their units, we use fully electronic systems, they could email the list through, not a problem but no, they have to handwrite it and then they have to bring it down to admin to type and then the admin has to go to the fax machine and send it through.*
>
> *Care home manager 1, TR care home 3*

Our data provided many examples of occasions where the GP and care home staff developed an informal agreement about how to share information, to circumvent the established system. These arrangements depended on established working relationships and stability of staff, to follow that informal protocol. For example, some care homes had agreements in place with specific GP surgeries that they could fill in and fax an SBAR form to structure their requests for a GP visit. This is a tool often used in hospitals that guides communication between care professionals. Care homes would fax a request to the GP, which met their requirement for information and avoided the care home spending on the telephone waiting for the GP practice to answer. Such initiatives worked only if both care homes and general practices were on board, with GPs sometimes the ones resisting change:

> *I did ask about the SBAR system – 'Could we just SBAR information across and they could determine whether or not it required a visit or a call?' – but [the GP surgery] won't allow us to do that. We can wait up to 40 minutes to get through to them on the line to get an appointment, and when we do get through, we then have to wait for a call back, which can be later on in the day. If an admission is required or if a visit is required, we then have to wait until the following day or we just have to directly admit to hospital. So, it's a long, drawn-out affair, where it takes a long time to get them organised.*
>
> *Care home nurse 1, TR care home 6*

There were many examples of patient information being generated and shared routinely, for example, in one urban area, when a resident is discharged from hospital a new care plan is generated by a nurse at the GP practice, and sent out to the care home. Informal arrangements were often in place between GPs and the care homes they served, ensuring that new residents were made visible to primary care services and put on their 'ward rounds' of the home.

> *The other thing that used to happen is that patients used to be registered with the practice and I wouldn't know, for several months down the line so I've specified that any new patient's registrations, they put on the ward round so the following Wednesday, they get put down on the ward round. The other thing is notification of deaths, so they've got to fax those across and also any hospital discharges. The biggest gripe that I have is that the hospital is very good at providing a paper discharge to the home and yet, you know, two months later, I still have nothing from the hospital, electronically. So, quite often I rely very much on them and they tell me, 'Oh so and so's just been to hospital', and I'll say, 'Well give me the discharge summary, photocopy and bring it back across'. So, it's a much more pro-active because if we waited for the electronic discharge summaries, I've never seen them. So, that's a little bit of a thing.*
>
> *GP 1, works with City care home 1*

These informal practices of sharing information ensure that community services – care homes and GPs – are keeping each other up to date, when they know there are many gaps where information can go missing. It is also worth noting that in some cases, the informal (paper-based) sharing was much faster than the electronic-based processes. Practices without a formal or longstanding link with care homes tended not to have any information sharing protocols, either formal or informal. Information sharing was viewed as a benefit for organisations delivering care to older residents, whether care home, primary care or other community-based care. However, too often, it was not clear who should take responsibility for ensuring that information is shared across these organisations, let alone acted upon.

Theme 3: relationships

The formation and maintenance of effective working relationships between care homes and GPs was expected to be an important influence on the primary care received by residents. Our data suggested that relationships were shaped by several factors, including regularity and duration of contact, the motives and interests of each party and different approaches to care. Trust was a key factor for all relationships, but needed time to develop.

Contact: continuity and longevity

An enduring relationship, based on regular contact with the same people, was felt to promote effective working between general practice and care homes. Staff in areas with a formal arrangement to link care homes and general practices, expressed support for continuity and longevity of working relationships. In these geographical areas, care home staff and GPs were more likely to have invested time in getting to know one another, and their narrative revealed an ability to have an easy, comfortable dialogue. When relationships between care homes and general practices were perceived to be positive, this also seemed to influence views of how well the other organisation cared for the resident, and promote a feeling that everyone is working towards a common goal of high-quality care. Good working relationships were particularly evident in the responses to care home actions. For example, requests for a doctor to visit, or a care home's management of resident ill health, were less likely to be questioned. Such smooth processes and reports of good relationships were generally more common from areas with a linked or named GP.

In cases where contact between care homes and GPs was irregular, or where a number of people in either setting needed to interact over resident care, then the relationships were perceived to be less positive. Infrequent contact was linked with a limited understanding of each other's organisational needs and pressures. This meant that when a challenge arose – negotiating a GP visit when the surgery was particularly busy, or care home staff failing to co-ordinate information for the visiting GP, for example – tensions would rise. This had the greatest potential to be disruptive in areas where working relationships were neither well established nor strong.

Staffing emerged as a key influence on the frequency and quality of contacts. GPs highlighted the difficulty in building up working relationships with care homes whose staff were more transient than others. Some care homes relied on agency staff to fill gaps in their schedules. Compared to permanent staff, agency workers would inevitably have less in-depth knowledge of residents' health needs and care home working practices or expectations and protocols from GP surgeries. The GPs also reported limited opportunities to build a working relationship with agency staff and uncertainty about whether they could rely on their record-keeping.

Motives and interests

Caring

Caring about residents was perceived as an important characteristic by all parties, and a powerful influence on working relationships. Whether it was GPs or care home staff, investing time and demonstrating interest in residents as individuals promoted positive interactions and respect from colleagues.

> *[Int: How is your working relationship with the GPs that you deal with here?] It's good because they care about the person in front of them. We care about the person who's in front of them. Because we're both coming from that same position, we just want what's best, it's absolutely fine.*
>
> *Care home manager 1, TR care home 3*

When GPs gave the impression that they were not hurried or distracted during care home visits, the staff perceived them to be willing to work collaboratively and be more approachable. Doctors who gave time to the care homes in this way were able to anticipate care needs and make plans, rather than reacting to urgent problems. This proactive approach was preferred by care home staff. GPs were appreciated where care home staff felt they were providing a level of service above the minimum they needed to deliver. Care homes actively wanted to work with the GPs who engaged with staff and residents, and help as much as possible.

In contrast, a perception that the GP had little interest in the health care of older people had an adverse effect on working relationships, with care home staff commenting that some doctors seemed to see care homes as a burden. GPs could appear to be reluctant visitors to the care home, in a rush, or pre-occupied with other work. Care homes felt that interactions with these GPs were more challenging. These are two of the many examples in our data of negative perceptions of time poor, or disinterested GPs among care home staff.

> *Then, we were allocated another GP, who shall remain nameless, who wasn't very committed, I didn't think. She once came to do a ward round, and said, 'We need to be quick because I have got people who need to see me'. I remember saying, 'What are you dealing with now, tins of beans or cardboard boxes? You will spend the time you need to spend here to see all the residents. I am not bothered about how many calls you have got on your list. My priority is the residents'.*
>
> *Care home manager 1, City care home 1*

> *I know that with [GP] and [GP2], you feel that they generally have compassion there for the elderly people. Whereas some of the other GPs, because they are in a home, it's like, 'Well, they are in a home', type of thing. Sometimes they have that attitude. You can see when they come in. They are not happy to be here. You can tell. You can sense it when they come in.*
>
> *Care home manager 1, MD care home 3*

Meeting the expectations of professional carers on either side of the primary care/care home divide was key to developing mutual respect and appreciation. GPs who were responsive to requests for a visit, or providing telephone advice, were talked of with enthusiasm and affection. GPs were critical of care homes that they felt were making unreasonable demands on their own scarce resources, for example, with requests to visit to assess residents with mild or self-limiting illnesses. However, it is important to acknowledge that none of the interviewees reflected on whether the responsive GPs were providing superior or efficient health care, compared to their colleagues. Similarly, the GPs made no suggestion that care homes who made frequent requests were necessarily providing poor care.

Ensuring that care homes and general practices knew what to expect from each other, and understood each other's ways of working, promoted good working relationships. Repetitive or regular patterns of activity, with the same staff, helped the system to work smoothly. Some GPs expected care homes to prepare for their visits by taking clinical measurements, for example, or preparing a clear history to relay to the doctor. Care homes that worked with several different surgeries had to learn the individual routines and preferences of each practice, which could be time-consuming.

> *[Int: How did you develop that trust between you and the care home?]*

> *I think it's the fact that they tend to have the regular staff there, and we visit regularly, so we've built up a good rapport with them. They know that we like them to do certain things before we arrive, so they just automatically do it now. They're really good, and they genuinely care, and they know their patients. It makes a big difference.*
>
> *GP 1, TR, works with TR care home 6*

Advocacy

Care home staff asserted their expertise and knowledge of resident care, to secure what they thought was the correct service for the resident. Staff intuition, familiarity and tacit knowledge of the resident all strengthened their advocacy role, as they tried to secure the best health care for the resident. Some described having to 'convince' GP staff that the resident needed a visit, and many found interactions with GP receptionists to be particularly difficult. However, care

home staff were also clear about boundaries. They appreciated their opinion being taken into account by the GP, but they were not trained to make clinical decisions.

The importance of such advocacy was emphasised by the trust placed in care homes by relatives and friends of residents, who generally had little direct contact with general practice. A sense of relief was apparent, at being able to hand over the responsibility of co-ordinating and attending GP appointments to the care home staff, often after years of managing these tasks themselves. For them, the important relationship was with the care home, and not with the GP or the practice. The care home staff were perceived to be better placed to liaise with the doctor. Accepting that they no longer had responsibility for co-ordinating services for the new resident, or knowing exactly what is happening to them, was difficult for some relatives. For others, the desire to maintain their central role in the resident's life was hampered by work commitments or geography.

For care homes, working with families was an integral part of how a home cared for a resident. Many homes made particular efforts to maintain relationships with residents' families and ensure that they were closely involved in the resident's care. The home would notify the family when a GP visit had been arranged and respond positively to family requests for a GP appointment, for example.

GPs attempted to involve the family in decision-making, particularly in emergency situations, such as at the time of a hospital admission, but less often for routine reviews. Family members were acknowledged as being helpful in providing information about a resident's health directly to the GP, or via care home staff. They could also be influential if they disagreed with treatment decisions, as they were able to argue with an authority that care homes could not match.

Relatives who described having regular contact with a resident's GP, often belonged to the same GP practice. Sometimes this was a coincidence, but in other cases, relatives had made a decision to register the whole family with one GP surgery. In these cases, the care provided was appreciated as a traditional model of family-based GP care. However, relatives acknowledged the advocacy role performed by the care home, and practical benefits of having dedicated staff to deal with the bureaucracy of accessing health care.

The challenge of poor relationships

For care homes with suboptimal relationships with local GPs, the process of requesting and gaining agreement for the GP to visit was a source of concern. Their interactions with GPs were described using the language of battle, and they reported a perception that GPs would visit only when unavoidable. Care home staff in this situation described being questioned on how urgently the visit was needed, and on their decision-making around the request. In care homes without nursing, staff stressed that their ability to assess residents' need for health care may be no better than any other member of the public. Rarely, care home staff who found themselves struggling secure a GP visit, resorted to suggestions of involving outside agencies such as regulators, the CQC or safeguarding authorities. Wielding such power to try to compel the GP to visit was successful in achieving short-term ends but did nothing to promote working relationships. Few GPs spoke at length about this, but the minority who had experienced such conversations reported feeling that they had been attacked on a personal level.

> *I'd say that the challenge for us both is we probably don't realise or understand what we both do. And that probably is then a barrier because we sometimes maybe expect too much of each other. If we knew how much work we both had. . . I'm sure they're the same, I don't know. Then, rather than demanding such things now, you could just appreciate what kind of position we're in, if that makes sense. [. . .] [For example], you'll get care home staff members ringing up and maybe there's an item that's been missed off their prescription. I get the feeling that maybe they're under pressure in the care home sometimes. They always come out with, 'Oh, if we don't get this prescription . . .' They'll mention our CQC are going to come out to us and do this, this and the other. But then they come across in an aggressive tone. That's probably due to their pressure, but then our receptionist won't see it like that. And, before you know it, they're arguing with each other and the issue's not getting solved at the end of the day. Whereas, yes, if we had better relationships and understanding, then it may not, I don't know, go to that.*
>
> *GP practice manager 1, MD, works with MD care home 2*

For their part, doctors admired care home staff who demonstrated a caring attitude towards residents, and gave an impression of being professional and efficient. Such mutual respect appeared to facilitate working together and tackling challenges, such as difficult conversations about future care with residents and families. Time allocated and ring fenced for care home work was an important factor in the type of service that GPs were able to deliver.

Trust

Trust is essential in health and social care, but seldom defined and often unacknowledged. It is a broad-ranging concept, understood to relate to both individual and institutional factors. In care settings, trust in structures and processes is implicit, but essential as it provides shared norms for interaction. Trust also underpins collaborations, enabling participants to agree on what they are trying to achieve, and maximise the potential of all partners. In the data from this study, trust was interwoven through the narratives of all participant groups, but not the subject of any explicit discussion. Subthemes were identified around the importance of the individual, respect for staff expertise, trust promoting efficiency, and the role of continuity in developing trust.

Trust in individuals

For many of our interviewees, the primary care system was only as good as the individuals involved. However well designed and organised the system, interested and competent healthcare professionals were needed to staff it. Care home managers highlighted their reliance on individual doctors, and some pointed out how fortunate they were with their current GP.

> *Informally, yes, [GP services for this care home are] working fine. We've been fortunate in terms of the person we've got. Formally when you remove, I suppose, the variances, it's not a satisfactory arrangement as a formal arrangement. Because if she retires or what have you, or leaves and they replace her with someone who is less cooperative, amenable, thorough, it might not work quite so well.*
>
> *Care home nurse 2, MD care home 2*

> *But I think, you know, if [GP] was to leave, I'm not sure that we'd get the same service. I think that everybody, if all the nursing homes had that same [GP] I'm pretty sure that you know . . . It is him really, you know at the end of the day.*
>
> *Care home manager 1, TR care home 1*

Respecting staff expertise

Respect for the expertise of staff in different organisations was seen as essential to developing trust. General practices relied on care home staff assessment of residents and judgement on the need for a GP to visit. Care homes were aware of the need to maintain trust with their GPs, and they emphasised that they did not want to waste GP time, or exaggerate the severity of a situation to secure a visit. However, they also wanted a GP to make the best decision for their residents, and take staff views into account, when relevant.

> *The GPs that we deal with, because they recognise what we need to deal with, and we have some understanding of what their issues are, we can meet in the middle and work together for the benefit of the residents, really. That's what's good. That's what good. So the GPs actually listen to us. We're not just staff, they actually listen, and they'll ask us, 'And how's [Respondent] today?' 'How do you think, [Respondent]?' 'Well, actually yes, this is . . .' 'Really?' 'Yes'. 'Okay'. And they'll take that on-board. That isn't the only criteria for making their decision, but they will really listen to you because they understand that we spend a lot of time with these people, so we know those people really well. And that's been so helpful, I can't tell you. [. . .] [The GP and I] built up not only a really good working relationship, but mutual respect for – I have respect for what she does, she has respect for what we do. Not just me, but I mean, what we do in this home for people.*
>
> *Care home nurse 2, TR care home 2*

Where trust had developed between staff groups, there was greater flexibility in the response to requests for visits or potential treatments. For example, a GP who trusted staff judgements might be more likely to respond promptly, or provide advice over the telephone. An established relationship also meant that GPs may act on the care home staff's assessments and prescribe medications for infections. This was most often referred to in the case of suspected urinary tract or respiratory infections. GPs' willingness to trust the judgement of staff was taken as a marker for care homes, of the strength of their relationship.

> *We've got people on long-term conditions that don't trigger any odd behaviours but sometimes if they get a UTI they can be hitting out, they can be so agitated, unable to articulate what it is that's the matter with them so it's really important for us to have a good relationship with the GPs where we can say, 'Please do not send this off to the lab and make us wait another 24/48 hours before you'll start because this is not just you or me out in the community where it's reasonable for me to say, "I actually don't know if you've got a UTI, let's do a test and confirm before I give you antibiotics"'.*
>
> *Care home manager 1, TR care home 3*

The consequences of relationships that were apparently lacking in trust could be serious for both care home staff and residents. If care home staff were mistrustful of a clinician's judgement, this could adversely influence residents' care. For example, sometimes GPs preferred to prescribe over the telephone, instead of seeing a resident. If staff remained concerned, they might then call the urgent care team, or even an ambulance, despite knowing that hospital may not be the best place for the resident.

> *It can be really frustrating when the GP won't come out, wants to prescribe over the phone, and it's something that we find we're powerless with. [Int: How do you tend to manage that? If a GP says, you know, 'I want to prescribe over the phone', and won't come out, what do you tend to do?] Well, you've got to, if it was something that you really felt concerned about, and you weren't happy, then we would just say to the GP, 'Okay, we've asked you to come out, and you've refused to. We're now going to call the urgent care team, and we're going to call, send this lady to A&E because we're not happy with the diagnosis that you made'. That's what you would do in the best interest of the resident. That doesn't promote good relationships with your GP.*
>
> *[Int: What would happen if [the GP] did refuse to come, what would you do?] Dial 999. Then they'd log that as an inappropriate use of 999 and we'd say, 'We didn't have a choice, unfortunately'. Sometimes you've got to take the hard line in order to get people to realise what's actually going on.*
>
> *Care home manager 1, City care home 2*

A minority of care home staff went as far as questioning the training, ability or interest, of some GPs to care for the care home population. This was particularly apparent in complex situations, and those involving specialist end-of-life care, where care home staff lost trust in the decision-making of the GP.

Continuity and trust

Continuity is written about elsewhere in this report. Relational continuity was also a key factor in the development of trust between care homes and practices.

> *[The GP and the care home staff have] built up a relationship, because they're seen face to face on a regular basis and he certainly knows them. He knows them inside out. I think it has been a very positive thing, because he knows what they need and he'll instigate . . . if you say, 'Oh, they're asking for this', he knows straight away: yes, they do need that. No, they don't or . . . they're just asking you for this because of that. And he knows them so well.*
>
> *GP practice manager 1, City, does not work with a care home in this study*

> *I think a lot of it is down to basically, again, down to trust, and knowing, I think because you see the same GPs, and the GPs see the same staff and what have you. You know, you build up a relationship within that as well. When [GP1] comes we end up talking more about flipping under-21s rugby and stuff, but there is that personal professional relationship.*
>
> *Care home nurse 1, City care home 2*

Continuity is most often considered in relation to primary care, but it is also important to acknowledge, that for visiting GPs, continuity in staff relationships is also important.

> *[The care home I work with has] got a ground floor which is supposed to be residential, top floor is supposed to be residential-ish and the second and the ground floor are more nursing. But, what was happening is that nobody was actually . . . there was no joined-up thinking. So, when I was going on my own and passing over to the carer, because the carers change every week, nobody was documenting anything and it was just getting . . . I was like, this is ridiculous, I'm speaking to myself here.*
>
> *GP 1, works with City care home 1*

Where trust was established, decisions about resident care were more likely to be shared between care home staff and GPs. This was of great importance to the care home staff, who valued their opinions being heard. They also felt that care planned and negotiated in this way would be in the best interests of the resident. Trusting relationships fostered open conversations, which were respectful and avoided conflict.

> *The GPs are good, the chap who has just phoned me now comes on and he just gives you his first name and you think, 'Is this a doctor?' you know, he's really approachable. He's just talked to me at length about the symptoms this lady is experiencing and the stage we're at now and asked if I've contacted the family, all the practical things that you'd do. He's said, 'I'm going to come out now, I'm going to have a look at her', he's an excellent doctor.*
>
> *Care home nurse 1, MD care home 2*

Continuity and trust were also associated with enhanced efficiency. Knowing each other, and the residents they were looking after, avoided the need for lengthy explanations about resident or the home's routines. Such familiarity meant that conversations were concise and an efficient use of time.

> *[Int: How would you describe the relationship that you have between you and those nursing homes – well, all of the homes?] Good, because obviously we know the staff now. They ring up, they know, like 'It's such and such from [care home 1]', and you can obviously build up a relationship because you speak to them regularly. [Int: And you said that it wasn't always like that?] They used to just ring up every day and put loads of people on and request visits every day for people. [Int: Right. How did you find that?] Chaotic. [. . .] For me, I think the care homes are more . . . we have a more structured approach to them. [Int: Right. How did that come about?] I just think that the volume of patients that we have, we had to think how we could really benefit from. . . time wise as well, how we could benefit and what's best for them, rather than, as I say, being back and forth all the time, different doctors going in not really knowing the patients.*
>
> *GP reception manager 1, City, does not work with a care home in this study*

Theme 4: medications and care homes

Medications were not a specific part of the topic guide for our in-depth interviews. It is a measure of the importance of the topic that participants chose to share their experiences and views. The average care home resident has six medical diagnoses and takes an average of eight medications per day. Managing a care home resident's medication is complex. It involves care home staff keeping accurate records, giving medications out at the right time, ordering repeat prescriptions, and checking for mistakes. It also needs regular contact with prescribers, usually GPs. When this complexity is combined with staffing pressures in the sector, it is not surprising that medication errors are common. An influential research study that looked at this topic in 2009, suggested that on any one day, 7 out of 10 residents might experience medication-related errors.[64] These errors ranged from doses being missed, or given incorrectly, to the wrong medications being given out. In some cases, the errors had the potential to cause harm. The CQC has also said that medicine management in care homes continues to fall below expected standards.[65]

Much of the attention on improving medication management for care home residents has adopted the perspective of healthcare professionals from *outside of* care homes. The aim of this study was to understand the experiences and perceptions of medication management *inside* care homes. As expected, interviewees described a complex web of influences on medication management in the care home setting. Three subthemes are highlighted below.

Dependence on the National Health Service

A key external influence was the dependence on the NHS. Robust care home processes could falter, waiting for timely responses from other services, with resulting delays and duplication of effort. Prescribing of medication by NHS prescribers presented many challenges, but making changes to medicine and communicating these changes was by far the most common. A lack of information about the clinical reasoning behind any changes was a source of frustration for our care home interviewees; it is also a potential area of weakness that could allow mistakes to be made. The frustration expressed by this care home manager and description of delays by the care home nurse were typical of a number of our interviewees:

> *Sometimes, a doctor may decide to reduce somebody's medication, which could arrive five o'clock Friday teatime. We get this prescription where, 'What's this? What's going on?'*
>
> *Care home manager, MD, care home 3*

> *The nurse practitioners will say, 'Oh yes, maybe that's a good idea. We can start a particular resident on certain medication'. Then they'll say, 'Oh no, we won't be able to say anything more now. We'll go back and discuss it with the GP'. There are situations where they've never got back to us. So it's like, you know, they're just acting like a mediator.*
>
> *Care home nurse 1, MD, care home 4*

Empowering the resident

Current NICE guidance suggests that care home residents should be supported to administer their own medications if they are able. In this study, most residents had their medicines fully managed and administered by care home staff. This was disempowering for newer residents. But more importantly, it may be a missed opportunity to involve residents in their own medication safety. This resident sums up her sense of disempowerment.

> *Well, the senior staff give us our medication. It's not given to us to do ourselves. Because, when I first came, I wasn't on any medication. Then I started [on some], I said, 'Well, why can't I do it?' They said, 'Oh no, we couldn't let you have it'. 'Ha', I said, 'I've looked after 25 children [when I managed a nursery]. I've even given them medication, and now I can't give my own medication?' I couldn't understand it, really.*
>
> *Care home resident 1, TR, care home 2*

Pharmacists in care homes

In this study, a majority of care homes associated pharmacist input only with the dispensing and checking of care home medications, with only a few exploiting pharmacists' expertise beyond their dispensing role. This suggests that the moves to increase pharmacy input into care homes may be beneficial.

Communication and systems for sharing information between care homes and the NHS are clearly crucial to improving care relating to medicines and medicines' management. Finding ways to enhance communication and standardise protocols and practices would benefit care homes and residents. This analysis supports moves to increase pharmacist input into care homes but suggests that work is needed to increase understanding of their potential contribution.

(An extended analysis of our data on medication management and care homes is available in a separate article, referenced in *Appendix 2*.)

Theme 5: finances

Cost shifting

Discussion among primary care interviewees was explicit about how the burden of care and costs had been shifted from hospital to community. Care home residents were felt to generate a significant amount of work for GPs, but attract only a small capitation fee, in contrast with the much higher cost of hospital admission. A general rise in the intensity of residents' care needs over time was noted by a number of GP interviewees, and an increasing number of older people were being admitted to care homes for end-of-life care, prompting comparisons between care homes and acute geriatric wards. This GP summarised the shortfall in resources as he saw it:

> *You know, because [name of care home] specifically, is not far off – parts of that are not far off from an acute geriatric ward at a hospital. And that's where we're at, and suddenly for, in effect, £85 a year, you have 30 patients on a wing there which are complicated, dying, bedbound, and you compare that to the finances of hospital where an admission is £2,000. That is the challenge, and the challenge for GPs is try to be proactive, but actually financially we're trying to run a practice, run a business, and you sort of say, 'If these patients employed someone like [name of specialist nurse], it's not – unless we get funding externally, it's not in any way cost-effective'.*
>
> *GP4, MD*

The potential of different models

Funding of GPs to provide dedicated time for care homes was acknowledged as costly, but potentially money saving for the wider system. In addition, diversification of the workforce, using specialist nurses from practices to deliver primary care in care homes, for example, was thought to be both effective and cost-effective. Other teams – such as the team from the hospice – were also seen to have a role. General practice staff perceived a need for an appropriate contractual mechanism to support practices to provide decent care. Organised, dignified care, it was observed, needs appropriate funding.

Austerity and the wider context

The influences of the wider political and policy context were evident in narratives of some of the GPs in particular. A shortage of funding had a pervasive effect on morale in primary care and was placing increasing demands on individuals and services. Heavy workloads cause stress, sickness and burnout, and generate a need to fund temporary staff replacements, which increases costs. Local senior leadership within health care was seen as unsupportive and transient, there to fix a problem rather than develop a long-term plan. The care home industry was also perceived as part of the problem – profit driven, and able to operate without considering the ability of primary care to respond. The opening of a large home, for example, would have a direct impact on practice workload and income, but GPs felt that this was happening without their involvement in the decision-making process.

> *We've had a new Chief Exec parachuted in to the PCT, PCG, CCG's every three years, who's been brought in to kick the place into action. We're just surrounded by permanent negativity from that point of view. There's no money. We had a difficult relationship with the hospital who sits as an island themselves and don't partake, they play the system for their own means. Which basically means they get payment by results, so they've had rising income year on year on year, for the last umpteen years, soaked everything in and their community has just been starved.*
>
> *From our own business model point of view, the hospitals works very well. But, have they been helpful to the community and the health economy as a whole? No. It's not in their interest to bother about the community because they get paid for their admissions. Then the CCG gives them control of the community nursing budget. So there's some really bizarre decision making going on. Sorry, I'll stop moaning.*
>
> *GP 2, TR, works with care home 6*

Engagement with commissioners

We put five key areas from our findings to commissioners (listed below), in informal conversations. The intention was to capture their ideas and impressions of how our findings may be useful in their work.

1. Relationships, trust and continuity
2. Size of general practice and quality of care
3. The 'ward round' model of general practice visiting for care homes
4. Specialist nurses for care homes
5. Telemedicine

Commissioners noted the changing needs of residents over time, and the ways in which they are becoming more complex, dependent and vulnerable than in previous years, as populations age. They also highlighted the fallacy of talking about care home residents as if they are a single, homogeneous group, in contrast to considering people as individuals. Commissioning for outcomes was raised as an ideal, while acknowledging that current practice is all about processes.

Primary care networks

Primary care networks were seen by all commissioners as pivotal to the future success of care home health care. The new collaborations of practices offer a critical mass of skills and manpower to provide support to care homes. The

structure of primary care networks was also perceived as a more sustainable way of supporting the 'ward round' or scheduled visiting model of primary care. The continuity and certainty that comes with a larger, flexible workforce was mentioned as a way of building trusting relationships, and also as a potential vehicle for delivering personalised care.

Contracting and commissioning

Contracting was acknowledged to be a potential barrier to the provision of good-quality or innovative care. This extended to GP contracting, particularly in relation to the disquiet in GP communities after the Vanguard programme, and roll-out of EHCH. However, most concerns related to the relationship between care homes and local authorities, and the challenges faced by NHS commissioners who wish to influence the services. Regulation and inspection generate suspicion and mistrust, and provide a poor basis for care quality development. Care homes may be in discussion with local authorities and CQCs, for example, but the GPs and CCGs could have slight priorities and different goals. A unified message across organisations would be helpful, and enable health care to broaden its influence.

Finance and continuity

Finance was acknowledged as an important influence on continuity. Releasing funds to support primary care in care homes is essential but without it, GPs are reluctant to take on the extra work proposed. When care homes are not well funded, they struggle to attract and retain staff, keeping standards low. Continuity of care within the home is also important for enhancing the quality of care, making continuity a commissioners' issue, too. One summed up the ideal state as 'continuity based on need'. When relationships are trusting, for example, and regular visits are ongoing, staff are reassured and less likely to act on their anxieties and make inappropriate use of NHS facilities.

General practitioner scheduled visiting for care homes

Commissioners noted two crucial ingredients to support GP visits, continuity and information. Predictable visiting time is helpful to care home staff, who are working in a complex environment. Secondly, the staff mix of the ward round is important, with care home staff who are familiar with the residents. Visiting GPs need to know the patient, or be able to access relevant history and current health information, to optimise care and avoid unnecessary referrals.

Technology

This was an active area of work for commissioners. The role of technology was emphasised as complementing an existing robust and trusted care model. A trusted environment in care is essential, and the potential for technology to detract from this and take staff away from their main focus (the resident) was acknowledged. Technology that tries to supplement or replace basic care provision was seen as problematic, and likely to lead to the breakdown of relationships between sectors.

Nursing services for care homes

Commissioners were keen to clarify the different models of nursing care for care homes, and emphasise the importance of a dedicated commissioning model. They distinguished two models: (a) specialist nursing advice, for example, palliative care, who will provide care and advice irrespective of where the patient lives, and (b) community nurses or matrons who make planned visits to care homes. Understanding where a service sits was seen as crucial, as services could get pulled into secondary care. The ideal model was dedicated to this sector, and integrated within it, and often described as 'wrap around'. Services that were 'add ons' were perceived to be more likely to break down. One commissioner talked of a whole neighbourhood model, involving all professions and flexible enough to respond to different neighbourhood and communities' needs. Joint commissioning of services with the local authority was one way of achieving this.

Past failures were discussed. These included a failure to be sufficiently collaborative, and the way in which community matrons were unable to maintain a case management approach as they moved into more specialist roles. Community matrons were also perceived to struggle to work with practices and be left out in the cold, while district nurses were inevitably task-orientated.

Chapter 5 Analysis of primary care data

This component of the study has been revised. The original proposal was to conduct a detailed analysis of data from a total of approximately 4000 care home residents, drawn from three geographical areas. The intention was to investigate the impact of changes in ways of working introduced by the NHS England Vanguard programme. Three events prompted changes to this study. First, access to the planned data source was withdrawn, and that research resource has almost complete coverage of the geographical areas specified in the study. Second, the NHS Long Term Plan committed to rolling out the EHCH framework between 2020 and 2024. This introduces many of the proposed primary care/care home Vanguard changes across England. Finally, the COVID-19 pandemic was associated with significant changes in ways of working in UK general practice, and access to care homes for health professionals. An increase in remote working and use of telephone and digital consultations was rapidly introduced and, in many cases, has persisted.

The revised study (described below) uses a research data set that typically contains primary care records of over 200,000 care home residents in any 5-year period. Analysis of a large, representative data set will provide a national overview but loses the direct geographical link with the qualitative work and clusters of practices. However, we found substantial heterogeneity in ways of working within and between the three geographical areas in our qualitative study (see *Chapter 5*), and limited evidence of systematic change in the two Vanguard areas. Hence, we anticipated that our original, smaller-scale analysis would not have supported any definitive conclusions.

Our qualitative and survey work within this project has highlighted factors that are likely to be associated with better quality and experiences of primary care in care homes. Larger practices were more likely to adopt working practices thought to be associated with higher-quality care. These included the provision of scheduled visits, taking part in multidisciplinary team meetings and facilitating specialist nurse input into care homes. Implementation of the EHCH into practice will inevitably have proceeded at different rates in different geographical areas and is not due for completion until 2024. A number of changes were specified in 2020 contracts, the impact of which may be evident in data from 2021. These included the provision of a clinical lead for each care home, weekly home rounds and identification of residents for multidisciplinary team review, holistic assessment on entry to a home and development of care plan, and prioritisation of residents for structured medication reviews. These changes introduce more preventive and anticipatory care, which could be expected to increase the number of primary care contacts, but reduce urgent referrals and some polypharmacy.

The aim of this study is to compare primary care processes over time in care homes, before and after the introduction of the EHCH framework, and in the context of the coronavirus pandemic.

Methods

This study used data from the Clinical Practice Research Datalink (CPRD) database. This is a longitudinal data set of primary care electronic health records (14.8 million individual patients), drawn from 1473 general practices. Data were analysed from the April 2022 release of data. Care home residents were identified using SnoMed codes listed in *Report Supplementary Material 4*. Of the 54 codes specified, 3 (lives in a nursing home, lives in a care home, died in a care home) were expected to identify approximately 75% of cases.[66]

We extracted data on two samples of care home residents who contributed person time to Aurum for all or part of 2019 or 2021, with neither a record of death in CPRD nor an end of registration date before the beginning of the study year. (In other words, registration started on or before January 1 of the target year and ended after January 1 of the target year.) Patients were included if they were aged over 75 years (with an upper age limit of 110 years to remove inaccurate records). This was designed to be a conservative approach to identifying care home residents, as a cut-off age of 80 years had been used in analyses of routine date for the care home Vanguard work (personal communication, NHS England Vanguard team). Age was calculated from year of birth and divided into 10-year bands: 75–84, 85–94,

95–104, 105 +. As the median length of stay in care homes (across care homes with and without 24-hour nursing care) is 15 months, we might expect a proportion of patients to appear in more than one data extract.

Measures

The main measures of interest were in contacts, referrals and prescribing. For each resident, data were extracted on the number of contacts with practice staff over each of the 12-month periods, the number, urgency, mode and type of referrals (e.g. management or investigation); the number of medications or other items prescribed and approximate cost to the NHS. Covariates of interest were age, gender and polypharmacy.

We divided the number of care home residents registered per general practice during the sample years into three approximately equal groups (based on numbers of patient registrations), to derive a relative measure of care home workload for each practice. This did not, deliberately, account for length of registration, as much of the workload for general practice is around initial assessment and registration. The total number of items prescribed over 12 months was calculated for each patient and practice. The mean monthly number of prescribed items per patient was used to derive a measure of polypharmacy (five or more medications) and hyper- or excessive polypharmacy (10 or more medications). Information was extracted from CPRD on the Office for National Statistics geographical region of the practice location.

For each study year, the total number (median, range) and type of contacts and referrals are described per patient, practice/practice care home workload and region. We calculated the number of patients experiencing polypharmacy and excessive polypharmacy and compared them by year.

Costs

Published costs were assigned to the primary care service utilisation (contacts, urgent referrals, polypharmacy). We used the unit cost per patient contact (including carbon emissions, staff costs and travel) estimated at £39.23 for 9.22 minutes of GP time in 2019–20.[67] Costs for nurses (Band 7, advanced nurse/nurse practitioner) per hour of patient-related work was £120. We estimated that a nurse practitioner may see four patients per hour. Standard consultation-related prescription costs (£31 actual cost) may be less relevant to care home prescribing, where patients often present with multiple ongoing complaints rather than a single issue addressed with a new prescription. The CPRD-derived medication costs variable was not used because of high levels of missing data for this study population. Instead, we used the derived number of medications and standard NHS reference costs (item costs £8.20 and £8.65 for 2019–20 and 2020–21). A single figure for a geriatric consultation was applied to all referrals, to give a broad but approximate estimate of cost. Estimates are presented for different combinations of nurse/GP consultations, applied to individual resident and scaled up to notional individual/care home populations in both years.

Findings

There were 66,506 care home residents aged over 75 years who contributed data to Aurum in 2019, and 37,226 in 2021. A majority aged between 85 and 94 years of age, and females outnumber males by a ratio of 2 : 1. Two-thirds of the practices had fewer than 40 care home residents registered as patients. Distribution of patients across the Office for National Statistics geographical regions of England is similar to that of the CPRD Aurum practices. Sample characteristics are shown in *Table 5*.

Care home practice workload

A majority of the resident patients contributed fewer than 12 person-months to the study because they left their general practice or died during the study period (76% in 2019 and 73% in 2021). The median number of care home residents per participating practice was 28 in 2019 and 18 in 2021. Levels of contact with primary care teams was high, median total 35 in 2019 and 40 in 2021.

Just over one in five residents were referred urgently to secondary care. Approximately one-third of all referrals fell into the two most urgent categories: ‘2-week wait’ or urgent. A majority of referrals were sent as NHS e-referrals (40% in 2019, 43% in 2021) or in writing (52.8% in 2019, 47.8% in 2021). The two largest groups were referrals for management advice, and assessment and treatment. However, one in four referrals was without categories.

TABLE 5 Sample characteristics

	2019	2021
Care home residents		
Age in 10-year bands		
75–84 years	20,336 (30.6%)	11,048 (29.7%)
85–94 years	35,903 (54.0%)	19,786 (53.2%)
95–104 years	10,158 (15.3%)	6299 (16.9%)
105 + years	109 (0.2%)	93 (0.2%)
Gender		
Females	42,765 (64.3%)	23,956 (64.4%)
Males	23,741 (35.7%)	13,270 (35.6%)
Polypharmacy		
Number of medications		
1–4	18,891 (27.8%)	12,256 (43.0%)
5–9	27,308 (40.3%)	10,454 (36.7%)
10 +	19,501 (28.7%)	5593 (19.6%)
General practices		
Registered care home residents per practice		
1 (0–4 patients)	276 (22.0%)	289 (25.1%)
2 (5–19 patients)	255 (20.4%)	317 (27.6%)
3 (20–39 patients)	205 (16.4%)	230 (20.0%)
4 (40–79 patients)	244 (19.5%)	208 (18.1%)
5 (80 + patients)	272 (21.7%)	106 (9.2%)
Practice location (ONS region)[a]		
North East	50 (4.0%)	47 (4.1%)
North West	286 (22.8%)	261 (22.7%)
Yorkshire and the Humber	39 (3.1%)	34 (3.0%)
East Midlands	29 (2.3%)	25 (2.2%)
West Midlands	229 (18.3%)	212 (18.4%)
East of England	46 (3.7%)	40 (3.5%)
London	212 (16.9%)	190 (16.5%)
South East	213 (17.0%)	199 (17.3%)
South West	134 (10.7%)	128 (11.1%)

a Totals do not sum to 100% because of 1% of practices in devolved administrations.

Changes over time

Care home residents' age, gender and practice regional location were similar across the study years. Between 2019 and 2021, the total number of residents fell, and there were fewer practices with a high number of registered care home patients. Total contacts and monthly contacts were higher in 2021, which may reflect more intensive end-of-life care, associated with a higher death rate during the COVID-19 pandemic (*Table 6*). Compared to 2019, the proportion of

residents who were referred urgently was lower, but levels of '2-week wait' referrals were similar. The proportion of residents without polypharmacy was higher in 2021 than 2019, and the proportion with excessive polypharmacy was also lower.

The results of a multivariable logistic regression analysis are shown in *Table 7*; all factors are adjusted for each other. The dependent variable is individuals with more than monthly consultations. A measure of care home workload was constructed from the number of patients per practice (with the cut points based on the vector of unique values of patients per practice). Patients in practices with more registered care home residents were more likely to have at least monthly consultations. Frequent contacts were almost twice as likely to be in place in 2021, compared to 2019. Age and gender were not associated with levels of contacts.

A second multivariable logistic regression with the dependent variable of more than three urgent referrals was also undertaken (*Table 8*). Patients in practices with a larger number of care home residents, males and older residents were all less likely to have more than three urgent referrals in the study period. Urgent referrals were more likely in 2021.

TABLE 6 Primary care activity for care home residents

	2019	2021
Annual contacts per resident		
Median (range truncated at 95% of values)	35 (1–107)	40.0 (1–118)
Contacts per person-month of registration		
Median (mode)	3.5 (2.0)	6.0 (8.7)
Quartiles of contacts per person-month		
25%	2.08	3.75
50%	3.58	6.00
75%	5.83	8.67
Referrals	***Number (% residents)***	***Number (% residents)***
Number of residents with at least one referral (by level of urgency)		
2-week wait	7094 (10.7%)	4216 (11.3%)
Urgent	10,005 (15.0%)	3652 (9.8%)
Soon	2948 (4.4%)	1514 (4.1%)
Routine	34,005 (51.1%)	17,289 (46.4%)
Mode of referral		
NHS e-Referral	20,742 (40.0)	11,794 (43.1)
Written	27,382 (52.9)	13,341 (48.8)
Other	3680 (7.1)	2207 (8.1)
Type of referral		
Unknown	13,043 (24.3)	6525 (23.6)
Outpatients, investigation	7155 (13.3)	3571 (12.9)
Assessment and treatment	1670 (3.1)	900 (3.2)
Management advice	31,388 (58.4)	16,471 (59.5)
Other	498 (0.9)	234 (0.8)

TABLE 7 Factors associated with more than monthly consultations in 2019 and 2021

	Odds ratios	95% confidence intervals
Patients per practice (3 groups)		
< 61 (ref)		
61 to < 131	0.961	0.925 to 0.998
≥ 131	1.371	1.320 to 1.424
Year (ref = 2019)		
2021	2.138	2.063 to 2.215
Age category (years) (ref = age 75–79)		
80–84	0.996	0.940 to 1.054
85–89	1.003	0.950 to 1.059
90–94	1.003	0.950 to 1.060
≥ 95	0.955	0.890 to 1.014
Gender (ref = male)		
Female	0.977	0.946 to 1.009

TABLE 8 Factors associated with ≥ 3 urgent referrals in 2019 and 2021

	Odds ratios	95% confidence intervals
Patients per practice (3 groups) (ref: < 61)		
61 to < 131	0.910	0.845 to 0.981
≥ 131	0.646	0.597 to 0.699
Year (ref = 2019)		
2021	1.119	1.047 to 1.195
Age category years (ref = age 75–79)		
80–84	1.134	1.012 to 1.271
85–89	1.076	0.965 to 1.201
90–94	0.979	0.875 to 1.095
≥ 95	0.775	0.681 to 0.882
Gender (ref = male)		
Female	0.810	0.760 to 0.864

Costs of primary care for care homes

We estimated the annual costs of primary care to be £1647 per resident, if all contacts were with a GP. Substituting a proportion of senior nurse contacts has a relatively limited impact on costs, with an assumption that a nurse may spend longer with a patient. In this example, we have estimated that a nurse contributes 15 minutes per patient, compared to average 9.22 minutes from a GP. Applying standardised costs to our data suggests that increasing contacts over time may increase primary care costs by up to £35,000 per annum for an average care home. In our data, referrals per resident fell from 0.81 to 0.71 between 2019 and 2021. Without information on specialty, we have used the figure for a geriatric outpatient visit from the National Schedule of NHS costs. This estimates a modest fall in referral costs per

TABLE 9 Changes in costs over time

	Costs per individual resident (£) 2019	Costs per individual resident (£) 2021	2019–21 annual cost difference (£)	
			Individual resident	Typical care home (30 beds)
Contacts				
All GP contacts	1647.66	2824.56	1176.9	35,307
50% GP/50% nurse			1038.45	31,153.50
25% GP/75% nurse			969.23	29,076.90
Referrals				
Annual, per resident	219.44	193.44	−25.99	−779.84
Prescribing polypharmacy				
5 medications	492	579	−83.87	−923.41
10 medications	984	1038	−48.65	−286.06

resident, and up to £779 per average care home, over time. Prescribing data in this study is limited to the number of items per resident. Taking into account an 8.5% rise in cost per item between 2018–9 and 2020–1 (www.nhsbsa.nhs.uk/statistical-collections/prescription-cost-analysis-england), the estimated reduction in polypharmacy seen in this study could make an impact on average care home prescribing costs of up to £1209.47, assuming similar distribution of residents with polypharmacy to the study population.

In *Table 9*, we present an estimate of the annual changes in costs of primary care contacts, referrals and prescribing, by individual resident, notional individual care home population (using the annual average bed number of 30). These data should be treated with caution, as many assumptions have been applied. However, they suggest that proposed changes to increase the regularity of contacts may increase costs, and the greater expenditure is unlikely to be offset by improvements in prescribing or referral practices. This issue merits more detailed scrutiny, with consideration of hospital admissions and individual drug costs to produce an accurate system-wide picture.

Summary

General practices with a larger number of care home residents appear to adopt processes that are likely to be associated with better-quality care. They have a higher number of contacts with residents, and lower levels of urgent referrals. Changes over time from before COVID to immediately after the peak, are therefore difficult to interpret, but positive changes were observed in the number of contacts and polypharmacy. Changes in practice are likely to increase costs overall, but more detailed work is needed in this area.

Discussion of findings and limitations is presented in *Chapter 6*.

Chapter 6 Discussion and conclusions

Summary of key findings

The findings of this study provide support for some of the changes outlined in the EHCH framework, although our work was not designed to evaluate any specific strategies. Two findings stand out: first, relationships, rather than models of care, appear to be critical to effective primary care for care homes. Second, larger general practices and those with higher number of care home residents are more likely to adopt ways of working that are associated with better-quality care.

Our qualitative study identified three different areas of focus for general practice services to care homes – relational processes, communication and organisation. The interaction between these three was critical to enhancing care. Trusting relationships are at the heart of effective general practice for care homes. Our findings suggest that continuity of care, sensitivity to the skills and expertise of care home staff and a willingness to dedicate time to patients were crucial. Different structures provided opportunities to develop effective, efficient care, but could flounder if relationships were not established. The potential of the ward round model, for example, was realised only when relationships were constructive. The way in which innovation is introduced is crucial to acceptance and ultimate success. Telemedicine was an example of a new way of working that generated efficiencies for the NHS but could be a burden to care homes, resented by staff and perceived as a barrier to overcome. The ingenuity of general practice and care home staff to circumvent initiatives that offered no perceived benefits to themselves, or care home residents, was evident, and served to emphasise the benefits of a locally appropriate approach to implementing change.

Our survey found that practices with larger staff numbers and patient list sizes were more likely to adopt working practices thought to be associated with higher-quality care. These included the provision of scheduled visits, taking part in multidisciplinary team meetings and facilitating specialist nurse input into care homes. Analysis of primary care data reinforced both the survey and qualitative findings. General practices that looked after a larger number of care home residents also adopted processes that are likely to be associated with better-quality care. They had a higher number of contacts with residents, for example, and resident patients had lower levels of urgent referrals. The peak of the COVID-19 pandemic coincided with the national introduction of EHCH in 2020. Changes over time are therefore difficult to interpret, but positive changes were observed in the number of contacts and polypharmacy. Changes in practice are likely to increase costs overall, but more detailed work is needed in this area.

The relevance of our qualitative work has been heightened by both EHCH and the coronavirus pandemic. Our data have identified some principles for addressing challenges and optimising outcomes from changes that are now being rolled out across England. During the coronavirus pandemic, different ways of working and communicating were rapidly introduced into primary care and care homes. Our findings provide insights into the impact of some of these changes which can inform the ongoing implementation of EHCH. They also reinforce the importance of enabling relationships to build over time, and allowing flexibility for locally appropriate implementation of change.

Did this project answer the research questions?

The research questions for this project were underpinned by an assumption that it is possible to define ways of organising services, or models of care, that would optimise experiences for care recipients and staff. This was in line with the enduring focus on structural reorganisation in the NHS, but it is challenged by our findings. Below, we review each research question in turn, and reflect on the extent to which this project has been able to address them.

Research question 1

In what ways is the organisation of general practice for care homes associated with better resident outcomes and experiences?

A strong message emerged from our work, that relationships are of paramount importance, and services will adapt and develop when personal links are strong and trusting. Our work did suggest that there are features of service design

that may be associated with greater satisfaction, and possibly better outcomes. The qualitative work highlighted larger practices, continuity of personnel, frequent visits and a preference for GPs over other practice personnel. The quantitative analysis of primary care data found that registration with practices with greater numbers of care home residents was associated with higher levels of contact, lower levels of polypharmacy and fewer emergency referrals. Taken together, these suggest that some recent policy changes in the UK, such as the formation of primary care networks and multidisciplinary teams in the EHCH framework, are likely to support improvement in primary care for residents.

Research question 2

What are the implications of different models of GP involvement for residents' service use and costs? This question was addressed in the quantitative analysis. Patients in practices with a higher caseload of care home residents were lower users of secondary care services, and lower levels of polypharmacy. Analysis of CPRD data focused on process measures of care, such as frequency of visits, and not on longer-term outcomes relating to individual health status. This reflects this study's focus on organisation of care, and avoids any need for judgements about optimal outcomes for patients in care homes. While the analysis made effective use of a very large data set, it does not allow us to draw any conclusions about nuanced differences in models of GP involvement. Changes to the planned data source for this analysis generated a far larger study that originally planned, but removed the possibility of linking patient outcomes to the different typologies of practice derived from the survey. As the most influential aspect of the typologies was size of practice, this limitation seems unlikely to have changed our conclusions. The standardisation of care home health care resulting from implementation of the EHCH framework should also render any testing of the typologies in our work redundant. EHCH promotes specialisation in primary care, with multidisciplinary teams for care home residents that extend beyond a single practice. The potential benefits of concentrating experience and expertise in that model are supported by our work. Changes in practice that result in improved care are often associated with increased costs. In this case, we looked at the costs of primary care in general terms. Further more detailed work to examine the impact of cost-shifting would be helpful.

Research question 3

What are the perspectives of residents, relatives and staff in general practices, commissioning organisations and in care homes, on different ways of organising primary medical services for care homes; which are acceptable and associated with positive experiences for staff, residents and relatives? This broad question formed the basis of our qualitative interviews. Participants shared views, experiences and perceptions of the care or services that they experienced or delivered. Few individuals have insights into multiple, different ways of working, so the analysis is valuable, to draw together contrasting views and experiences from stakeholders. There are potential gaps in our findings. Respondents' perceptions are strongly influenced by negative experiences, and it can be difficult to obtain a balanced picture. Health professionals, for example, shared fewer positive experiences and constructive suggestions for improving care, compared to other respondents. A study of this size provides insights into many different aspects of care home health care. We have emphasised the data on trusting relationships, as that was evident in all groups. Sensitivity to the routines and rhythms of care home life was an important factor in establishing rapport between care homes and primary care. Similarly, mutual respect for professional expertise was a positive influence on working relationships. Residents, for the most part, had limited awareness or interest in how their primary care was organised, and accepted delegation of responsibility for this aspect of their life as a facet of care home life. Care home staff and relatives/residents shared some common preferences, for consultations with a doctor, continuity of care, prompt attention and in some cases, participation in decision-making.

Unanswered questions

This study did not set out to answer the question of how to maximise the potential of relationships to promote effective care. A number of factors were identified that shaped relationships, including the regularity and duration of contact, the motives and interests of the parties involved and the different approaches to care. Trust underpinned all relationships but was particularly dependent on having time to become established. These findings are in line with growing recognition in recent years, of the value of relationships in the workplace. While there is widespread agreement that relationships are critical in work and care, the definitions, underpinning theory and approach to implementation,

are still subject to debate. In UK general practice, recent commentators have focused on doctor–patient interactions, with 'relationship-based care' promoted as generally beneficial and an antidote to the growth of transactional medicine. The definition put forward by the Royal College of General Practitioners places relationships in a supporting role, to enhance the processes and outcomes of care.[68] In contrast, relational practice, a way of working that prioritises the formation and maintenance of helpful interpersonal relationships, places relationships firmly at the centre of care processes. Recent research in social care has developed this thinking further, with the concept of relational care.[69] This emphasises the primacy of relationships and human interdependence in social care settings. Three key components of relational care have been identified: an atmosphere of respect and trust; a purposeful focus on relationships; and a physical environment that supports both the nurturing of relationships and individual autonomy.[69] The linked toolkit for practitioners sets out factors under each of the three components that might help make relational care work within a care home. For example, the purposeful focus on relationships might include supporting residents to make autonomous decisions, or encouraging the staff team not to be too risk averse. What the toolkit does not do is encompass working with organisations external to the care home. Our exploration of working with health services provides complementary data and identifies significant areas of common ground, such as trust, respect for staff and open communication, along with issues that are pertinent to primary care, such as continuity of care, sensitivity to the expertise of care home staff and a willingness to dedicate time to patients.

This study touched on professional roles and role substitution. This is a rapidly changing environment, with the expanding role of nurses in primary care,[70,71] employment of paramedics to undertake home visits,[72] and a variety of different professional teams configured to prevent admissions to hospital. While our data suggested an initial preference for doctors, familiarity, empathy and confidence in the level of expertise were the critical factors for residents, families and care homes. As nurses take on more of the primary care work in care homes, this will be an important area for monitoring stakeholder views and experiences, to understand where any training needs to lie.

The context of COVID-19

The COVID-19 pandemic provides important context for this study as it had a profound impact on care homes. Health care underwent a rapid shift in working practices at the start of the pandemic. Telephone and video consultations became the norm and remote monitoring was widely adopted in care homes (e.g. using pulse oximetry to measure oxygen levels in the bloodstream). At the outset, a move to discharge hospital patients was associated with a rapid rise in new COVID-19 infections in care homes. Mortality rates were higher in care homes than almost every other setting.[73,74] Staff were vulnerable to infection and many moved out of the care sector. The initial lack of guidance or reassurance for care homes soon developed into a situation where home managers were struggling to keep pace with the amount of information, instructions and data requests from various authorities.[75] As the incidence of COVID-19 has fallen from the peak of the pandemic, face-to-face working has increased, but use of remote modalities to resolve clinical issues has remained at levels higher than pre-pandemic. Perhaps even more important, the experiences of care home staff, residents and families will have generated a lasting impression that will influence their interactions with health services.[76] The qualitative data in this study were collected before the peak of the pandemic, and we could anticipate that many of the technological barriers to remote consultations or monitoring are no longer in place. However, the shift to remote working means that building relationships and providing continuity is likely to be more challenging, and this is highly relevant to our findings.

Comparison with previous work

A similar study in Germany used qualitative methods to understand how to improve interprofessional collaboration and communication in nursing homes.[77] Their findings have many parallels with this study, despite the differing contexts. Scheduled GP visiting time, agreement of common goals and better availability of nurses and doctors were identified as important. Identification of a named contact person was proposed, but not found to be helpful in practice. In the UK, the OPTIMAL study complements our work, with a realist evaluation of broader health service working with care homes.[5] They acknowledged the central role played by GPs in effective care for care homes and suggest that other services can be organised to enable GPs to focus on core medical work. This study differs in its focus on GP services

and the way they are structured. Both studies recognise the need for health services to appreciate the contribution of care home staff, and provide time to care. The primacy of GP medical care is important, given recent concerns in GP communities, about the pressures associated with providing care to the sector. There have been calls for GPs to withdraw from care home work, though this has not attracted mainstream support.

An overview of lessons learned from the NHS England Vanguard programme describes it as embodying local co-creation and testing of new models of care.[78] While efforts were made to engage NHS partners and others in the programme, our work suggests a need to ensure all stakeholders are fully involved in service redesign. Care homes have a major role in shaping the demand on health services from their residents, yet in this study, they perceived little ownership of the new ways of working, whether in telemedicine or GP services. General practices had similarly diverse views. The challenge of engaging with two constituencies that are formed from many small providers is immense, but engaging with primary care from the outset was a key learning point from across the Vanguard programmes.[78]

Evaluations of individual care home Vanguards has suggested that a tendency to reducing hospital admissions. In Nottingham City CCG area, clinical pharmacy and telemedicine services were added to existing enhanced care in care homes. Emergency admissions from Nottingham care homes into hospital fell, in comparison to a control group of care home residents from elsewhere. Much of this fall was driven by a reduction in admissions from care homes without 24-hour nursing.[79] Similar findings of reduced hospital utilisation have been reported from the Gateshead care home Vanguard.[80]

The daily routines of care homes, of staffing changes, medication rounds, set mealtimes and visiting times, enable structured, streamlined care delivery.[61] Visits from external healthcare and social care staff have the potential to disrupt such routines of care home life, especially if the timing of their visits clash with an established routine within the care home (such as a mealtime). Disruptions to mealtimes in particular can have implications for more than just nutrition, as they can represent a daily focal point for residents, and an opportunity for social interaction.[63]

The policy context

Our findings support some aspects of current policy and provide insights into how implementation of change may be improved. NHS England first published a strategy for care home health in 2016, to implement lessons from the Vanguard programme. EHCH identified seven core elements, listed in *Table 10*. The intention is that these should be rolled out across England between 2020 and 2024, under the NHS Long Term Plan. Discussion of only three of the seven elements featured in our interviews. The first, and most clearly relevant to this study, is enhanced primary care. This encompasses access to a consistent, named GP, medicine reviews, hydration and nutrition support, and access to out of hours or urgent care when needed. A recent survey suggests that implementation of systematic change is patchy, but there was some evidence of enhanced working relationships.[81]

Our work did provide some support for the benefits of relational continuity. When the same GP or nurse visits week after week, relationships and trust develop between staff, and this can support the delivery of appropriate and efficient care. However, consistency of care is only a positive if the health professional is interested and motivated to provide the service. In this study, some care home staff were dissatisfied with their GP, and they found ways around the imposed continuity, to access care for their residents. Having a named GP is a way of formalising continuity. However, scheduled visits to care homes are increasingly being undertaken by experienced nurses, rather than GPs. A named GP is of limited benefit to a resident, if role substitution in primary care means that they seldom see a doctor. Access to out of hours and urgent care was a concern for staff from the perspective of how this care was accessed, but not whether the services were available. Our data suggest that care home staff will prioritise the safety of their residents, and this may involve transfers to hospital if the community response is not judged to be adequate. The impact of out of hours' primary care services on transfers from care homes to secondary care is an important area for future work. Medication is highlighted as an area of focus to reduce inappropriate polypharmacy and associated adverse outcomes. Our data described the limited extent of pharmacy input into care homes and potential areas where this would be beneficial. Medication reviews by GPs off site were perceived to be of limited benefit to care home residents, despite being the common way that this was managed.

TABLE 10 National Health Service England EHCH: seven core elements of the integrated care model

Care element	Subelement identified by this study in italic
Enhanced primary care support	*Access to consistent, named GP and wider primary care service* *Medicine reviews* Hydration and nutrition support Access to out of hours/urgent care when needed
Multidisciplinary team support, including coordinated health and social care	Expert advice and care for those with the most complex needs Helping professionals, carers and individuals with needs navigate the health and care system
Reablement and rehabilitation	Rehabilitation/reablement services Developing community assets to support resilience and independence
High-quality end-of-life care and dementia care	End-of-life care Dementia care
Joined-up commissioning and collaboration between health and social care	Coproduction with providers and networked care homes Shared contractual mechanisms to promote integration (including Continuing Healthcare) Access to appropriate housing options
Workforce development	*Training and development for social care provider staff* Joint workforce planning across all sectors
Data, IT and technology	Linked health and social care data sets Access to the care record and secure e-mail *Better use of technology in care homes*

Note
Adapted from NHS England (2016). The framework for EHCH.

Care home staff need the skills and experience to manage residents who are unwell and the confidence to take decisions on when to involve health professionals from outside the home. The focus within Enhancing Health in Care Homes on training and development for social care staff recognises the role they play in looking after both the health and well-being of their residents. This study suggests that this would be needed and welcomed by care home staff.

Inclusion of care home services in contracts for primary care has not been universally supported across professional bodies in England, and there have been calls in the past for it to be removed as a GP responsibility.

EHCH may be interpreted as part of the drive to promote integrated working between the NHS and health and social care. NHS England describes integrated care as person-centred and co-ordinated, tailored to the needs and preferences of individuals and their families. While the goal is not controversial, there is little consensus on how different services should blend their care to achieve this outcome. Relationship building, and effective engagement between NHS and the social care sector has been repeatedly emphasised as essential to achieving improved outcomes.[29,82,83] However, it is important to acknowledge how challenging this may be for initiatives involving social care and NHS primary care, if their goals, business models and regulatory frameworks are not aligned. Financial incentives can influence professional behaviours, but they may not improve residents' experience of care, if they are not seen as supporting relevant clinical action.[84–86] Engaging care homes in health-led integrated care programmes can be particularly challenging, especially if care home staff feel undervalued or isolated from the wider healthcare system.[83] High staff turnover in the social care sector further limits opportunities for cross-sector relationship building. Skilled leadership and communities of practice, both in the care home sector and primary care, appear to facilitate partnership working,[82] but there is debate on how this should be evaluated, especially in terms of care home residents and system-level outcomes.[83] Efforts to integrate care in other countries have met with limited success.[87] It is not clear whether this is due to lack of resources, inappropriate scale or failure to secure user involvement, especially from care home residents, whose views are often absent in research and priority setting.[88]

Our analysis of data from CPRD pointed to a shift in working before and after the first introduction of ECHC and the peak of the pandemic. The number of residents in our 2021 sample was smaller than 2019. The death rate in care home residents in 2020 is known to be high,[66] but whether this also reflects a change in patient registration or missing data is unclear. Resident contacts increased over the time of ECHC implementation. However, it is also possible that residents had greater needs following COVID-19 infections, and the broader consequences of the pandemic. Prescribing practices appeared to improve over time, with reductions in the proportion of residents experiencing polypharmacy and excessive polypharmacy. Greater involvement of pharmacists in primary care practice may be a significant influence on prescribing, along with multidisciplinary teams where they have been introduced. Practices with more registered care home residents tend to adopt ways of working associated with better quality. This suggests that a level of specialisation is helpful, supporting the ECHC model, but the possibility that care homes register their patients with practices known to be interested and responsive cannot be ruled out. Costs of increasing care home contacts are high for practices, and likely to result in cost savings in other parts of the system. The findings we present highlight a need for more detailed work on this issue.

Many of our participants talked about sharing of health information between primary and community services and care homes. The mixed care economy in social care is influential here, with care homes as privately run businesses, independent of the NHS. This presented challenges around cross-sector working, roles and responsibilities, particularly when residents need the input of NHS services. Information sharing between the NHS and care homes currently relies on informal agreements, good working relationships across sectors and often, old technologies. Care homes may have perceived themselves to be in the dark, but often, they were innovating, bringing creative solutions to unresolved old problems of cross-sector working and new challenges created by the introduction of technologies. Our data suggest that future policy could consider how best to support a cross-sector sharing culture, supported not inhibited by technology.

Limitations

Qualitative methods have the potential to generate unique in-depth understanding of an issue. In this study, interviewees' narratives produced nuanced insights into how different ways of working impacted on the lived experiences of health professionals, care home staff and residents. The findings have relevance to anyone organising and delivering primary care with care homes and implementing new ways of working in an English context. However, these methods are not intended to produce findings that are definitive or generalisable. The sampling framework covered three areas with wide-ranging geographical, sociodemographic, cultural and ethnic diversity. Our interviewees were drawn from urban and town environments, and rural areas that were both affluent and disadvantaged. Two of the areas had had new ways of working introduced under the NHS England Vanguard programme, while the third had experienced no systematic changes in delivery of primary care. In practice, we found great heterogeneity in ways of working within all three areas, with no discernible difference in the extent of systematic change in the Vanguard areas. This presented an opportunity to explore how individual care homes and general practices fared in the presence and absence of commissioner-led change. The similarity of perceptions and experiences between different areas was a useful finding. The original study intent, to consider the geographical footprints of CCGs as case study areas, had been based on an optimistic expectation of how the Vanguard initiatives would be accepted and implemented on the ground.

We attempted to identify a typology of general practice characteristics that were associated with ways of working to enhance quality of care. Practice size proved to be an overwhelmingly influential factor. This finding has implications for future care planning (see below), but it is less helpful for targeting training or quality improvement initiatives. The typology had limited utility as a variable for analysis of quantitative data. Practice size is reliably measured, readily available and understood. But as the care home workload varies widely between practices, we employed a measure of the number of registered care home residents in our quantitative analysis.

A majority of our qualitative interviews were with staff from general practices and care homes, along with residents and relatives. We chose to take the key findings to commissioners for discussion, as our previous experience is that corporate responsibility and loyalties may inhibit frank discussion of problems within a formal interview. This is particularly a concern if there are limitations to the way in which new ways of working have been implemented. In

this case, our decision not to record the conversations or impose a rigid structure appeared to promote reflection and honest disclosure. We were able to test out our findings and ensure we had considered all the relevant implications for commissioners. However, we acknowledge that in doing this, we have not presented a standard qualitative analysis of commissioners' views.

Our qualitative and quantitative studies are not coterminous as planned. The original proposal was predicated on the reforms outlined in the Vanguard programme, (and subsequent EHCH framework) being implemented. Emerging evidence confirmed that this varied widely between areas. Our quantitative analysis presents a broader but less detailed analysis than originally planned. However, it was designed to capture changes emerging from early implementation of EHCH. COVID-19 was associated with missing or inaccurate data are an accepted limitation of primary care data set analyses. However, in this case, we were able to employ a large sample, which ameliorates some of these issues. The analysis presented can form the basis of future more detailed work, particularly to scrutinise the costs of care and where they fall. Work that examines data over a longer time frame takes into account hospital admissions from care homes, and the impact on the ambulance system, would be particularly helpful.

Implications for practice

Recognise the importance of relationships

Our findings suggest that good care and outcomes for care home residents may lie in a focus on relationships, and models of care that enable effective working relationships to thrive. This finding is unlikely to surprise front-line workers in health and care and complements the increasing body of evidence that emphasises the importance of human factors in service improvement and development. It challenges the emphasis on reorganisation and innovation as a route to effectiveness and efficiency, which has long been a feature of NHS reform. The question for service commissioners and providers will be how to resource the prioritisation of relational working, with staff time likely to be a particular challenge.

Training of health professionals

The importance of relationships and respect to staff expertise point to a need to develop primary care expertise and interest in care home health. Care home work is distinct from other aspects of primary care, and it will not be of interest to every practitioner. Developing a motivated healthcare workforce for care homes, skilled in caring for older adults with multiple long-term conditions and frailty, should be a priority. Training of professionals who see care home health care as rewarding and intellectually challenging starts in universities. Undergraduate teaching and placements in care homes for student doctors and nurses have a role to play. Introducing professionals to the potential of care home health care at an early stage of their career may increase the numbers who make a positive choice to work in this area. Bespoke training for GPs who will take a special interest in care homes and a career pathway for nurses in care homes are both long-term approaches likely to further enhance health in care homes. The Royal Colleges (of Nursing and General Practice) could play an important role in defining training needs, and consider joint working, to develop a co-ordinated approach.

Primary care networks and integrated care systems

Continuity of care from primary care professionals allows relationships to develop. Our findings suggest that designating individuals for specific care homes and allowing protected time can be helpful. This study also suggested that this works best when healthcare professionals have an interest in, and empathy for, residents and staff. This may be easier to organise with a larger staff. We also know that size of practice is also associated with other ways of working that may produce better quality of care. As primary care networks become established in England, they may offer the critical mass of personnel that will facilitate specialisation and allow allocation of staff to specific activities of interest, such as care home visits and multidisciplinary team meetings.

Scheduled visits for care homes

Scheduling regular visits is widely perceived as a way of enhancing the quality of health care for care homes. This study suggests that this intervention has potential to introduce efficiencies into care delivery and it is generally well received

by homes. However, it is important to ensure there are shared expectations of any changes in services. The influence of an individual practitioner's professional expertise and demeanour remain important.

Communication

Implementation of change

Our findings support a considered approach to implementation of new initiatives. Ongoing evaluation of the process of embedding an intervention into practice is essential, including scrutiny of the intended and unintended consequences. Telemedicine, for example, may reduce the need for GPs to visit care homes, particularly out of hours. However, it can increase care home staff workload if they are drawn away from their usual duties. Critical reflection during implementation would allow time for local adaptation of the intervention and define the need for any necessary training. This would require funding of evaluation and the flexibility to respond to its findings.

Multidisciplinary working

This study suggests a lack of awareness within care homes of the potential benefits of pharmacist input. However, it is also possible that our interviewees' narratives reflected care homes' lack of influence on the location and actions of NHS pharmacy staff. Medication management already has many complexities. As multiple long-term conditions become the norm in later life, polypharmacy is likely to rise in parallel. Pharmacists are being introduced into primary care in a systematic way, and it will be important that time is allocated for them to work with care homes, where appropriate.

Recommendations for research

Research into promotion of relational working between care homes and primary care

Drawing the different components of this study together, it is clear that promotion of relational care across health and social care has potential to enhance outcomes for care home residents. This and previous work have identified factors that are required for relational working to thrive. Future research could usefully identify the most effective approaches to sustaining the required context, attitudes and values, in the dynamic environment of primary care networks and integrated care systems. Evidence synthesis research, with an evidence gap-map, would be a useful starting point.

Implementation research

This study suggests that there is a need for a greater understanding of how to introduce change into the complex setting of primary care for care homes. Unintended consequences of new initiatives, and a failure to take into account the human relationships involved are important but often overlooked challenges. Innovation that is taken up enthusiastically by a subset of the community may flounder when it is rolled out to other practices and care homes, with different interests and challenges. General principles to guide implementation already exist. This study suggests that there may be a place for the evidence to be synthesised to produce a practical toolkit for health and care home organisations embarking on service redesign.

Methods: greater use of ethnographic methods

General practices and care homes are small, autonomous organisations, with ways of working that have often developed over years. Both are businesses, dependent on securing the trust of their current and future clients. For all of these reasons and others, insights into the way in which these organisations work may be particularly difficult to obtain with standard qualitative interviews. Staff may be reluctant to reveal perceived flaws in their work or organisation or keen to present their colleagues in a good light. Ethnographic methods offer an approach that allows the researcher to observe what is happening day to day and develop a deep and nuanced understanding of the workings of complex and impenetrable organisations. Greater acceptance of the value of ethnography by research ethics and research governance committees is needed to facilitate more widespread use of the approach in primary care and care homes. In care homes, in particular, where the routines of the day are dominant and the staff pivot around the continuous presence of the residents, ethnography could offer insights into feelings, perceptions and experiences that are not articulated.

A whole systems approach

The data presented in this study emphasise the needs for a whole systems approach to evaluative research in primary care and care homes. A change in one aspect of working leads to planned and unexpected consequences in other parts of the system. Studies of the impact of different ways of working on health, well-being and efficiency, need to look broadly across the system.

Care pathways

This study identified a lack of guidance or care pathways specific to care home residents, either for general practice or for care home use. Whether the complexities of older adult care can be safely incorporated into general guidance is an important question. However, our findings suggest that this is a void that will be filled by measures from secondary care (such as the national early warning score). Researchers could usefully address the question of whether care pathways or best practice guidance would improve the outcomes and efficiency of resident care and be feasible to develop.

Equality, diversity and inclusion statement

This research was entirely focused on an underserved population. Older adult care home residents are overlooked, seldom included in research, and subject to high levels of stigma and stereotyping. Study participants were drawn from this group, their family and professional carers. Recruitment to our qualitative study was focused on three specific geographical areas. We did not impose any criteria for ethnicity or socioeconomic status but relied on care homes to support us to recruit a range of participants with different characteristics. This is a pragmatic response to the challenge of recruiting to research projects within care homes. The care home population in England lacks some diversity, with poor representation of some ethnic minority groups. This study aims to enhance care in care homes, which may in the longer term, increase access to care homes across the population.

The research team on this project included many female researchers, but no members of other underrepresented groups. We recruited on merit, and no members of underrepresented groups applied for the research posts. The participants and members of the public involved were not selected to be representative of the care home population, but they all had relevant experience and brought novel perspectives and insights to the work.

Additional information

Contribution of authors

Barbara Hanratty (https://orcid.org/0000-0002-3122-7190) Professor of Primary Care and Public Health. Had the idea for the study and was involved in design, data analysis and writing the first draft of this report.

Rachel Stocker (https://orcid.org/0000-0002-8189-2746) Research Associate/Lecturer. Collected and analysed data, designed the survey, drafted sections of this report.

David Sinclair (https://orcid.org/0000-0002-3468-7475) Senior Research Associate. Contributed to data analysis and report drafting.

Katie Brittain (https://orcid.org/0000-0002-3889-7357) Professor of Social Gerontology. Was involved in design, data analysis and drafting sections of this report.

Karen Spilsbury (https://orcid.org/0000-0002-6908-0032) Professor of Nursing Research. Was involved in design, data analysis and drafting sections of this report.

Daniel Stow (https://orcid.org/0000-0002-9534-4521) Research Associate. Analysed survey data and contributed to report drafting.

Louise Robinson (https://orcid.org/0000-0003-0209-2503) Professor of Primary Care Ageing. Was involved in design and overseeing data analysis and report drafting.

Fiona E Matthews (https://orcid.org/0000-0002-1728-2388) Professor of Epidemiology. Was involved in study design and overseeing quantitative data analysis and report drafting.

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Data-sharing statement

All data requests should be submitted to the corresponding author for consideration. Access to available anonymised data may be granted following review.

Ethics statement

The study was approved by the ethical review board of Newcastle University (Ref: 6207/2016). The Health Research Authority considered the protocol and advised that they would consider this study to be service evaluation and it did not require research governance approvals. Ethical approval was granted by the Health Research Authority on 1 March 2017, reference number 17/SC/0076. Sponsorship and insurances were provided by Newcastle University. Research

governance approvals were awarded by the local NHS Research and Development organisations spanning over the three Clinical Research Networks, and nine Clinical Commissioning Groups, covering the three geographical areas in this study. Approval for use of CPRD data eRAP reference 23_003024.

Information governance statement

Newcastle University is committed to handling all personal information in line with the UK Data Protection Act (2018) and the General Data Protection Regulation (EU GDPR) 2016/679. Under the Data Protection legislation, Newcastle University is the Data Controller, and you can find out more about how we handle personal data, including how to exercise your individual rights and the contact details for our Data Protection Officer here (www.ncl.ac.uk/data.protection).

Disclosure of interests

***Full disclosure of interests*:** Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at https://doi.org/10.3310/YNDV6358.

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References

1. Purdy S. *Avoiding Hospital Admissions. What Does the Research Evidence Say?* London: The King's Fund; 2010.
2. NHS. *Five Year Forward View*. London: Stationery Office; 2014.
3. NHS. *NHS Long Term Plan*. London: Stationery Office; 2019.
4. Gordon AL, Goodman C, Davies SL, Dening T, Gage H, Meyer J, *et al.* Optimal healthcare delivery to care homes in the UK: a realist evaluation of what supports effective working to improve healthcare outcomes. *Age Ageing* 2018;**47**:595–603. https://doi.org/10.1093/ageing/afx195
5. NHS England. *The Framework for Enhanced Health in Care Homes*. London: Stationery Office; 2016.
6. Competition and Markets Authority. *Care Home Market Study Summary of Final Report*. London; 2017. URL: https://assets.publishing.service.gov.uk/media/5a1fdf30e5274a750b82533a/care-homes-market-study-final-report.pdf (accessed 26 July 2024).
7. Jarrett T. *Social Care: Care Home Market – Structure, Issues, and Cross-Subsidisation*. London: House of Commons Library; 2018.
8. Care Quality Commission. *Care Quality Commission: What Do We Do*. 2019. URL: www.cqc.org.uk/what-we-do (accessed 1 December 2022).
9. Forder J, Fernandez JL. *Length of Stay in Care Homes*. Report commissioned by Bupa Care Services, PSSRU discussion paper 2769. Canterbury: PSSRU; 2011.
10. Carter C. *Failing the Frail: A Chaotic Approach to Commissioning Healthcare Services for Care Homes*. London: British Geriatrics Society; 2011.
11. Patterson M. *Postcode Tariff: PCTs and GP Retainers in Care Homes*. London: English Community Care Association; 2010.
12. Jacobs S. Addressing the problems associated with general practitioners' workload in nursing and residential homes: findings from a qualitative study. *Br J Gen Pract* 2003;**53**:113–9.
13. Luppa M, Luck T, Weyerer S, König HH, Brähler E, Riedel-Heller SG. Prediction of institutionalization in the elderly. A systematic review. *Age Ageing* 2010;**39**:31–8. https://doi.org/10.1093/ageing/afp202
14. McCann M, O'Reilly D, Cardwell C. A Census-based longitudinal study of variations in survival amongst residents of nursing and residential homes in Northern Ireland. *Age Ageing* 2009;**38**:711–7. https://doi.org/10.1093/ageing/afp173
15. Gordon AL, Franklin M, Bradshaw L, Logan P, Elliott R, Gladman JRF. Health status of UK care home residents: a cohort study. *Age Ageing* 2014;**43**:97–103. https://doi.org/10.1093/ageing/aft077
16. Bowman C, Whistler J, Ellerby M. A national census of care home residents. *Age Ageing* 2004;**33**:561–6. https://doi.org/10.1093/ageing/afh177
17. Shah SM, Carey IM, Harris T, DeWilde S, Cook DG. Mortality in older care home residents in England and Wales. *Age Ageing* 2013;**42**:209–15. https://doi.org/10.1093/ageing/afs174
18. Forder J, Fernández JL. *Length of Stay in Care Homes*. PSSRU discussion paper 2769. London: PSSRU; 2011.
19. Groom L, Avery AJ, Boot D, O'Neill C, Thornhill K, Brown K, Jones R. The impact of nursing home patients on general practitioners' workload. *Br J Gen Pract* 2000;**50**:473–6.
20. O'Neill C, Groom L, Avery AJ, Boot D, Thornhill K. Variations in GP nursing home patient workload: results of a multivariate analysis. *Public Health* 2000;**114**:446–50.
21. Pell J, Williams S. Do nursing home residents make greater demands on GPs? A prospective comparative study. *Br J Gen Pract* 1999;**49**:527–30.

22. Rothera I, Jones R, Harwood R, Avery A, Waite J. General practitioner contacts with older residents in nursing and residential homes. *Eur J Gen Pract* 2003;**9**:141–2.

23. Smith P, Sherlaw-Johnson C, Ariti C, Bardsley M. *Quality Watch Focus On: Hospital Admissions from Care Homes*. London: The Nuffield Trust/Health Foundation; 2015.

24. Gage H, Dickinson A, Victor C, Williams P, Cheynel J, Davies SL, *et al.* Integrated working between residential care homes and primary care: a survey of care homes in England. *BMC Geriatr* 2012;**12**:71. https://doi.org/10.1186/1471-2318-12-71

25. Sherlaw-Johnson C, Crump H, Curry N, Paddison C, Meaker R. *Transforming Health Care in Nursing Homes: An Evaluation of a Dedicated Primary Care Service in Outer East London*. London: Nuffield Trust; 2018.

26. Lloyd T, Wolters A, Steventon A. *The Impact of Providing Enhanced Support for Care Home Residents in Rushcliffe: Health Foundation Consideration of Findings from the Improvement Analytics Unit*. London: The Health Foundation; 2017.

27. Glendinning C, Jacobs S, Alborz A, Hann M. A survey of access to medical services in nursing and residential homes in England. *Br J Gen Pract* 2002;**52**:545–8.

28. British Geriatric Society. *Quest for Quality: Joint Working Party Inquiry into the Quality of Health Care Provision for Older People in Care Homes*. London: British Geriatrics Society; 2011.

29. Goodman C, Dening T, Gordon AL, Davies SL, Meyer J, Martin FC, *et al.* Effective health care for older people living and dying in care homes: a realist review. *BMC Health Serv Res* 2016;**16**:269. https://doi.org/10.1186/s12913-016-1493-4

30. Care Quality Commission. *Health Care in Care Homes. A Special Review of the Provision of Health Care to Those in Care Homes*. London: Care Quality Commission; 2012.

31. Baird B, Charles A, Honeyman M, Maguire D, Das P. *Understanding Pressures in General Practice*. London: King's Fund; 2016.

32. NHS Digital. *General and Personal Medical Services. England: Final 31 December 2017 and Provisional 31 March 2018, Experimental Statistics*. London: Stationery Office; 2018.

33. Hobbs FDR, Bankhead C, Mukhtar T, Stevens S, Perera-Salazar R, Holt T, Salisbury C; National Institute for Health Research School for Primary Care Research. Clinical workload in UK primary care: a retrospective analysis of 100 million consultations in England, 2007–14. *Lancet* 2016;**387**:2323–30. https://doi.org/10.1016/S0140-6736(16)00620-6

34. Office of National Statistics. *Subnational Population Projections for England: 2014-Based Projections*. 2016. URL: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/adhocs/0065522014basedsubnationalpopulationprojections (accessed 19 June 2024).

35. Kingston A, Wohland P, Wittenberg R, Robinson L, Brayne C, Matthews FE, Jagger C; Cognitive Function and Ageing Studies collaboration. Is late-life dependency increasing or not? A comparison of the cognitive function and ageing studies (CFAS). *Lancet* 2017;**390**:1676–84. https://doi.org/10.1016/S0140-6736(17)31575-1

36. Victor C, Davies S, Dickinson A, Morbey H, Masey H, Gage H, *et al.* 'It just happens'. Care home residents' experiences and expectations of accessing GP care. *Arch Gerontol Geriatr* 2018;**79**:97–103. https://doi.org/10.1016/j.archger.2018.08.002

37. Elias T, Lowton K. Do those over 80 years of age seek more or less medical help? A qualitative study of health and illness beliefs and behaviour of the oldest old. *Sociol Health Illn* 2014;**36**:970–85. https://doi.org/10.1111/1467-9566.12129

38. Condelius A, Andersson M. Exploring access to care among older people in the last phase of life using the behavioural model of health services use: a qualitative study from the perspective of the next of kin of older persons who had died in a nursing home. *BMC Geriatr* 2015;**15**:138. https://doi.org/10.1186/s12877-015-0126-9

39. Froggatt K, Hockley J, Parker D, Brazil K. A system lifeworld perspective on dying in long term care settings for older people: contested states in contested places. *Health Place* 2011;**17**:263–8. https://doi.org/10.1016/j.healthplace.2010.11.001

40. Goodman C, Davies SL, Dickinson A, Gage H, Froggatt K, Morbey H, *et al. A Study to Develop Integrated Working Between Primary Health Care Services and Care Homes: NIHR Service Delivery and Organisation Programme*. NIHR Service Delivery and Organisation Programme; 2013.

41. Devi R, Meyer J, Banerjee J, Goodman C, Gladman JRF, Dening T, *et al.* Quality improvement collaborative aiming for Proactive HEAlthcare of Older People in Care Homes (PEACH): a realist evaluation protocol. *BMJ Open* 2018;**8**:e023287. https://doi.org/10.1136/bmjopen-2018-023287

42. Chadborn NH, Goodman C, Zubair M, Sousa L, Gladman JRF, Dening T, Gordon AL. Role of comprehensive geriatric assessment in healthcare of older people in UK care homes: realist review. *BMJ Open* 2019;**9**:e026921. https://doi.org/10.1136/bmjopen-2018-026921

43. Health Research Authority. *The LPZ and UK Care Homes (LaUNCH) Study*. 2019. URL: www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/the-lpz-and-uk-care-homes-launch-study/ (accessed 1 December 2022).

44. British Geriatrics Society. *Quest for Quality: British Geratrics Society Joint Working Party Inquiry into the Quality of Healthcare Support for Older People in Care Homes: A Call for Leadership, Partnership and Quality Improvement*. London: British Geriatrics Society; 2011.

45. Care Quality Commission. *The State of Health Care and Adult Social Care in England*. London: Care Quality Commission; 2014.

46. British Geriatrics Society. *Failing the Frail: A Chaotic Approach to Commissioning Healthcare Services for Care Homes*. London: British Geriatrics Society; 2011.

47. Robbins I, Gordon A, Dyas J, Logan P, Gladman J. Explaining the barriers to and tensions in delivering effective healthcare in UK care homes: a qualitative study. *BMJ Open* 2013;**3**:e003178. https://doi.org/10.1136/bmjopen-2013-003178

48. van de Pol MHJ, Fluit CRMG, Lagro J, Niessen D, Rikkert MGMO, Lagro-Janssen ALM. Quality care provision for older people: an interview study with patients and primary healthcare professionals. *Br J Gen Pract* 2015;**65**:e500–7. https://doi.org/10.3399/bjgp15X686065

49. Iliffe S, Davies SL, Gordon AL, Schneider J, Dening T, Bowman C, *et al.* Provision of NHS generalist and specialist services to care homes in England: review of surveys. *Prim Health Care Res Dev* 2016;**17**:122–37. https://doi.org/10.1017/S1463423615000250

50. Davies SL, Gordon AL, Dening T, Gage H, Meyer J, *et al.* Optimal NHS service delivery to care homes: a realist evaluation of the features and mechanisms that support effective working for the continuing care of older people in residential settings. *Health Serv Deliv Res* 2017;**5**:29. https://doi.org/10.3310/hsdr05290

51. Oliver D. 21st century health services for an ageing population: 10 challenges for general practice. *Br J Gen Pract* 2012;**62**:396–7. https://doi.org/10.3399/bjgp12X653435

52. RCGP. *An Inquiry into Patient Centred Care in the 21st Century, Implications for General Practice and Primary Care. Report of an Independent Inquiry*. London: RCGP; 2014.

53. Longley CE, Maurice A. Has the provision of a GP led local enhanced service to a nursing home reduced hospital admissions? A complete audit cycle from Eastern Cheshire. *Age Ageing* 2014;**43**:i2. https://doi.org/10.1093/ageing/afu036.7

54. HRA. *Mental Capacity Act NHS HRA*. 2021. URL: https://www.hra.nhs.uk/planning-and-improving-research/policies-standards-legislation/mental-capacity-act/ (accessed 26 July 2024).

55. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;**3**:77–101. https://doi.org/10.1191/1478088706qp063oa

56. VOICE. *Valuing Our Intellectual Capital and Experience: Newcastle University*. 2017. URL: www.ncl.ac.uk/nica/voice/2019 (accessed 1 December 2022).
57. Kaufman L, Rousseeuw P. *Finding Groups in Data: An Introduction to Cluster Analysis*. New York: Wiley; 1990.
58. Everitt B, Landau S, Leese M, Stahl D. *Cluster Analysis*. 5th edn. New York: Wiley; 2011.
59. White IR, Royston P, Wood AM. Multiple imputation using chained equations: issues and guidance for practice. *Stat Med* 20112011;**30**:377–99. https://doi.org/10.1002/sim.4067
60. Fernández A, Gómez S. Solving non-uniqueness in agglomerative hierarchical clustering using multidendrograms. *J Classif* 2008;**25**:43–65. https://doi.org/10.1007/s00357-008-9004-x
61. Greenhalgh T. Role of routines in collaborative work in healthcare organisations. *Br Med J* 2008;**337**:a2448. https://doi.org/10.1136/bmj.a2448
62. Stocker R, Brittain K, Spilsbury K, Hanratty B. Patient and public involvement in care home research: reflections on the how and why of involving patient and public involvement partners in qualitative data analysis and interpretation. *Health Expect* 2021;**24**:1349–56. https://doi.org/10.1111/hex.13269
63. Watkins R, Goodwin VA, Abbott RA, Backhouse A, Moore D, Tarrant M. Attitudes, perceptions and experiences of mealtimes among residents and staff in care homes for older adults: a systematic review of the qualitative literature. *Geriatr Nurs* 2017;**38**:325–33. https://doi.org/10.1016/j.gerinurse.2016.12.002
64. Barber ND, Alldred DP, Raynor DK, Dickinson R, Garfield S, Jesson B, *et al.* Care homes' use of medicines study: prevalence, causes and potential harm of medication errors in care homes for older people. *Qual Saf Health Care* 2009;**18**:341–6. https://doi.org/10.1136/qshc.2009.034231
65. Care Quality Commission. *Guidance About Compliance: Essential Standards of Quality and Safety*. London: Care Quality Commission; 2010.
66. Gulliford MC, Prevost AT, Clegg A, Rezel-Potts E. Mortality of care home residents and community-dwelling controls during the COVID-19 pandemic in 2020: matched cohort study. *J Am Med Dir Assoc* 2022;**23**:923–9.e2. https://doi.org/10.1016/j.jamda.2022.04.003
67. Curtis L, Burns A. *Unit Costs of Health and Social Care*. Canterbury: Personal Social Services Research Unit, University of Kent; 2020. https://doi.org/10.22024/UniKent/01.02.84818
68. Royal College of General Practitioners. *The Power of Relationships: What Is Relationship-Based Care and Why Is It Important?* London: Royal College of General Practitioners; 2021.
69. Gopinath M, de Lappe J, Kartupelis J, Larkin M, Wilson A. *The Value and Practice of Relational Care with Older People: A Research Report by the Open University*. Milton Keynes: The Open University; 2023.
70. Karimi-Shahanjarini A, Shakibazadeh E, Rashidian A, Hajimiri K, Glenton C, Noyes J, *et al.* Barriers and facilitators to the implementation of doctor-nurse substitution strategies in primary care: a qualitative evidence synthesis. *Cochrane Database Syst Rev* 2019;**4**:CD010412.
71. Laurant M, van der Biezen M, Wijers N, Watananirun K, Kontopantelis E, van Vught AJ. Nurses as substitutes for doctors in primary care. *Cochrane Database Syst Rev* 2018;**7**:CD001271.
72. Barker RO, Stocker R, Russell S, Hanratty B. Future-proofing the primary care workforce: a qualitative study of home visits by emergency care practitioners in the UK. *Eur J Gen Pract* 2021;**27**:68–76. https://doi.org/10.1080/13814788.2021.1909565
73. Hollinghurst J, Lyons J, Fry R, Akbari A, Gravenor M, Watkins A, *et al.* The impact of COVID-19 on adjusted mortality risk in care homes for older adults in Wales, UK: a retrospective population-based cohort study for mortality in 2016–2020. *Age Ageing* 2020;**50**:25–31. https://doi.org/10.1093/ageing/afaa207
74. Comas-Herrera A, Zalakaín J, Lemmon E, Henderson D, Litwin C, Hsu AT, *et al. Mortality Associated with COVID-19 in Care Homes: International Evidence*. ltccovid.org, International Long-Term Care Policy Network, CPEC-LSE.

2021. URL: https://ltccovid.org/wp-content/uploads/2021/02/LTC_COVID_19_international_report_January-1-February-1-2.pdf (accessed 19 June 2024).

75. Gordon AL, Goodman C, Achterberg W, Barker RO, Burns E, Hanratty B, *et al.* Commentary: COVID in care homes–challenges and dilemmas in healthcare delivery. *Age Ageing* 2020;**49**:701–5. https://doi.org/10.1093/ageing/afaa113

76. Fraser S, Lagacé M, Bongué B, Ndeye N, Guyot J, Bechard L, *et al.*; CCNA Social Inclusion and Stigma Working Group. Ageism and COVID-19: what does our society's response say about us? *Age Ageing* 2020;**49**:692–5. https://doi.org/10.1093/ageing/afaa097

77. Muller CA, Fleischmann N, Cavazzini C, Heim S, Seide S, Geister C, *et al.* Interprofessional collaboration in nursing homes (interprof): development and piloting of measures to improve interprofessional collaboration and communication: a qualitative multicentre study. *BMC Fam Pract* 2018;**19**:14. https://doi.org/10.1186/s12875-017-0678-1

78. Starling A. *Some Assembly Required: Implementing New Models of Care*. London: The Health Foundation; 2017.

79. Improvement Analytics Unit. *The Impact of Providing an Enhanced Package of Care for Care Home Residents in Nottingham City*. London: The Health Foundation; 2017.

80. Maniatopoulos G, Hunter D, Erskine J, Hudson B, Gray J, McMeekin P, McCarthy A. *North East Vanguards Programme: Final Evaluation Report*. Newcastle upon Tyne: NECSU; 2017.

81. Warmoth K, Goodman C. Models of care and relationships with care homes: cross-sectional survey of English general practices. *Int J Environ Res Public Health* 2022;**19**:14774. https://doi.org/10.3390/ijerph192214774

82. Baylis A, Perks-Baker S. *Enhanced Health in Care Homes*. London: King's Fund; 2017.

83. Stocker R, Bamford C, Brittain K, Duncan R, Moffatt S, Robinson L, Hanratty B. Care home services at the vanguard: a qualitative study exploring stakeholder views on the development and evaluation of novel, integrated approaches to enhancing healthcare in care homes. *BMJ Open* 2018;**8**:e017419. https://doi.org/10.1136/bmjopen-2017-017419

84. Scott A, Sivey P, Ait Ouakrim D, Willenberg L, Naccarella L, Furler J, Young D. The effect of financial incentives on the quality of health care provided by primary care physicians. *Cochrane Database Syst Rev* 2011:CD008451. https://doi.org/10.1002/14651858.CD008451.pub2

85. Marshall M, Harrison S. It's about more than money: financial incentives and internal motivation. *Qual Saf Health Care* 2005;**14**:4–5. https://doi.org/10.1136/qshc.2004.013193

86. Minchin M, Roland M, Richardson J, Rowark S, Guthrie B. Quality of care in the United Kingdom after removal of financial incentives. *N Engl J Med* 2018;**379**:948–57. https://doi.org/10.1056/NEJMsa1801495

87. Cameron A, Lart R, Bostock L, Coomber C. Factors that promote and hinder joint and integrated working between health and social care services: a review of research literature. *Health Soc Care Community* 2014;**22**:225–33. https://doi.org/10.1111/hsc.12057

88. Davies SL, Goodman C, Bunn F, Victor C, Dickinson A, Iliffe S, *et al.* A systematic review of integrated working between care homes and health care services. *BMC Health Serv Res* 2011;**11**:320. https://doi.org/10.1186/1472-6963-11-320

89. Hanratty, B, Craig, D, Brittain, K, Spilsbury K, Vines J, Wilson P. Innovation to enhance health in care homes and evaluation of tools for measuring outcomes of care: rapid evidence synthesis. *Health Serv Deliv Res* 2019;**7**:1–178. https://doi.org/10.3310/hsdr07270

Appendix 1 Literature searches

We utilised the searches and search strategies developed for a previous NIHR-funded evidence synthesis project on care homes. They are reproduced in detail in Hanratty *et al.*[89] In addition, we had identified relevant literature while contributing to a proposal and preparatory work for the early stages of a recently funded NIHR project to develop a minimum data set for care homes (Goodman *et al.*). Developing research resources and minimum data set for Care Homes' Adoption and use (the **DACHA** study).

As a literature review was not a specific component of this project, no further literature searches were judged to be needed.

Appendix 2 Medications in care homes: extended analysis

This abstract relates to an analysis that did not directly address any of the research questions. It been submitted for peer reviewed publication.

Abstract

Background
An average care home resident has six medical diagnoses and takes eight prescribed medications per day. Ensuring safe management of medications for care home residents is essential for resident and staff well-being.

Objective
To explore the influences on, and practices of medication management in care home.

Design
Qualitative interview study with care home residents, relatives, managers, nurses and care assistants; general practitioners, nurse practitioners and administrative staff. Data from 97 interviews were analysed thematically.

Setting
Care homes and general practices in three areas of England.

Findings
Four themes were identified from the data: dependence on the National Health Service; internal influences on medication management and safety; empowering residents; and pharmacists in care homes. Working with National Health Service prescribers presented many challenges, but communication of changes to medication regimes was by far the most common. Robust care home processes could falter, waiting for timely responses from other services. Empowering residents to manage their own medication was uncommon, but demand for this also appeared to be limited. Gaps that could be filled by pharmacists in care homes emerged from the interviews, though they were seldom raised by care home or primary care staff.

Conclusions
Finding ways to enhance communication about medications and standardise protocols and practices would benefit care homes and residents. This study supports moves to increase pharmacist input into care homes but suggests that work is needed to increase understanding of their potential contribution.

Appendix 3 Public and patient involvement in care home research: reflections on the *how* and *why* of involving patient and public involvement partners in qualitative data analysis and interpretation

A peer-reviewed article on our patient and public involvement work has been published in the journal *Health Expectations*.[62]

Abstract

Background

Evidence for the impact of involving patient and public involvement in health and social care studies is limited. Descriptions of the process of patient and public involvement are seldom included in publications, yet understanding of an intervention is essential, if it is to be evaluated.

Objective

To describe the 'how, where and when' of patient and public involvement in a qualitative data analysis case study, and critically reflect on how these data could be used to develop a measure of impact.

Methods

Formation of a topic specific research interest group and conduct of collaborative qualitative data analysis workshops with patient and public involvement.

Results

An open access patient and public involvement group, with multiple events over time, sustained interest in our topic from a broad constituency. Within a qualitative case study project, recordings of interview clips, role-play and written summaries of themes were used in a workshop setting to facilitate patient and public involvement in data analysis. patient and public involvement resulted in changes to data interpretation and was perceived by participants to be a way of making the research process accessible. We reflect on the challenge of judging the benefits of patient and public involvement, and presenting patient and public involvement in research publications for critical commentary, without blurring the boundaries between patient and public involvement and research.

Conclusions

More explicit guidance for researchers is needed on approaches to patient and public involvement, including appropriate levels and methods for evaluation. Without a more systematic approach, we argue that it is impossible to know whether patient and public involvement represents good use of resources and is generating a real impact.

Appendix 4 Analysis of survey responses

TABLE 11 Number of clusters based on Calinski–Harabasz

	Pseudo-F	
Number of clusters	Average linkage	Weighted average linkage
2	26.65	23.75
3	18.32	25.16
4	21.95	20.40
5	17.58	18.58
6	22.10	21.88
7	21.72	19.98
8	21.98	19.26
9	20.23	17.37
10	18.82	17.73
11	19.56	16.94
12	19.27	18.12
13	18.86	19.59
14	18.68	19.67
15	17.82	19.38

TABLE 12 Formation of clusters of practices based on survey responses

	Average linkage, 2 clusters				Weighted average linkage, 2 clusters				Weighted average linkage, 3 clusters					
	Cluster 1		Cluster 2		Cluster 1		Cluster 2		Cluster 1		Cluster 2		Cluster 3	
Data items	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
> 5 GPs	48	53	18	51	13	21	53	83	0	0	13	39	53	83
Scheduled visits	33	36	33	94	22	35	44	70	1	3	21	62	44	70
At least one visit per week	54	72	24	86	31	62	47	89	12	63	19	61	47	89
Multidisciplinary teams attended	13	15	24	75	6	11	31	51	4	17	2	6	31	51
Other staff involved	63	68	24	69	29	46	58	91	29	100	0	0	58	91
Local enhanced payment	15	19	27	84	16	29	26	46	6	23	10	34	26	46
Prescribing technology used	12	13	20	61	15	24	17	27	8	29	7	21	17	27

Note
Responses linked to markers of good-quality care from average and weighted average linkages.

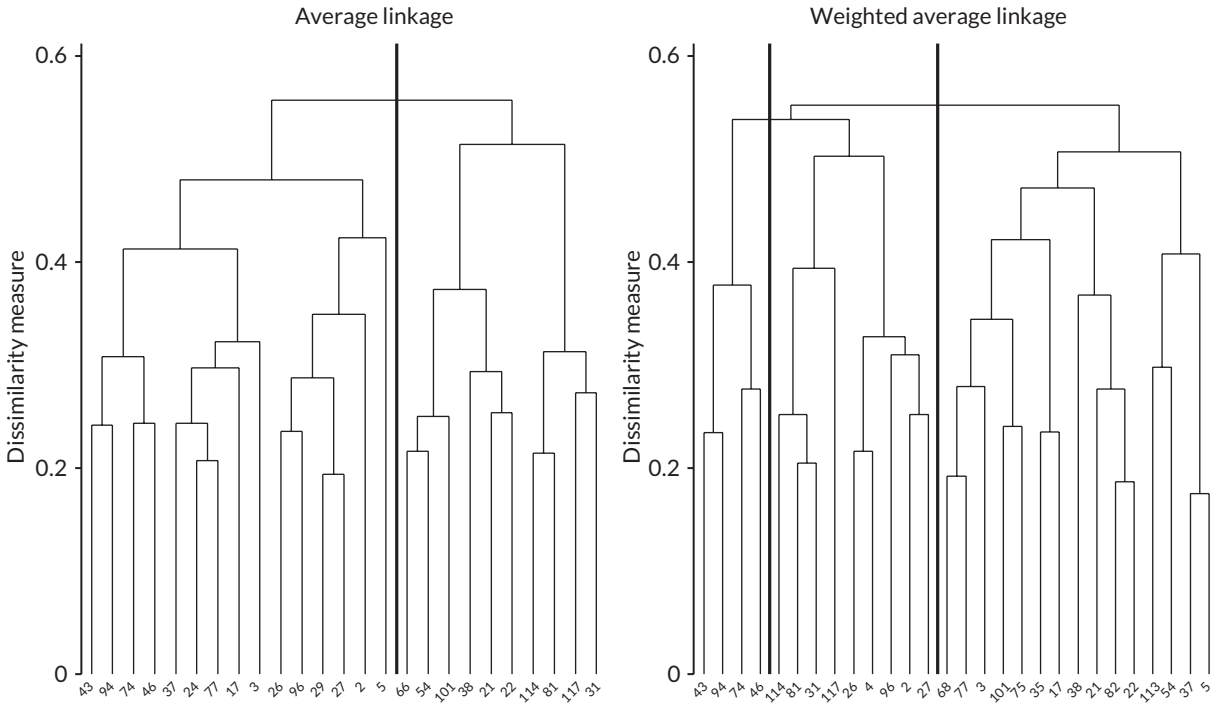

FIGURE 1 Dendrogram[a] of average and weighted average linkages. Each displays the first 25 nodes, representing the practice identification codes. [a]This dendrogram aims to provide a visual representation of the arrangement of the clusters. The stacked branches (known as clades) break down into smaller branches. At the end of the clave, the 'leaves' represent the data. The arrangement of the clades shows how similar they are to each other (i.e. we would expect two leaves in the same clade should be more similar to two leaves from different clades). The *y*-axis (height of the branch) shows how close clusters are from one another. The taller the branch, the further and more different are the clusters.

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