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A qualitative exploration of the clinical presentation, trajectory, management and recovery of COVID-19 in older people: Learning from frontline staff experiences

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Abstract

COVID-19 had a devastating impact on older people living in care homes. This study explored the clinical trajectory and management of COVID-19, as well as recovery of older people following infection during the early stages of the pandemic (May to August 2020). A two-phase exploratory qualitative study was used. Frontline staff with experience of caring for older people with COVID-19 were recruited to Phase 1, and senior care home operational and quality managers were recruited to Phase 2. During Phase 1 remote semi-structured interviews ($n = 35$) were carried out with staff working in care homes, hospital and community settings in England. During Phase 2, a remote consultation event was carried out with senior care home operational and quality managers ($n = 11$) to share Phase 1 findings and check resonance, relevance and gaps. Data were analysed using Framework Analysis. Older people with COVID-19 presented with wide ranging symptoms, and an unpredictable illness trajectory. The wide range of COVID-19 symptoms required timely testing and supportive interventions. Staff used different interventions to manage symptoms and reported uncertainties of how individuals would respond. In care home settings, health and social care staff needed to work together when administering interventions such as subcutaneous fluids or oxygen therapy. Alongside symptom management, supportive care focused on nutrition and hydration, social interaction, and maintaining physical activity to meet both physical and emotional needs. The effects of prolonged periods of social isolation and inactivity on the health and well-being of older people means rehabilitation is essential to enhance physical and emotional recovery, and to minimise impacts on cognition and function. The pandemic highlighted important areas for care of this population.

KEYWORDS

care home, COVID-19, long-term care, nursing home, older people, pandemic, qualitative

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1 | INTRODUCTION

COVID-19 had a devastating impact on older people living in long-term care; a setting where 24-h support is provided to older people requiring assistance with activities of daily living (Sanford et al., 2015). Internationally, different terms are used to refer to long-term care settings (e.g. nursing homes or aged care facilities). In this article, we use the generic term 'care homes' to refer to this setting. The pandemic has had catastrophic impact on care homes worldwide. In 2022, data from 21 countries reported a total of 429,265 deaths in care homes linked to COVID-19 (Comas-Herrera et al., 2022). Older people living in care homes are at risk of poor outcomes if infected with COVID-19: frailty is significantly associated with a high risk of all-cause mortality, severity of the infection, admission to intensive care units, use of invasive ventilation, and extended hospital stay (i.e. >10 days) (Yang et al., 2021).

Since the outbreak of COVID-19, vaccines have been developed and administered. These are effective in protecting older people (Bernal et al., 2021; Brown et al., 2021) and reducing outbreak frequency and duration in care homes (Bradley et al., 2022). Even though vaccines have been effective, the level and duration of protection post-vaccination is not yet clear (Bradley et al., 2022). Global vaccine inequity is a concern: vaccines have been available since December 2020, in March 2022 there were reports of 8 in 10 people in higher income countries receiving at least one vaccine dose compared with just 1 in 10 in low income countries (Yamey et al., 2022). Pandemic restrictions have now eased across the globe. For example, in the United Kingdom, the Test and Trace scheme and free mass COVID-19 testing have been removed and with this remains risks of further waves, new variants emerging and vaccine-induced immunity waning. In 2022 there are still COVID-19 outbreaks in care homes (Health Protection Surveillance Centre, 2022) and given seasonality countries should expect increased potential transmission during winter months (Murray, 2022). There remains a need for ongoing vigilance in care homes to protect older people. To achieve good outcomes for older people it is essential to identify the infection quickly and effectively manage and support older people.

Current evidence describing the clinical presentation and trajectory of COVID-19 in older people is based on electronic/medical records (Atalla et al., 2021; Carnahan et al., 2021; Rutten et al., 2020; Shi et al., 2020; Tobolowsky et al., 2021). Our research builds on previous evidence by using a descriptive qualitative approach to explore the views of multidisciplinary frontline staff working in care homes, community or hospital settings. Our study provides insights from frontline staff of the clinical presentation of COVID-19 in older people, the trajectory of the virus, symptom management and the needs of those who recover (Spilsbury et al., 2020).

1.1 | Study aim

The overall aim was to capture the experiences of frontline care home and National Health Service (NHS) staff caring for older people

What is known about this topic?

- COVID-19 had a devastating impact on older people living in care homes.
- Quantitative studies described older people with COVID-19 presenting with wide ranging symptoms.

What this paper adds?

- When managing symptoms in care homes, health and social care staff need to work together to administer interventions, such as subcutaneous fluids or oxygen therapy.
- Providing supportive care, such as nutrition and hydration, social interaction, and physical activity, helps meet the physical and emotional needs of older people.
- Due to extended periods of social isolation and inactivity, rehabilitation is essential to enhance physical and emotional recovery following the pandemic.

with COVID-19 and to share the lessons learnt about the presentation, trajectories and management of the infection with care homes that have and have not yet experienced the virus.

We addressed this overall aim through the following objectives:

1. To understand the clinical presentation and illness trajectories of COVID-19 for older people (aged over 65 years) being cared for in hospital and care homes;
2. To describe what worked well and what more is needed for care and treatment of older people with COVID-19;
3. To identify key lessons for supporting infected older people to recover well.

2 | METHODS

2.1 | Study setting

The study was conducted in England. In the United Kingdom, health services are publicly funded (referred to as the NHS), and care homes form part of the 'social care' sector (separate to the NHS). The primary and community provision of NHS services provided in care homes vary (Gordon et al., 2018). There is considerable heterogeneity in care homes across England, with differences across care homes in terms of care home size, quality ratings and financial (i.e. profit vs. non-profit) and business models (e.g. independent homes vs. homes part of a larger chain). In the United Kingdom, all care homes are regulated by the Care Quality Commission, an independent regulator (<https://www.cqc.org.uk/about-us>). Nursing homes employ Registered Nurses and care workers, and residential homes employ care workers to provide direct care. Residents living in nursing or residential

homes receive healthcare input from the NHS. The general characteristics of residents living in nursing and residential homes are similar, living with on average six co-morbidities, taking eight different types of medications, and the majority live with cognitive impairment (Gordon et al., 2014). In England, there have been 43,256 deaths involving COVID-19 in care home residents since the start of the pandemic (Office of National Statistics, 2022).

2.2 | Study design and data collection

An exploratory qualitative approach was used. Data were collected in two phases. In Phase 1 (June–July 2020), semi-structured interviews were conducted remotely (telephone or video call depending on participant preference) with frontline staff working in either care home or NHS (community, or hospital) settings. Demographic data and care home characteristics were collected. Open questions explored experiences of caring for older people with COVID-19. In Phase 2 (September 2020), a remote consultation event using videoconferencing was carried out with senior care home operational and quality managers. Phase 2 participants were sent a synthesis of the Phase 1 findings via email, and during the consultation event participants commented on the resonance, relevance and whether there were any gaps, based on their experiences. Phase 1 interviews ranged from 20–90 minutes, and the Phase 2 consultation event lasted 90 minutes. With participants' permission all interviews (Phase 1) and the consultation event (Phase 2) were recorded, and detailed notes taken by the researchers. Researchers' notes summarised topics raised by participants and were checked by listening to interview recordings. Verbatim quotes were used to illustrate particularly pertinent points.

2.3 | Participant sampling and recruitment

A purposive and snowballing sampling strategy was used to recruit participants to Phase 1. All prospective participants were recruited through the team's professional networks (e.g. The National Care Forum mailing list, and a care home and COVID-19 focused WhatsApp group of 250 members), and through advertising the study via relevant professional organisation mailing lists (e.g. the Royal College Nursing, and the British Geriatric Society care home interest group). Participant recruitment stopped when data saturation and sample representation were reached. The characteristics of Phase 1 participants ($n = 35$) are outlined in Table 1 and comprised frontline staff working in care homes ($n = 18$) and NHS staff working in hospital ($n = 13$) or community ($n = 4$) settings in England, who had experience of caring for an older person (aged >65 years) with COVID-19. The different staff roles represented in Phase 1 included care home directors

of care/quality ($n = 5$), registered care home managers ($n = 11$), Registered Nurses ($n = 2$), General Practitioners (GPs) ($n = 2$), consultant and specialist nurses ($n = 2$), a hospital director of nursing ($n = 1$), physiotherapists ($n = 2$), an occupational therapist ($n = 1$), consultant geriatricians ($n = 6$), a mental health nurse ($n = 1$), a palliative care nurse ($n = 1$) and an operating department practitioner ($n = 1$).

A purposive sampling strategy was used to recruit participant to Phase 2, and participants recruited through the National Care Forum (which represents the not-for-profit care sector) and through Phase 1 care home participants who nominated their senior colleagues. The characteristics of Phase 2 participants are outlined in Table 2, and participants represented care home senior operational and/or quality managers ($n = 11$) working in different types of care homes (i.e. residential and nursing homes).

2.4 | Data analysis

Data comprised researchers' notes of summarised topics and verbatim quotes, and framework analysis (Gale et al., 2013) was used to analyse the data. Framework analysis involved the following steps: (i) familiarisation with the data; (ii) coding and developing an analytical framework; (iii) lifting and shifting segments of data into the framework; (iv) charting the data; and (v) interpreting the data and developing themes. Four researchers (RD, KH, AD and AG) carried out data analysis, and the process supervised by the lead researcher (KS). The analytical framework was developed and data charted in Microsoft Excel. Data were coded and segments of data organised across four focused frameworks; clinical presentation of COVID-19, the trajectory of the virus, symptom management and the needs of those who recover from COVID-19. Our approach to coding was both deductive (coding data fitting these four broad areas) and inductive (coding data outside of these four broad areas). After all data were coded, relevant codes were grouped and the study team iteratively developed the themes. A synthesis of the Phase 1 findings were sent via email to Phase 2 participants, and the synthesis refined through feedback and comments received during the consultation event. The study team met regularly over the course of data analysis and write up to discuss, refine and agree the study themes.

The findings are reported in line with the Standards for Reporting Qualitative Research (O'Brien et al., 2014).

2.5 | Researcher characteristics and reflexivity

The study was conducted by a care home research team (KS, RD, AD, KH and AG), in collaboration with professional partners who represented the care home sector (LJ and JM). The team included experienced qualitative researchers and professional partners, both with

TABLE 1 Participant characteristics (Phase 1) (*n* = 35)

	Care home staff (<i>n</i> = 18)	Community staff (<i>n</i> = 4)	Hospital staff (<i>n</i> = 13)
Age range	38–62 years	41–52 years	26–64 years
Gender	Female <i>n</i> = 16 Male <i>n</i> = 2	Female <i>n</i> = 2 Male <i>n</i> = 2	Female <i>n</i> = 9 Male <i>n</i> = 4
Ethnic group	White <i>n</i> = 16 Black <i>n</i> = 1 Multiple ethnic group <i>n</i> = 1	White <i>n</i> = 4	White <i>n</i> = 10 Asian <i>n</i> = 3
Role	Director (of care or quality) <i>n</i> = 5 Registered manager <i>n</i> = 11 Registered nurse <i>n</i> = 2	GP = 2 Consultant nurse/specialist nurse (frailty/ older people) <i>n</i> = 2	Director of Nursing <i>n</i> = 1 Physiotherapist <i>n</i> = 2 Occupational therapist <i>n</i> = 1 Consultant Geriatrician <i>n</i> = 6 Mental health nurse <i>n</i> = 1 Palliative care nurse <i>n</i> = 1 Operating Department Practitioner <i>n</i> = 1
Time in current role	<1 year <i>n</i> = 6 >1 to <5 years <i>n</i> = 6 >6 and <10 years <i>n</i> = 1 >11 and <20 years <i>n</i> = 3 >21 years <i>n</i> = 2	<1 year <i>n</i> = 1 >1 to <5 years <i>n</i> = 1 >6 and <10 years <i>n</i> = 1 >11 and <20 years <i>n</i> = 1 >21 years = 0	<1 year = 0 >1 to <5 years <i>n</i> = 7 >6 and <10 years <i>n</i> = 2 >11 and <20 years <i>n</i> = 2 >21 years <i>n</i> = 2
Length of time working in health and social care	>1 and <5 years = 0 >6 and <10 years = 0 >11 and <20 years <i>n</i> = 4 >21 and <30 years <i>n</i> = 5 >30 years <i>n</i> = 9	>1 and <5 years = 0 >6 and <10 years = 0 >11 and <20 years <i>n</i> = 2 >21 and <30 years <i>n</i> = 1 >30 years <i>n</i> = 1	>1 and <5 years <i>n</i> = 2 >6 and <10 years <i>n</i> = 1 >11 and <20 years <i>n</i> = 6 >21 and <30 years <i>n</i> = 1 >30 years <i>n</i> = 3
Geographical location	East Midlands <i>n</i> = 2 West Midlands <i>n</i> = 3 North West <i>n</i> = 1 London <i>n</i> = 1 Yorkshire and Humber <i>n</i> = 4 Oxfordshire <i>n</i> = 1 South <i>n</i> = 2 South East <i>n</i> = 2 South West <i>n</i> = 2	South <i>n</i> = 1 West Midlands <i>n</i> = 1 North East <i>n</i> = 1 North West <i>n</i> = 1	Yorkshire and Humber <i>n</i> = 6 East Midlands <i>n</i> = 3 North West <i>n</i> = 1 South East <i>n</i> = 1 London <i>n</i> = 2
Type of home	Residential <i>n</i> = 2 Nursing <i>n</i> = 10 Dual registered <i>n</i> = 6	N/A	N/A
Size	30 to 50 beds <i>n</i> = 4 >51 to <80 beds <i>n</i> = 7 >81 to <100 beds <i>n</i> = 3 >100 beds <i>n</i> = 4	N/A	N/A
Ownership	Private <i>n</i> = 13 Charity <i>n</i> = 5	N/A	N/A
Area of work	N/A	Frailty support team <i>n</i> = 1 Community <i>n</i> = 3	Medical ward (including elderly medicine) <i>n</i> = 11 Cancer support/palliative care services <i>n</i> = 1 ICU <i>n</i> = 1

expertise in care homes. All team members shared study information with their relevant contacts and networks. KS, RD, AD, KH and AG conducted the Phase 1 semi-structured interviews, and LJ and KS led and facilitated the Phase 2 consultation event. Prior to conducting the study, the team had a collective awareness of the broad challenges facing care homes during the first wave of the pandemic. Researchers debriefed with the rest of the team when necessary.

2.6 | Ethics

The study was reviewed and approved by the School of Healthcare Research Ethics Committee (reference: HREC 19–026). Even though participation was voluntary we recognised the challenges frontline staff faced during the pandemic and for this reason the participant information sheet directed participants

TABLE 2 Participant and organisation characteristics (Phase 2) ($n = 8$)^a

Participant characteristics	
Gender	Female $n = 11$ Male $n = 0$
Ethnic group ^a	White $n = 6$ Asian $n = 1$ Multiple ethnic group $n = 1$
Role ^a	Senior operational manager/director $n = 3$ Senior quality manager/director $n = 2$ Both operational and quality manager/director $n = 3$
Duration employed in role ^a	>3 years to <5 years $n = 1$ >5 years to <10 years $n = 2$ 10 years or more $n = 5$
Duration employed in social care ^a	>5 years to <10 years $n = 1$ 10 years or more $n = 7$
Organisation characteristics	
Geographical location ^a	Participants worked for care home organisations located across nine regions of England (North West, North East, Yorkshire and Humber, West Midlands, East Midlands, Greater London, South West, South East, East of England). Of these organisations: - 5 care homes located in one region only - 3 had care homes located in more than one region
Number of care homes in organisations ^a	Ranged from 1 to 328
Total bed capacity across organisations ^a	Ranged from 54 to 19,818
Types of care homes within organisations ^a	Residential $n = 1$ Nursing $n = 4$ Dual registered $n = 3$
Organisation ownership type ^a	For-profit $n = 3$ Not-for-profit $n = 4$ Charity $n = 1$

^aInformation about role and organisation were not provided by 3 participant.

TABLE 3 Symptoms of COVID-19 in older people (in addition to typical symptoms)

1. Gastrointestinal: diarrhoea, vomiting, reduced appetite and weight loss.
2. Cognitive: increased confusion, delirium (due to acute illness).
3. Physical: reduced mobility, increased falls, fatigue, tremors, seizures.
4. Other: looking/feeling 'unwell', pallor, residents 'not themselves' and bleeding (from nose and eyes).

to resources designed to support the health and well-being of frontline staff.

3 | RESULTS

The findings are presented across five themes: (i) clinical presentation of COVID-19 in older people, (ii) unpredictable trajectory of COVID-19 in older people, (iii) symptom management, (iv) providing supportive care and (v) recovery and rehabilitation.

3.1 | Clinical presentation of COVID-19 in older people

Participants described the varied nature of COVID-19 symptom presentation in older people (Table 3). As a result of the varied symptoms witnessed, participants emphasised the need for close, regular and systematic monitoring of older people as any change (even subtle) could be suspected COVID-19. Monitoring included systemic observations (including blood pressure, pulse, temperature and respiratory rate) as well as measuring oxygen saturations.

In the early days there were people with persistent coughs, there were people whose dementia accelerated very quickly and uncharacteristically, there were people who were generally unwell, lost their appetite, lost their mobility, and were just not presenting as they would normally present. It was incredibly varied. We were literally looking for all soft signs and testing for anybody that was showing symptoms of anything really.

(Phase 1: Care Home Manager 2)

During the first wave the UK Government guidance restricted COVID-19 testing to people who displayed the typical COVID-19 symptoms. These rigid criteria created challenges as the wide range of symptoms experienced by older people were not recognised as COVID-19 symptoms, and thus limited access to testing which had major implications for the sector in terms of the spread of the infection once in the care home.

3.2 | Unpredictable trajectory of COVID-19 in older people

Participants described that it was not possible to predict the level of progression or the outcomes of the virus in older people. Nevertheless, participants provided insights into the general patterns and varying illness trajectories. Around one third of older people infected with COVID-19 showed signs of recovery within 48h and the other two thirds became severely ill and died or had long

TABLE 4 Insights into the different trajectories observed amongst older people with COVID-19, who did not show signs of recovery within 48h

- Sudden deterioration: participants described cases where an older person was not ill and then within 2-3h became severely ill and died suddenly. When people died quickly, participants had learnt that this occurred in one of two ways: (i) either the older person struggled to breathe or (ii) they collapsed suddenly. Participants emphasised that this occurred despite conducting close and systematic monitoring to check for symptoms or signs of deterioration:

'It was like they fell off a precipice within a couple of hours.'

(Phase 1: Hospital Geriatrician 1).

- Late dipping: participants described cases of rapid deterioration after approximately 8–10 days in older people, who appeared to be recovering and were ready for discharge from hospital. A feature in this group, highlighted by NHS staff, was breathlessness and marked changes on a chest x-ray. This indicated acute respiratory distress syndrome, and often these people would die.
- Post COVID-19 syndrome (sometimes referred to as Long COVID): occurred in a proportion of older people who appeared to be recovering, but then at approximately day 14 became generally unwell. The signs of this included the older person falling (when they would not normally fall), decreased appetite, weight loss and being susceptible to other secondary infections (e.g. urinary tract). In these cases, people recovered but struggled for several weeks. For example, in Phase 2 senior care home staff described cases where residents experienced serious respiratory infections about 4–8 weeks after being diagnosed with COVID-19. Many older people in this group were described as having hospital stays of longer than 21 days and care and support for their physical, cognitive and emotional well-being was required. Participants described that people in this group were less likely to regain their previous level of health.

periods of ill health and did not regain their previous levels of health and well-being (outlined in Table 4).

3.3 | Symptom management

A range of interventions used to manage symptoms of COVID-19 were described by participants (outlined in Table 5), who emphasised the need to align these interventions with decisions documented in the older person's care plan and/or expressed by the older person's family:

For these residents it was actually ok to say your relative has COVID, and we're going to keep them comfortable and we don't think it is right to send them to hospital.

(Phase 1, GP 13)

Participants emphasised that care pathways were not obvious and there was uncertainty and unpredictability as to how individuals would respond to interventions. Frontline staff had to try different interventions and observe the response:

It seems random the ones that get through and the ones that don't, no matter what you do, whether you support them with feeding, fluids, doing absolutely everything. Some will surprise you and get through, some get through and some don't.

(Phase 1: Geriatrician 10)

Interventions were more readily available in hospital settings than in the care home setting. Participants working as GPs, Geriatricians, Care Home Managers and Registered Nurses described that in the care home setting the timely delivery of, and access to, interventions depended on: (i) the skills and competence of staff and (ii) access to input from local primary and community services. For example, GPs, Geriatricians, and Registered Nurses expressed concerns about the skills and competence needed to administer subcutaneous fluids and oxygen therapy safely in care homes. Issues around the use of oxygen therapy also included safe administration and storage of oxygen and the reliance on the GP to examine and assess which residents might benefit from this intervention. Participants emphasised that partnership working between NHS community teams and care homes was particularly important in homes where Registered Nurses were not present on site 24-h a day. In these homes, NHS community staff were needed to regularly visit the care home and attend to residents to support with oxygen therapy.

We've been well supported by the GPs, they have got on board with making sure we've got enough medication. We've also had the support of district nurses as well as our GPs.

(Phase 1: Care home manager 14)

It's been tough to get medical support. We couldn't get medical support to come and assess people and that has been really difficult. Some doctors are willing to come in and some are not.

(Phase 1: Care home manager 10)

3.4 | Providing supportive care

Frontline staff emphasised that alongside symptom management, supportive care helped to meet the physical and emotional needs of older people.

Frontline staff emphasised the importance of regular nutrition and hydration. Older people were often reluctant to eat and drink and those with dementia were not always able to communicate their needs or feelings. Staff attributed this individual reluctance to eat and drink to a loss of appetite and fatigue caused by COVID-19.

TABLE 5 Interventions used to manage symptoms of COVID-19 in older people in NHS (hospital and community) and care home settings

- Pyrexia: individuals with a high fever and/or headache were often prescribed paracetamol.
- Respiratory infection: antibiotics were often prescribed at an early stage for individuals presenting with symptoms of a respiratory infection to rule out bacterial infection.
- Pain: small doses of lorazepam and/or oral morphine were prescribed (for some individuals) for pain relief.
- Dehydration: subcutaneous fluids were administered to those who refused oral fluids (usually in the first 5 days) in hospital settings (and in some care homes) to maintain hydration.
- Agitation: small doses of Lorazepam helped alleviate signs of distress when individuals demonstrated signs of agitation.
- Hypoxia: oxygen was prescribed variably to treat hypoxia (including symptoms such as breathlessness, rapid breathing, pallor, confusion, cough or wheezing).
- Breathlessness: oxycodone and oral morphine were prescribed to relieve breathlessness.
- Proning and de-proning: changing the body position of an individual to prone (chest and face down) helped to alleviate breathing difficulties for individuals with COVID-19.
- Low dose anti-inflammatory steroids: Dexamethasone was prescribed for some individuals in hospital to reduce inflammation in the lungs, to boost appetite and to promote alertness.
- Artificial nutrition: prescribed for some individuals in hospital with no oral intake.

TABLE 6 Strategies used to maintain older peoples' nutrition and hydration

- Closely monitor individual dietary intake
- Encourage older people to eat and drink
- Regularly offer small, high-calorie meals, which were appetising and easy to swallow
- Provide preferred food choices (involve family when preferences are not known or when the older person is not able to express their preferences);
- Include the dietician within multi-disciplinary care

TABLE 7 Strategies used to facilitate social interaction and reduce feelings of isolation

- Engage with residents during everyday interactions, for example, during meal times and personal care
- Create opportunities to engage in meaningful activities
- Ensure residents without COVID-19 spend time in communal areas
- Facilitate outdoor activities and entertainment
- Provide individual activities that can be done in a bedroom (e.g. colouring, jigsaw puzzles) for those isolating
- Ensure residents can see others (staff and residents) passing doorways or through windows

Frontline staff described the techniques that helped maintain nutrition and hydration (outlined in [Table 6](#)).

Participants also highlighted that periods of self-isolation and restricted family visiting, in both NHS and care home settings, created emotional difficulties and emphasised the potential impact of social isolation. Participants perceived that older people who had increased meaningful social interaction had marked improvements in their health, compared to those who had less or were more isolated. Frontline care home staff used several methods to facilitate social interaction and to reduce feelings of isolation (outlined in [Table 7](#)).

When people are in a single room, they are at risk of being isolated, and people can decline quite quickly from a psychological perspective when they don't have that stimulation.

(Phase 1, Rehabilitation Nurse 3)

Being locked away in their rooms is negative for residents, but coming out and socialising helped residents.

(Phase 1: GP 12)

Maintaining physical movement and activity were considered important. Due to periods of decreased activity older people experienced fatigue, lethargy and physical deterioration. Frontline staff described their concerns around the additional problems created as a result of inactivity, such as de-conditioned muscles and pressure ulcers.

Once people could come out into the lounges we socially distanced everyone and did some movement to music to try and get people moving because people were stuck in their bedrooms their mobility started to deteriorate and so this was a key concern because their mobility wasn't great to start with and hadn't exercised for a few weeks. Mobility starts to deteriorate quickly and so we need to support people to get moving as much as they can and try to build up strength again.

(Phase 1: Care home manager 10)

When facilitating activities care home staff had to work in a way that ensured activities were safe and risk of infection spread was minimised, particularly in spaces where there were both residents with and without COVID19. In this instance, zoned areas were created, and this helped to separate residents with and without the virus. However, participants cautioned that the use of zoning depended on the physical space and layout of the care home.

3.5 | Recovery and rehabilitation

Participants described the significant impact prolonged periods of reduced activities and social isolation (and in particular restricted visiting by family and friends) had on the physical, cognitive and emotional health and wellbeing of *all* older people (regardless of whether they had COVID-19) and highlighted the need to address this. Participants described the type of activities needed for longer-term support with recovery and rehabilitation: (i) exercise to minimise deconditioning and loss of function caused by inactivity, (ii) activities that enhance cognitive and emotional well-being, (iii) creative approaches to engage older people with exercise and (iv) instilling a sense of hope and positivity for individuals:

I agree about increasing well-being now and getting more exercise to address muscle wastage as a result of being indoors for so long.

(Phase 2: Care Home Deputy Chief Executive 6)

Pacing people and understanding their individual needs, doing a bit everyday exercise wise and going at their pace is important.

(Phase 1: Hospital Physiotherapist 11)

Physical deterioration (or 'deconditioning') meant that many of these individuals experienced decreased levels of physical function and were slow to recover. Longer-term therapy and rehabilitation services, including specialist pulmonary rehabilitation, were considered crucial for this purpose.

People are going to feel longer lasting effects of this for a long period of time. The damage to the lungs is going to be a long term issue. It is going to be a slow process to get people back to where they were before and that is if they can get back to where they were before.

(Phase 1: Physiotherapist 12)

However, participants highlighted that prior to the pandemic there was limited access to therapy and rehabilitation services for care home residents. They emphasised the urgent need for this to be addressed to ensure that the increased rehabilitation needs for individuals during recovery are met.

Everyone is feeling the pressure, therapists haven't been able to get people and so even referring people to ongoing therapy is difficult. The therapists in the community are going out for assessment purposes only because the priority is getting people to a safe place. These people are going to have symptoms for a long time and will need help with rehab to get them back to a functional level really. (Phase 1: Physiotherapist 12)

Phase 2 participants emphasised the need to also consider the recovery and rehabilitation needs of residents who had not contracted COVID-19 but had experienced prolonged periods of reduced activities and social isolation, which impacted on their quality of life.

Many people have experienced a decrease in activities, interaction and movement - acknowledging this and enabling rehab for all is so important.

(Phase 2: Care Home Operational Manager)

4 | DISCUSSION

This study provides in-depth understanding of the experiences of frontline staff when caring for older people with COVID-19. The findings presented here support previous evidence generated from minimum datasets and electronic health records which describes the symptoms of COVID-19 in older people as wide ranging and characterised as both typical and atypical (Atalla et al., 2021; Rawle et al., 2020; Rutten et al., 2020; Shi et al., 2020; Tobolowsky et al., 2021). We build on this previous evidence as our study findings report the following additional atypical symptoms not yet been reported in previous studies; tremors, seizures and bleeding from nose and eyes. The current study also supports previous evidence that describes the varying trajectories of COVID-19 in older people (Carnahan et al., 2021), and builds on the work of Carnahan et al., 2021 by providing a narrative description of each trajectory. In addition, we outline different interventions used to manage COVID-19 symptoms, which in the absence of COVID-19 treatments, the outcomes were unpredictable. The provision of interventions varied depending on the setting, for example, interventions were readily available in hospital settings and in care homes the provision of some interventions (such as administering subcutaneous fluids or oxygen therapy) relied on input from local NHS community staff. Alongside symptom management, the importance of supportive care was identified. This focused on nutrition and hydration, social interaction, and physical activity to help meet the physical and emotional needs of older people. Also highlighted, was the rehabilitation and recovery care and services residents need following prolonged periods of inactivity and social isolation, and the long-term impact of COVID-19 on care home residents.

4.1 | What do our findings mean for the care home context?

The evidence presented here highlights long standing issues faced in the care home sector. A key finding was timely delivery of and access to interventions in care homes depended on (1) the skills and competence of care home staff and (2) access to primary care services. These findings allude to two broader long-standing issues. One is ensuring care home staff receive appropriate training and development opportunities needed to prepare them to meet the high and complex health and care needs of older people. In the United Kingdom, Registered Nurses and care workers work onsite in nursing homes, and care workers work onsite in residential care homes. The care worker workforce is unregulated, and the training and development opportunities available vary across the sector. Ensuring care home staff receive appropriate training for their role is a challenge faced at an international level, and the COVID-19 pandemic has now added additional training needs; the need to ensure staff are trained in delivering interventions, which alleviate COVID-19 symptoms. A second issue highlighted here is the need for effective coordination of health and social care services. In this study proactive and effective collaborative working between care homes and primary healthcare services was required to ensure care home residents received the interventions needed. For example, safe administration and storage of subcutaneous fluids and oxygen therapy relied on a GP to examine and assess which residents might benefit from this intervention. In the United Kingdom, the interaction between health and social care services can be fragmented and uncoordinated and research indicates care homes sometimes face difficulties accessing GP services (Robbins et al., 2013). To effectively manage older peoples' COVID-19 symptoms it is important for close collaborative working between the health and social care sector (Gordon & Goodman, 2020).

The study findings also describe the different ways staff worked to meet older peoples' emotional well-being needs while also managing COVID-19 symptoms and meeting physical needs. Older people with meaningful social interaction had marked improvements in their health, compared to those who had less or were more isolated. The impact of the pandemic on the emotional and psychological well-being of care home residents has been, at an international level, one of the most discussed issues throughout the pandemic, and guidelines now reflect this and take family visits into consideration (Department of Health and Social Care, 2022). Alongside social interaction, participants in this study also described ensuring older people engage in meaningful activities. This finding, we suggest, should be considered with the wider literature base. Lawrence et al., 2012 outlined that psychosocial interventions become part of routine practice when there is active engagement of staff (management and care workers) and family, familiarity with residents is established, and interventions adapted to match residents' preferences and abilities (Lawrence et al., 2012). There is also a need to consider staffing levels, staff time, and their concerns (e.g. risks) and

attitudes towards interventions (Lawrence et al., 2012). However, current concerns around the staffing shortages in the sector could create difficulties with ensuring staff have the capacity to support residents to engage in activities that support their emotional well-being.

Frontline staff in this study described the importance of rehabilitation for the recovery of older people living in care homes. This resonates with insights from Grund et al (2021) who described geriatric rehabilitation being '*needed now more than ever*' (Grund et al., 2021). Grund et al reported that while, across eight European countries, COVID-19 has resulted in increased demand for geriatric rehabilitation there is reduced capacity, reduced time spent per patient and reduced access to members of a multidisciplinary team. This suggests geriatric rehabilitation has not been part of the response to the pandemic internationally (Grund et al., 2022). This was also the experience of participants taking part in the current study. This requires urgent attention to ensure older people are supported after prolonged periods of reduced activities and social isolation. There is currently research being carried out in the United Kingdom to develop digital solutions to help increase access and availability of rehabilitation to the general population (National Institute for Health and Care Research, 2021); however, the evidence of the effectiveness of digital rehabilitation interventions for older people is currently unclear (Tonga et al., 2022).

4.2 | Strengths and weaknesses

The findings are informed by the views of frontline staff who represented a multi-disciplinary group of professions working across different settings to provide care for older people with COVID-19 in England. The Phase 2, member checking component enhanced trustworthiness and rigour in this study (Birt et al., 2016; Shenton, 2004) as participants had the opportunity to confirm accuracy of the Phase 1 synthesised data, verify data interpretations, check congruence with their experiences, identify gaps and add to the findings. This study was conducted through a collaborative partnership between academics and the National Care Forum, from conception to conclusion. A limitation that should be considered is that the voices of older people and their relatives were not included in this study. In addition, when interpreting these findings it is important to consider the emergence of new variants of COVID-19 since conducting data collection (Jun–Sept 2020) create new challenges when caring for this population. This highlights the importance of continued learning to support care homes as they learn to live with and manage COVID-19 in the care environment.

4.3 | Conclusions and implications

This study is important for several reasons. It highlights the need for frontline staff to monitor older people for a wide range of COVID-19 symptoms and to appropriately manage suspected

cases. When managing symptoms in care homes, health and social care staff need to work together to administer interventions, particularly specialist treatments such as subcutaneous fluids and or oxygen therapy. This is particularly important in residential care homes where Registered Nurses are not employed onsite. In this population, access to rehabilitation services was difficult prior to the pandemic. Given the prolonged periods of inactivity and isolation of this population, support with recovery and rehabilitation needs to be urgently addressed by commissioners and policy makers.

AUTHOR CONTRIBUTIONS

Study conceptualisation and design: KS, LJ, JM, RD. Data acquisition, analysis and/or interpretation: KS, RD, AD, KH, AG, LJ and JM. Writing manuscript draft: RD. Revising and reviewing manuscript for important intellectual content: KS, AD, KH, AG, LJ and JM.

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DATA AVAILABILITY STATEMENT

All data relevant to the study are included in the article.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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REFERENCES

- Atalla, E., Zhang, R., Shehadeh, F., Mylona, E. K., Tsikala-Vafea, M., Kalagara, S., Henseler, L., Chan, P. A., & Mylonakis, E. (2021). Clinical presentation, course, and risk factors associated with mortality in a severe outbreak of COVID-19 in Rhode Island, USA, April-June 2020. *Pathogens*, 10(1), 8.
- Bernal, J. L., Andrews, N., Gower, C., Stowe, J., Robertson, C., Tessier, E., Simmons, R., Cottrell, S., Roberts, R., O'Doherty, M., & Brown, K. (2021). Early effectiveness of COVID-19 vaccination with BNT162b2 mRNA vaccine and ChAdOx1 adenovirus vector vaccine on symptomatic disease, hospitalisations and mortality in older adults in England. *MedRxiv*. Available at: <https://www.medrxiv.org/content/10.1101/2021.03.01.21252652v1>
- Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802-1811.
- Bradley, D. T., Murphy, S., McWilliams, P., Arnold, S., Lavery, S., Murphy, J., de Lusignan, S., Hobbs, R., Tsang, R. S. M., Akbari, A., Torabi, F., Beggs, J., Chuter, A., Shi, T., Vasileiou, E., Robertson, C., Sheikh, A., Reid, H., & O'Reilly, D. (2022). Investigating the association between COVID-19 vaccination and care home outbreak frequency and duration. *Public Health*, 203, 110-115.
- Brown, K., Stall, N., & Vanniyasingam, T. (2021). Early impact of Ontario's COVID-19 vaccine rollout on long-term care home residents and health care workers. *Science Briefs of the Ontario COVID-19 Science Advisory Table*, 2, 13.
- Carnahan, J. L., Lieb, K. M., Albert, L., Wagle, K., Kaehr, E., & Unroe, K. T. (2021). COVID-19 disease trajectories among nursing home residents. *Journal of the American Geriatrics Society*, 69(9), 2412-2418.
- Comas-Herrera A., Marczak, J., Byrd W., Lorenz-Dant K., Patel D., Pharoah D. (eds.) & LTCcovid contributors. (2022). *LTCcovid International living report on COVID-19 and Long-Term Care*. Available at: <https://ltccovid.org/international-living-report-covid-ltc/>
- Department of Health and Social Care. (2022). Guidance on care home visiting. Available at: <https://www.gov.uk/government/publications/visiting-care-homes-during-coronavirus/update-on-policies-for-visiting-arrangements-in-care-homes>
- Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, 13(1), 1-8.
- Gordon A, & Goodman. C. (2020). Tackling the Covid-19 outbreak in care homes: Messages from a geriatrician and a health service researcher about how the NHS can help. Available at: <https://www.kingsfund.org.uk/blog/2020/04/tackling-covid-19-outbreak-care-homes>
- Gordon, A. L., Franklin, M., Bradshaw, L., Logan, P., Elliott, R., & Gladman, J. R. F. (2014). Health status of UKcare home residents: A cohort study. *Age and Ageing*, 43(1), 97-103.
- Gordon, A. L., Goodman, C., Davies, S. L., Denning, T., Gage, H., Meyer, J., Schneider, J., Bell, B., Jordan, J., Martin, F. C., Iliffe, S., Bowman, C., Gladman, J. R. F., Victor, C., Mayrhofer, A., Handley, M., & Zubair, M. (2018). Optimal healthcare delivery to care homes in the UK: A realist evaluation of what supports effective working to improve healthcare outcomes. *Age and Ageing*, 47(4), 595-603.
- Grund, S., Gordon, A., Bauer, J., Achterberg, W. P., & Schols, J. M. G. A. (2022). COVID-19 pandemic and consecutive changes in geriatric rehabilitation structures and processes-a deeper attempt to explain the COVID rehabilitation paradox (lessons to learn to ensure high quality of care in GR services). *The Journal of Nutrition, Health & Aging*, 26(1), 64-66.
- Grund, S., Gordon, A. L., Bauer, J. M., Achterberg, W. P., & Schols, J. M. G. A. (2021). The COVID rehabilitation paradox: Why we need to protect and develop geriatric rehabilitation services in the face of the pandemic. *Age and Ageing*, 50, 605-607.
- Health Protection Surveillance Centre. (2022). *Weekly Report on COVID-19 Outbreaks in Nursing Homes and Community Hospitals Week 17 2022*. Available at: https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/surveillance/covid-19outbreaksclus tersinireland/nursinghomecovid-19outbreaksreport2022/NH%20OUTBREAKS%20SLIDESH%20WEEK%2017%2020220503%20FINAL_website.pdf
- Lawrence, V., Fossey, J., Ballard, C., Moniz-Cook, E., & Murray, J. (2012). Improving quality of life for people with dementia in care homes: Making psychosocial interventions work. *The British Journal of Psychiatry*, 201(5), 344-351.
- Murray, C. J. (2022). COVID-19 will continue but the end of the pandemic is near. *The Lancet*, 399, 417-419.
- National Institute for Health and Care Research. (2021). *Digitally-enabled rehabilitation for people with Long Covid (Living With Covid Recovery)*.

- Available at: <https://www.arc-nt.nihr.ac.uk/research/projects/digital-enabled-rehabilitation-for-long-covid/>
- O'Brien, B. C., Harris, I. B., Beckman, T. J., Reed, D. A., & Cook, D. A. (2014). Standards for reporting qualitative research: A synthesis of recommendations. *Academic Medicine*, 89(9), 1245–1251.
- Office of National Statistics. (2022). *Coronavirus (COVID-19) latest insights: Deaths*. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/deaths#deaths-in-care-homes>
- Rawle, M. J., Bertfield, D. L., & Brill, S. E. (2020). Atypical presentations of COVID-19 in care home residents presenting to secondary care: A UKsingle Centre study. *Aging Medicine*, 3, 237–244.
- Robbins, I., Gordon, A., Dyas, J., Logan, P., & Gladman, J. (2013). Explaining the barriers to and tensions in delivering effective healthcare in UK care homes: A qualitative study. *BMJ Open*, 3(7), e003178.
- Rutten J. J., van Loon A. M., van Kooten J., van Buul, L. W., Joling, K. J., Smalbrugge, M. & Hertogh, C. M., (2020) Clinical suspicion of COVID-19 in nursing home residents: Symptoms and mortality risk factors. *Journal of the American Medical Directors Association* 21(12): 1791-1797. e1791.
- Sanford, A. M., Orrell, M., Tolson, D., Abbatecola, A. M., Arai, H., Bauer, J. M., Cruz-Jentoft, A. J., Dong, B., Ga, H., Goel, A., Hajjar, R., Holmerova, I., Katz, P. R., Koopmans, R. T. C. M., Rolland, Y., Visvanathan, R., Woo, J., Morley, J. E., & Vellas, B. (2015). An international definition for “nursing home”. *Journal of the American Medical Directors Association*, 16(3), 181–184.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63–75.
- Shi S. M., Bakaev I., Chen H., Trivison T. G., Berry S. D. (2020). Risk factors, presentation, and course of coronavirus disease 2019 in a large, academic long-term care facility. *Journal of the American Medical Directors Association*, 21(10): 1378-1383. e1371.
- Spilsbury K., Devi, R., Daffu-O'Reilly, A., Griffiths, A., Haunch, K., Jones, L., & Meyer, J. (2020). *LESS COVID-19 learning by experience and supporting the care home sector during the COVID-19 pandemic: Key lessons learnt, so far, by frontline care home and NHS staff*. Available at: <https://niche.leeds.ac.uk/wp-content/uploads/sites/56/2020/10/LESS-COVID-19-SPILSBURY-ET-AL-2020.pdf>
- Tobolowsky, F. A., Bardossy, A. C., Currie, D. W., Schwartz, N. G., Zacks, R. L. T., Chow, E. J., Dyal, J. W., Ali, H., Kay, M., Duchin, J. S., Brostrom-Smith, C., Clark, S., Sykes, K., Jernigan, J. A., Honein, M. A., Clark, T. A., Stone, N. D., Reddy, S. C., & Rao, A. K. (2021). Signs, symptoms, and comorbidities associated with onset and prognosis of COVID-19 in a nursing home. *Journal of the American Medical Directors Association*, 22(3), 498–503.
- Tonga, E., Srikesavan, C., Williamson, E., & Lamb, S. E. (2022). Components, design and effectiveness of digital physical rehabilitation interventions for older people: A systematic review. *Journal of Telemedicine and Telecare*, 28(3), 162–176.
- Yamey, G., Garcia, P., Hassan, F., Mao, W., McDade, K. K., Pai, M., Saha, S., Schellekens, P., Taylor, A., & Udayakumar, K. (2022). It is not too late to achieve global covid-19 vaccine equity. *BMJ*, 376, e070650.
- Yang, Y., Luo, K., Jiang, Y., Yu, Q., Huang, X., Wang, J., Liu, N., & Huang, P. (2021). The impact of frailty on COVID-19 outcomes: A systematic review and meta-analysis of 16 cohort studies. *The Journal of Nutrition, Health & Aging*, 25, 1–8.

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