Exploring the impact of different approaches to healthcare support for older care home residents in Greater Manchester on ambulance services and unplanned hospital admissions

Author names and affiliations:

1. Claire Hargreaves[a], PhD

2. Sue Tucker[b], PhD

3. Jane Hughes[c], PhD

4. Grace Hothersall[b], MSc

5. Megan Patterson[b], MSc

6. Vincent Gillan[b], MA

7. David Challis[c], PhD

a Centre for Child and Family Justice Research, Lancaster University, Lancaster, England

b Formerly Personal Social Services Research Unit, University of Manchester, Manchester, England

c Institute of Mental Health, University of Nottingham, Nottingham, England

Corresponding author:

Dr Claire Hargreaves, Senior Research Associate

Centre for Child and Family Justice Research, Department of Sociology & School of Law, Lancaster University, Bowland North, Bailrigg, Lancaster, LA1 4YW

Email: c.hargreaves4@lancaster.ac.uk

Telephone: 01524 594095

ORCiD: 0000-0002-4769-4017

ABSTRACT

Context

Meeting the healthcare needs of care home residents is an international concern. In England three approaches to enhance usual care provided by primary care general practitioners have been identified: additional direct (face-to-face) support; additional indirect support (like staff training); and a combination of both.

Objectives

To investigate the impact of these approaches on ambulance callouts and unplanned hospital admissions

Methods

Survey of care home managers to establish the content of healthcare services provided to homes in Greater Manchester. Linking of survey data to routinely collected locality data on ambulance callouts and unplanned hospital admissions. Data relates to the twelve months from April 2017. Analysis of the relationship between these events and different approaches to healthcare support.

Findings

Completed surveys were received from 255/407 (63%) care homes. Most received additional healthcare support to that provided by general practitioners: 49% received additional direct support, 5% additional indirect support and 35% both. In the study period there were 17,980 ambulance callouts and 14,539 unplanned hospital admissions for older care home residents (aged 75+).

Ambulance callout and unplanned hospital admission rates were higher in homes with additional direct support than those with additional indirect support or both.

Limitations

The study used broad categories of intervention. More fine-grained analysis of their components and resident characteristics might have assisted in the interpretation of the findings.

Implications

These findings could inform initiatives regarding the composition and practice of multidisciplinary teams providing enhanced healthcare support to care home residents. Future research should explore which specific components of additional direct and indirect support are most important.

Key words

Care homes, older residents, enhanced healthcare support, linked primary and secondary data, empirical analysis

Introduction

Reducing the number of unplanned hospital admissions of older care home residents has been a feature of many countries' health policies for over a decade (National Health Service, 2019; World Health Organization, 2015). This includes England where some 340,000 people aged 65+ live in care homes with and without nursing (Wolters *et al*., 2019), variously known as nursing homes, residential homes, long-term care facilities, aged care facilities and assisted living in other countries.

Care home residents are typically frail with complex co-morbidities (Gordon *et al*., 2014; Russell, 2017; Wolters *et al*., 2019). For many supportive long-term care is, thus, the optimum approach, although this population is also highly susceptible to acute illness (British Geriatrics Society**,** 2011; Dwyer et al., 2014). Nevertheless, a series of studies have suggested that care home staff often have difficulty accessing appropriate and timely healthcare support for residents, resulting in the under-detection and treatment of physical and mental health problems. This in turn contributes to high numbers of ambulance callouts and unplanned hospital admissions, with potentially significant consequences for resident well-being and healthcare costs (Iliffe *et al*., 2016; National Health Service England**,** 2015). In 2016/17 care home residents constituted 2.8 per cent of older people (65+), but 7.9 per cent of unplanned admissions of older people (Wolters *et al*., 2019).

Over 40 per cent of the social care workforce in England, some 670,00 people, work in residential establishments, a majority in care homes for older people. They are predominantly female, and save for regulated professions such as nursing (about 5% of the workforce), there is no professional regulation. Only half providing direct care possess a recognised social care qualification. The care

home context is characterised by significant staff vacancy rates, high staff turnover, low pay, lack of career progression or standardisation of qualifications and rising demand (CQC, 2023; Foster, 2024; Skills for Care, 2023). This profile is by no means unique to England (Hodgkin et al., 2017; Scales, 2021; Mueller et al., 2023).

In England the Covid pandemic highlighted some of the complexities of the interface between short-term acute hospital care and supportive long-term care provided by care homes for frail older people. With rising rates of Covid-19 and a lack of available hospital beds, ambulance services were also under extreme pressure (Mahase, 2022) and the requirement to free hospital capacity for critically ill patients at the start of the Covid pandemic saw a substantial decline in care home resident admissions to hospital. However, hospital discharges to homes with nursing (including people with Covid) increased (Hodgson *et al*., 2020). In consequence many homes found themselves caring for a more acutely ill population than normal (Oliver, 2020). Local health systems were asked to provide enhanced primary and community care (NHS England and NHS Improvement, 2020), mirroring countries elsewhere (Langins *et al.,* 2020; OECD, 2021). Nevertheless, care home deaths increased by over 200 per cent (Hodgson *et al*., 2020), reinforcing longstanding concerns about care home funding and staffing and the need for effective models of support.

The pandemic also highlighted longer concerns about ways in which to enhance health care support to care homes, beyond the traditional response of general practice provided on a case-by case basis to individual referrals. Warmoth and Goodman (2022) noted most homes reported a good relationship with designated general practitioners. However, despite the national rollout of the Enhanced Health in Care Homes framework (National Health Service England, 2020), two-thirds reported no recent

changes in their work with care homes. Chadborn et al (2023) concluded that although general practitioners were responsible for medical care and access to specialist services in care homes, they rarely played a leading or coordinating role. The impetus for change invariably came from other professional groups (e.g. pharmacists, palliative care specialists) and their contribution as primary care doctors, with unique skills and competencies as part of an MDT, were seldom recognized as key to delivering improvement goals. Gordon et al (2018) concluded that outcomes are likely to be better where interventions: focus upon and legitimise ongoing contact between healthcare staff and care homes at an institutional level; link with a wider system of healthcare; and provide access to dementia-specific expertise. Devi et al (2021) noted that amongst factors making quality improvement more feasible were: recruiting staff with established partnership working between the NHS and care homes; using strategies to build relationships and minimise hierarchy; protect and pay for staff time; and enabling staff to implement improvements aligned with existing work. Victor et al (2018) examining identification of health care needs in care homes, observed that residents expected that care home staff would monitor changes in their health and seek appropriate help unprompted. Care access was enabled using intermediaries - either staff or relatives - and the expectation that staff would proactively seek care when they observed new/changed needs. However, they suggested that residents may over-estimate the health-related knowledge of care home staff and their ability to initiate referrals to NHS professionals. Thus, both improving the knowledge base of care home staff and their access to health care professionals are likely to constitute key elements of enhanced health care interventions to care homes.

Consequently, a more differentiated service approach may be required than usual care from general practitioners. Reflecting this, specialist healthcare services for care homes have developed, defined

as services characterised by the involvement of healthcare professionals with ring fenced time for the identification and support of care home residents' physical healthcare needs. A 2021 systematic review of these suggested interventions to address residents' general health needs, assessment and management services and non-training initiatives involving medical staff could reduce hospital admissions, whilst promising evidence was also found for initiatives targeting residents at risk of hospital entry, post-hospital discharge services and training only interventions (Authors' own). However, a series of surveys and reports suggested only a minority of care homes in England had access to such services, they were often diverse in form depending upon local opportunities and resources, with most reliant on support from overstretched primary care staff, and relatively little was known about the best way to structure and deliver this care (Goodman *et al*., 2016; Iliffe *et al*., 2016). One study, employing data from a national survey of care homes with such assistance in England, was able to group care home support services into three broad categories (Authors' own). These were: i/ additional direct support (interventions involving face-to-face contact with residents e.g. regular reviews of residents' condition and treatment and hands-on-care); ii/ additional indirect support (interventions not involving face-to-face contact with residents, but designed to benefit them e.g. staff training); iii/ additional direct and indirect support. This paper aims to investigate the relative impact of these broad categories of healthcare support for older care home residents upon two key outcomes, namely ambulance callouts and unplanned hospital admissions. These service level outcomes represent patterns of service output that are expected to produce positive benefits for the residents. The work involves survey data in a distinct geographical locality linked with routine health data over a defined time period.

Methods

Study design

This research applied a cross-sectional design (Spector, 2019). Survey data of care home managers in a defined locality were collected and linked to ambulance callout and unplanned hospital admission data forming a single unique data source to investigate the relative impact of different types of care home support services described above (Authors' own) for older care home residents upon two key outcomes, ambulance callouts and unplanned hospital admissions. Consultants providing enhanced healthcare support to care home residents were involved in interpreting the findings and formulating the discussion informally in a process akin to a sense-making exercise (Scottish Government, 2021).

Setting

The study was conducted in Greater Manchester, a large metropolitan area comprising ten local authorities (units of local government) with a population of approximately 441,000 older people aged 65+ (Office for National Statistics, 2018). The district contains several areas of relative deprivation; in the 2019 Index of Multiple Deprivation, four of the ten local authorities ranked in the first 20 (out of 326) local authorities in England, where 1 was the most deprived (Ministry of Housing, Communities and Local Government, 2019).

At the time of data collection rates of care home admission were similar to England as a whole (Health and Social Care Information Centre, 2015). The study setting was of particular interest in light of a developing strategy to eliminate at least 60,000 hospital admissions per year in Greater Manchester (Warner and O'Sullivan, 2015) and the identification of interventions to reduce care

home callouts by local paramedic and ambulance staff (ICE Creates and North West Ambulance Service, 2013).

Survey Data

A survey of care home managers collected data on the additional external healthcare services, such as proactive healthcare, disease or medicines management, received by care home residents or provided to assist care home staff. Support could be provided by any healthcare professional including general practitioners, district nurses, geriatricians and palliative care staff as well as specialist care home support teams. The survey was distributed to all care homes (with or without nursing) in Greater Manchester that provided long-term care for older people listed on the Care Quality Commission (CQC) database (n=407). Homes that provided care for people with dementia and homes that cared for both older and younger adults were included but homes that only provided short-term care were excluded as the focus of the study was on long-term care within care homes.

It was informed by previous care home surveys (Authors' own; Authors' own) and an accompanying literature review (Authors' own). The survey included questions on the mix of professionals that provided support and the range and nature of their activities. It was piloted with and revised to reflect the comments of five care home managers prior to final distribution. Multiple approaches were used to maximise the response rate: paper, electronic, telephone or face-to-face survey completion, recruitment at care home provider forums and by Clinical Research Network colleagues; and the incentive of a prize draw. Data were collected between April 2017 and March 2018.

Survey data and further information about the care homes (e.g. bed numbers) obtained from the CQC database were coded and entered into SPSS, version 23 (SPSS Inc, Chicago, USA). Univariate and bivariate analyses were used to profile the care homes and group them by the type of healthcare support received by homes. This grouping employed a classification based on latent class analysis of an earlier national survey of specialist healthcare support services to care homes (Authors' own), and identified four broad types capturing the extent of additional healthcare support provided to care homes beyond the standard response to the external referral of an individual resident. These were: i/ direct support (interventions involving face-to-face contact with residents e.g. regular reviews of residents' condition and treatment and hands-on-care); ii/ indirect support (interventions not involving face-to-face contact with residents, but designed to benefit them e.g. staff training); iii/ both direct and indirect support; and iv/ no direct or indirect support (in effect a reference group). As noted above, this study used the first three categories.

Linkage with Secondary Health Data

Following receipt of a data sharing agreement the research team sent NHS Digital an Excel spreadsheet containing the postcodes of care homes for older people in Greater Manchester and their associated type of care home support. NHS Digital then linked this information to data on unplanned hospital admissions aged 75+ from the Hospital Episode Statistics Admitted Patient Care database for the 12-month period to match the survey data collection. This included information on each admission's primary diagnosis (reason for admission), secondary diagnoses (co-morbidities and external causes) and the presence/absence of ambulatory care sensitive conditions (ACSCs - conditions for which hospital admissions may be prevented by interventions in the community). Care home postcodes were removed from the dataset prior to its return. Thus, the research team could not

identify the specific home from which a patient was admitted, only the type of healthcare support the home received by its group membership. No individual patient identifiable information was provided to the researchers. The same process was followed for electronic information on ambulance callouts to care home residents collected by the local ambulance service at 'point of call'. This included information on the time of callout, the urgency of the callout (e.g. potentially life threatening, not potentially life threatening)[1] and the outcome (e.g. see and treat, see and convey to facility other than Accident and Emergency (A&E) Department, see and convey to A&E).

Access to these data under the data sharing agreement was granted for a time limited period. No further access or analysis of this linked data source was therefore possible.

Data Analysis

The linked data were entered into SPSS, version 23 (SPSS Inc, Chicago, USA) and a range of descriptive statistics were used to summarise the main findings. The analyses profiled the full sample of ambulance callouts and hospital admissions from care homes in Greater Manchester. Ambulance callout and unplanned hospital admission rates by type of care home support were estimated using the total number of beds in homes receiving each type of support as the denominator.

Ethics

The study received ethical approval from a National Research Ethics Committee (Reference 18/NW/0574). The research employed pseudonymized service use data and there was no contact with care home residents nor any change to their care or treatment.

Results

Completed surveys were received from around two-thirds of care homes (255) with surveys received from homes in all local authorities, capturing the variety of arrangements for healthcare support to care homes in Greater Manchester. Around a third (32%) of homes provided nursing and on average, homes provided 42 beds (range 10 to 214) and had a male to female resident ratio of 1:3. Over half (58%) of homes held a CQC well-led rating of good to outstanding.

Most care homes received some healthcare support over and above that delivered on a case-by case basis in response by general practitioners to individual referrals: 126 (49%) received additional direct support; 12 (5%) received additional indirect support; 88 (35%) received additional direct and indirect support; 15 (6%) received no additional support; and 14 (5%) were not classified due to missing information. Initial analyses (which could not be adjusted for case mix) suggested that between April 2017 and March 2018 for all older residents (aged 75+, from respondent and non-respondent homes) there were:

- 17,980 ambulance callouts, of which two fifths (41%) were from homes with nursing. Over half (55%) were defined at point of call as potentially life threatening and just over three quarters (76%) resulted in transfer to an A&E department (Table 1);

- 16,430 hospital admissions, of which 14,539 (88%) were unplanned (Table 2). Of the latter, 1,053 (7%) had a primary diagnosis of an ACSC (predominantly influenza or pneumonia)

whilst a further 2,311 (16%) had a secondary diagnosis of an ACSC. Of the care home

residents 879 had a single unplanned hospital admission and 3,190 had more than one

admission (maximum 25).

Table 1 about here

Table 2 about here

Ambulance callout and unplanned hospital admission rates varied by type of care home support

(Table 3). Estimated admission rates, using the total number of beds in homes receiving each model

of support as the denominator, suggested ambulance callout and unplanned hospital admission rates

were higher in homes receiving additional direct support than those receiving only indirect support or

both. This included the unplanned admission rate for conditions which could potentially be prevented

by primary care because the diagnosis was an ACSC.

Table 3 about here

Discussion

This study links survey data on characteristics of care homes and type of enhanced care received

(direct/indirect/both) in Greater Manchester to individual level routinely collected data on ambulance

callouts and unplanned hospital admissions of residents in survey care homes. Rates of callouts and

admissions were then calculated based on total bed numbers in care homes with different types of

enhanced care. Thus, it aimed to investigate the relative impact of broad categories of healthcare support for older care home residents upon two key outcomes salient to resource use for commissioners and providers and quality of life for residents, namely ambulance callouts and unplanned hospital admissions. These service level outcomes represent patterns of service output that are expected to produce positive benefits for the residents and are often used as measures of performance. As such they are necessarily intermediate outcomes, rather than the final outcomes of interventions (Davies, 1977).

There were marked variations in the two outcomes between the different categories of community support to care homes. It appeared that both ambulance callout and unplanned hospital admission rates were lower in homes with either indirect support interventions or mixed direct and indirect support. This suggests that the presence of training and knowledge, possibly enhancing the role and contribution of care home staff, may have reduced both ambulance callout and hospital admissions. By comparison, although additional direct support constituted the dominant model of community support, ambulance callout and unplanned hospital admission rates were higher in these homes than those that received additional indirect support or combined indirect and direct support. Interestingly, those care homes with no community support also had relatively lower rates of admission.

There are several possible reasons for the finding that ambulance callout and unplanned hospital admission rates were higher for care homes receiving direct support approaches from external health care professionals. One possible explanation is that community practitioners were already aware of and responding to this and, with their limited resources, deliberately provided more direct support to homes with pre-existing high levels of ambulance callouts and unplanned admissions. Indeed, one

specialist care home support team certainly operated on this basis. Alternatively, it is possible that homes with higher levels of direct input detected more residents in need of hospital admission, or that homes with lower levels of ambulance callouts and emergency admissions had higher thresholds for calling an ambulance or involving community staff, reflecting differences in staff confidence and/or practice. This is consistent with the fact that homes with no additional support also had relatively low levels of ambulance callouts and unplanned hospital admissions. Interestingly other research suggests that care home staff do not necessarily respond positively to services where external staff 'reach in' to provide care, with training approaches that acknowledge and increase care home staff knowledge and skills tending to be viewed more favourably, perhaps being more closely aligned to care home culture (Bunn et al, 2020; Oliver, 2019; Wolters *et al.,* 2019). Similarly, it has been suggested that attempts to bring Comprehensive Geriatric Assessment to care homes which only address assessment and care planning have sometimes failed, lacking a focus on resident-centered goals (Chadborn et al, 2019). Furthermore, the decision to transfer is complex and determined not just by changes in health status but are also shaped by barriers to accessing community services, family members, and care home staff, balancing risks to different parties (Marincowitz et al., 2022; Harrad-Hyde et al., 2022a). Risk evaluation and management by care home staff are likely to be additionally influenced by visiting NHS staff and their degree of integration with the home (Harrad-Hyde et al., 2022b; Goodman et al., 2016. Further research (including longitudinal studies) is clearly needed to unravel these findings, and how they sit with those of a recent international review of specialist care home support services in where the evidence for training interventions, albeit of limited quality, in reducing hospital admissions was less convincing than that for direct input (Authors' own).

This research was conducted during a period in which there were two policy initiatives relevant to the healthcare support experienced by care home residents in this study. The first focused on the experience of care home residents and how their healthcare needs are met. Advanced care planning, involving a discussion between an individual and their care providers about their preferences and priorities for their future care, has become more a feature of healthcare for residents over the last decade. Moving into a care home is now recognised as a key transition and a time at which an individual may wish to plan for their future care (National Health Service England, 2022). It is, however, unlikely that this development will have impacted on these findings because it would have been an emerging feature of the care regime in all homes participating in the study. The second arose from the initiative to develop new models of care to suit local needs as part of the rollout of the NHS Five Year Forward View (National Health Service England, 2014). Six care homes aiming to offer residents improved, integrated long-term care and rehabilitation services participated in this 'Vanguard' initiative - Enhanced Health in Care Homes. Overall, the programme sought to improve the care people received through the redesign of whole health and care systems within localities (National Audit Office, 2018). By implication this suggests that healthcare support to care homes requires improvement. Findings from this study contribute to how it might be achieved within this policy framework since they highlight how a variety of local factors spanning personnel and practice can influence two measures intrinsic to the welfare of residents.

Comparisons with other studies are not straightforward as populations and samples vary. However, the ambulance callout rate (1.04 per bed) in this study was notably higher than in previous research in South-West England. Hancock and colleagues, reported a rate of 0.51 per resident, albeit approximately a fifth of emergency ambulance callouts were dealt with at the scene (Hancock *et al.,*

2017). The rate of unplanned hospital admissions (0.84) in this study was also somewhat higher than in contemporaneous studies in England, typically 0.67-0.77 in homes without nursing and 0.62-0.69 in homes with nursing (Grimm *et al.,* 2021; Wolters *et al.,* 2019). However, there was a much lower percentage of admissions with a primary diagnosis of an ACSC - just 7 per cent compared with 35-41 per cent elsewhere (Grimm *et al.,* 2021; Wolters *et al.,* 2019). Local staff were unsurprised by the high level of emergency ambulance callouts and unplanned hospital admissions, suggesting that the relatively poor health status of Greater Manchester residents impacted on health care crises. Nevertheless, further investigation is necessary to determine to what extent our findings reflect variations in resident needs between homes as opposed to, say, diagnostic coding practices or care home policies, including end-of-life care and the use of advance directives. This requires comparisons to take account of individual resident characteristics in care homes so that the impact of case-mix in homes (Hirdes et al., 2008) and locality factors can be addressed. Other studies have noted that whilst health and social care data could provide case-mix adjusted admission rates for homes, this has not yet been realised (Smith et al., 2015).

Several methodological considerations should be borne in mind when considering these results. First, the study was undertaken in one geographical area. Although just over 60 per cent of the care homes within it were included in the schema to identify different approaches to care home support, more research is needed to establish whether the findings are generalisable to other areas.
Second, creation of the linked dataset was a complex and iterative process. The provision of NHS Digital data involved liaison with the data providers over a twelve-month period. Whilst ambulance service managers were confident their data reliably identified care home residents, NHS standardized data on unplanned hospital admissions contains no reliable marker of patients admitted from care

homes. In this study, residents were identified by their postcode and a filter was applied to restrict the data to people aged 75+, reducing (but not necessarily eliminating) the error term associated with these data. These data were linked with the survey data. The limited time NHS Digital data were available inevitably conflicted with time required to create and analyse the linked dataset. Third, whilst the study used a recently developed schema to identify subgroups of homes receiving particular types of support, no information was collected on the quality or amount of the components of support provided. Future studies would thus benefit from more detailed investigation of the variables at play to elucidate the key components of effective models of care using more differentiated aspects of interventions than those used in this study. Fourth, as noted earlier, there was also no control for case-mix, the characteristics and different levels of morbidity and frailty of residents between homes, and the analysis did not enable us to account for variations in care home type (nursing or non-nursing). Data systems are limited and subject to strict control limitations. As data availability develops it may in future permit these important subtleties to be addressed in analysis. Fifth, whilst ambulance callout and unplanned hospital admission rates are not the only outcomes of interest for care home residents, they are important, and other factors, such as length of stay, are contingent upon these. Nonetheless, although hospital length of stay data was not available, it is possible that it might have indicated a more subtle impact than the binary effect of admission or not, including opportunity cost of the interventions. Although most callouts/admissions will be clinically appropriate, these events can expose residents to considerable stress, loss of independence and risk of infections. Furthermore, the cost of current patterns of care for care home residents which include high rates of ambulance and unplanned hospital admission are substantial (Dwyer *et al.,* 2014; Wolters *et al.,* 2019). Finally, a number of factors are likely to determine quality of care and performance of care homes, amongst which the interventions examined in this paper can be seen just

one part. These could not be controlled for in the present study but will include: staff remuneration (Allen and Vadean 2023), staffing ratios, consistency and stability of staffing, quality of relationships in the workplace and leadership (Spilsbury et al, 2024) and the capacity of the home to support and maintain joint work between external health professionals and staff (Goodman et al, 2015, 2016).

It might be possible to consider the development of initiatives examined in this paper as part of a broader process whereby long-term care services and healthcare for older people develop greater alignment. In England this has involved development of in-reach services to care homes. By contrast, in the Netherlands the specialist Nursing Home Physician role (Hoek et al., 2003) has become merged with community geriatric medicine (Koopmans, et al., 2017). In Australia an alternative approach has emerged (Chan et al., 2018) and core components of hospital avoidance in nursing homes have been identified (O'Neill et al., 2023).

Conclusions and implications

This study suggests that specialist healthcare support services for care homes may have more impact in reducing unplanned hospital admissions and ambulance callouts where they work in partnership with care home staff and engage in staff knowledge and upskilling. It has implications for both providers and commissioners as this implies both a teamwork and educational approach between external staff and care home staff, perhaps requiring different or additional skills to those required to provide individual clinical support for residents. It might be argued that in the United Kingdom that healthcare policy since the 1990s has tended to place increasing reliance on primary care without enough consideration of its capacity and capability to undertake such roles. However, in England, for

example, these findings might inform workforce planning and ways of working for multidisciplinary teams providing support for care home residents, a cornerstone of government policy (Authors' own; National Health Service, 2019; National Health Service England, 2020). Indeed, whilst research indicates that most permanent care home residents in England would prefer to remain in the care home at end-of-life (Ennis *et al.,* 2015; Wiggins *et al.,* 2019), a report by Public Health England (2017) suggested the proportion who died in care homes varied from 40 to nearly 90 per cent between local authorities (Public Health England, 2017).

The Covid pandemic has brought the historical neglect and marginalization of care homes to public attention (Oliver, 2020). In terms of future research, it is imperative we now harness this concern to move from descriptions of current provision to detailed evaluation of how best to provide support. Future research needs to address two key areas with greater sensitivity – case-mix within and between homes and the specific components of interventions provided within the broad categories used in the present work. A more fine-grained understanding of what inputs help which residents delivered in which way is an area of both national and international concern in long term care.

Conflicts of Interest

There are no conflicts of interest

Notes

[1]1,101 ambulance callouts coded as "calls from general practitioners and other health professionals requesting ambulance transport" were excluded as the urgency of the callout was unknown.

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Table 1. Profile of ambulance callouts by resident, care home and callout characteristics (n = 17,980)

	n	%	Mean (SD*)	Min - Max
Resident characteristics				
Gender				
Female	11,663	64.9%		
Male	6,317	35.1%		
Age			86.6 (6.0)	75 - 99
Care home characteristics				
Type of care home				
With nursing	7,376	41.0%		
Without nursing	10,604	59.0%		
Ambulance callout characteristics				
Time				
8am – 5.59pm	10,050	55.9%		
6pm – 7.59am	7,930	44.1%		
Urgency				
Potentially life threatening	9,338	55.3%		
Not potentially life threatening	7,541	44.7%		
Outcome				
See and treat	3,563	19.8%		
See and convey to facility other than A&E**	701	3.9%		
See and convey to A&E**	13,716	76.3%		

* Standard deviation
** Accident and Emergency

Table 2. Profile of unplanned hospital admissions by resident's demographic characteristics and diagnosis on admission (n = 14,539)

	n	%	Mean (SD*)	Min - Max
Gender				
Female	9,215	63.4%		
Male	5,324	36.6%		
Age			86.3 (5.8)	75 - 106
Episode contains ACSC diagnosis**				
No	11,175	76.9%		
Yes	3,364	23.1%		
Number of diagnoses***			10.6 (3.8)	1 - 20

* Standard deviation
** Ambulatory Care Sensitive Conditions diagnosis as either primary or secondary diagnosis
*** Counts of diagnosis limited to a maximum of 20

Table 3. Estimated ambulance callout and unplanned hospital admission rates by type of support to care homes

	Type of support of survey respondent care homes* (estimated bed numbers**)				
	Direct support (n=5,019)	Direct and indirect support (n=3,854)	Indirect support (n=466)	No direct or indirect support (n=603)	All care homes***
Ambulance callouts	1.14	1.10	0.97	0.56	1.04
Ambulance callouts conveyed to A&E****	0.88	0.83	0.75	0.33	0.80
Unplanned hospital admissions	0.85	0.69	0.43	0.57	0.84
Unplanned hospital admissions where primary diagnosis is an ACSC*****	0.07	0.05	0.03	0.05	0.07

* Care homes responding to survey
** Source: Care Quality Commission
*** All care homes surveyed, respondent and non-respondent
**** Accident and Emergency
***** Ambulatory Care Sensitive Conditions diagnosis as either primary or secondary diagnosis