Relationship between staff and quality of care in care homes: StaRQ mixed methods study

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Scientific summary

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Scientific summary

Background

An estimated 425,000 older people in England live in 18,000 care homes: with nursing, without nursing, or dual registered homes. They are some of the oldest and the most vulnerable people in society. Resident dependency levels and care needs are often similar in homes with and without nursing – but their workforces differ significantly.

In homes with nursing care, registered nurses (RNs) are employed to provide clinical care and supervise care delivery, mainly from a large workforce of non-registered care assistants. Care homes without nursing comprise only social care staff or care assistants. The NHS provides health care – including nursing care – as required; for example, supporting specialist care for residents at the end of life. Staffing profiles and establishments vary between providers and so studying care homes and their workforce is complex.

Conceptually, quality is similarly complex; it is contested, contingent, contextualised, dynamic and often deeply personal. Two dimensions of quality require consideration in care homes: quality of care and quality of life.

While care home staff and their work are likely determinants of quality, research into the staffing–quality relationship is comparatively scant. Measuring quality often focuses on clinical outcomes, such as pressure ulcer prevalence, falls or medication errors. Many studies are in North American long-term care and the few English studies' primary focus has been on staff turnover and quality and working conditions and quality.

Our mixed-methods study addresses some of the theoretical gaps and methodological challenges associated with understanding staffing's relationship to quality. Using established theory we focused on the structures, processes and outcomes of quality. Our aim of investigating workforce models of nursing and care support in care homes that effectively benefit residents, relatives and staff was addressed through six objectives, which were the focus of five linked work packages (WP).

Objectives

1. Describe variations in the characteristics of the care home nursing and support workforce (WP1).
2. Identify the dependency and needs of residents and relatives in care homes and their association with care home staffing (WP2, WP3).
3. Examine how different care home staffing models (including new roles) impact on quality of care, resident outcomes and NHS resources (WP1, WP2, WP3).
4. Explain how care home workforce (numbers, skill mix and stability) might meet the dependency and needs of residents (WP1, WP2, WP3, WP4).
5. Explore and understand the contributions of the nursing and support workforce (including innovations in nursing and support roles) in care homes to enhance quality of care (WP1, WP4).
6. Translate methods used for modelling the relationships between staffing and quality to provide a platform for sector-wide implementation (WP5).

Methods

A mixed-method (QUAL-QUANT) parallel design built around Donabedian's theoretical framework of structures, processes and outcomes was the basis for our exploration of the relationship between care home staffing and quality. The coronavirus disease 2019 (COVID-19) pandemic meant some deviation from our original protocol was necessary.

Work package 1 (WP1) was two evidence reviews: a systematic review synthesising 36 studies of care home staff perceptions of their roles and responsibilities in promoting quality; a realist review (n = 66 studies) then developed evidence and theory-based explanations of *how* care home staff behaviours promote quality of care and quality of life, *why* and in *what* circumstances.

Work packages 2 and 3 used routinely collected measures of staffing and examined their relationship to quality. WP2 was a cross-sectional observational study, modelling the relationship between care quality – as measured in Care Quality Commission (CQC) inspection reports – and care home workforce characteristics from the National Minimum Data Set for Social Care (NMDS-SC). WP3 analysed routinely collected longitudinal data measures of workforce, nurse-sensitive indicators of care quality, resident characteristics and home characteristics from a large corporate care home provider over 42 months. A cost analysis from a provider perspective was also undertaken.

Work package 4 used documentary analysis of 30 purposively sampled, publicly available, inspection reports from the English national quality regulator (CQC) from homes rated as outstanding or inadequate to examine (1) how staffing structures influenced quality and (2) the care processes that explain the relationship between staffing and quality.

In WP5, care homes (n = 11) were purposively sampled and social network analysis (SNA) using questionnaires and roster name generation was used to map the self-reported advice and influence relationships present in care homes. To assess homes' readiness for innovation and work-related barriers to adoption of our (translated) findings, eight managers completed an adapted version of the Normalisation MeAsure Development questionnaire (NoMAD) questionnaire – an operationalised instrument of Normalisation Process Theory.

Public and stakeholder involvement and engagement

We worked closely with the public and stakeholders throughout, from question formulation through to synthesis. Two advisory groups were formed: (1) a resident and relative group and (2) a care home manager group. The study steering committee (SSC) contained key stakeholders – including relatives – to provide oversight and guidance. These mechanisms ensured perspectives other than the research team informed and improved research design and implementation and prompted wider conversations and learning that benefited the research.

Ethics approval

Work package 2 and WP3 were approved (2 August 2017) by the Social Care Research Ethics Committee (17/WM/0232). WP5 was approved (21 June 2019) by the University of Leeds, Faculty of Medicine and Health, Ethics and Governance Committee (HREC 18-028).

Findings

The five linked WP findings were synthesised using a logic model to explain what is likely to work, why and how, and the interactions between structures, processes and outcomes important for the staffing–quality relationship.

Managerial stability was important: care homes with a manager in-post in the 12 months prior to a CQC inspection were more likely to be rated as good or outstanding (WP2). Managers made those workforce decisions necessary for meeting residents' care and safety needs (WP4). Managers of care homes rated good or outstanding had *authority* and *flexibility* to secure the workforce they judged necessary (WP4). Cohesive working relationships between managers and their corporate senior management team or owner helped managers enact their decisions (WP4).

Higher staff-to-bed ratios were associated with a greater chance of a good or outstanding CQC inspection score (WP2). More care from RNs was associated with fewer falls with fractures, urinary tract infections (UTIs) and medication errors (WP3). Use of agency nurses to cover for staff sickness or unfilled vacancies was not associated with more falls, infections or pressure ulcers, but was associated with more medication errors (WP3). Simply increasing nursing input is unlikely to be a cost-effective way of reducing adverse incidents in care homes (WP3). WP4 (and WP1ii) identified the importance of having 'sufficient' staff to meet residents' needs and preferences and improve outcomes. But detail of *how* staffing levels were determined by managers and consistent use of tools to support professional judgement about staffing (WP4) was lacking.

Staff stability and minimising agency staff use were perceived as necessary conditions for quality (WP4). Having experienced care staff, that is, staff in post for 5 years, was likely to improve quality, as measured by ratings (WP2). A stable workforce was also associated with skills and competence (WP1i, WP1ii, WP4). Opportunities for staff induction, training and continuing professional development, alongside staff supervision, were extensive in care homes rated as outstanding (WP4). High staff turnover reduced opportunities for developing broader staff skills and competence, narrowing it to staff induction and mandatory training (WP4).

Staffing consistency was important for organising care and work (WP1i, WP1ii, WP4). Larger homes were less likely to be rated positively (WP2). Other WPs highlighted the importance of team size (not home size) as a lever for promoting quality (WP1i, WP1ii, WP4). Small groups of linked residents and staff (5–15 residents per staff member based on level of resident dependency) promoted familiarity, communication and a family-like environment for cultivating relationships (WP1ii). Establishing these family-like relationships and 'knowing' residents promoted personalisation of resident care (WP1i), encouraging staff to go beyond purely assisting residents with physical tasks, towards addressing wider social and emotional needs (WP1ii). The reviews (WP1i, WP1ii) highlight where the requisite roles and responsibilities of the workforce might help achieve this.

Developing relationships based on consultation – with families, professionals outside the home and residents – to support residents was a feature of homes rated as outstanding (WP1i, WP1ii, WP4). These relationships informed care planning and personalisation of care (WP1i). Relationships between staff and families also legitimised family involvement in care to support quality (WP1ii). Unit-level supervisors that role modelled relationship building were important levers for realising team ambitions of relationship-based quality (WP1ii, WP4).

Staffing consistency was important for teamworking. In care homes rated outstanding, staff reported working together and supporting each other towards a collective vision of care and support (WP4). Staff that felt supported, valued and – with (managerial) 'permission' – able to prioritise residents' needs, adapted and adopted behaviours promoting residents' expressing preferences for care (WP1ii, WP4).

More autonomy in day-to-day work, with associated accountability, led to greater staff engagement and satisfaction (WP1ii, WP4).

Team reciprocity was linked to open communication, information exchange, advice and influence (WP1ii, WP5). Reciprocity encouraged teams to draw on each other's knowledge and skills to promote individualised care and enhance quality (WP1i, WP1ii, WP4). Combining written and verbal staff communication was a feature in homes rated as outstanding and linked to better resident care (WP4). Visible unit-level supervisors – not always managers – fostered teamworking. They also minimised conflicts, enabling team reciprocity and relationships (WP1ii). Social networks can promote or hinder the behavioural mechanisms influencing quality (WP5). Networks that were interconnected, dense or cohesive, built around strong advice and influence relationships, had higher chances of implementing change associated with innovation around quality (WP5). The care home manager – as opinion leader (i.e. providing most advice and influence *and* receiving most advice and influence) – was pivotal in implementing innovation-related change (WP5).

Leadership and management behaviours promoted resident-centred approaches; ensured effective communication; promoted staff confidence; offered practical and emotional support and recognition to staff; and encouraged diversity (WP1ii). Staff feeling valued was linked to greater staff commitment and contribution to quality (WP4). A managerially endorsed philosophy of care (valuing residents *and* staff) encouraged the staff behaviours needed for individualised resident care (WP1ii, WP4).

Based on our analysis, measuring the following resident outcomes would provide a more meaningful picture of the relationship between staffing and quality: the extent to which resident needs and preferences are met (and culturally appropriate) (WP1i, WP1ii, WP4); resident and family satisfaction (WP1i, WP1ii, WP4); residents living with purpose to promote their quality of life and well-being (WP1i, WP1ii, WP4); and safe care for residents (including clinical outcomes) (WP1i, WP1ii, WP2, WP3, WP4). Staff well-being and job satisfaction were important outcomes which influenced quality as experienced by residents.

Conclusions

Our study makes a novel and important contribution to understanding the importance of the relationship between staff, their work and behaviours and quality in care homes. We have attempted to shift the debate away from a reductionist picture of numbers of staff and their relationship to clinical indicators, towards a more nuanced recognition of the ways in which staff in the right amounts and with the right behaviours can meet resident's needs and preferences. Staffing needs to be stable, skilled and competent to realise the benefits of person-focused organisation of care, and enhanced teamworking. Leadership, reward and recognition of staff and a shared philosophy of care provide needed context for the relationships required to improve quality as experienced by residents. Our findings will be useful for people and organisations making policy and delivering services that want to work towards the best ways to deploy and support quality in care homes using their most valuable resource: their staff.

Implications for social care

- Understanding that numbers of staff alone are a necessary but not sufficient condition for care home quality.
- Quality improves in homes when more care is provided by RNs.
- Simply introducing 'more' staff (particularly RNs) is unlikely to be a cost-effective way of reducing adverse incidents in care homes.
- Quality relies on the who, what and how of staffing arrangements and organisation of work.

- Leadership is key, influencing how organisational resources are used to promote the environments and cultures needed for quality-promoting relationships to flourish.
- Realising and supporting the potential of the staffing resource (clinical, care, social and cultural skills and competence) are essential for quality. Opportunities for learning and development demonstrate an organisation values staff and may support staff retention.
- A focus on the structures that support staffing consistency (stability, skill and competence) is important for influencing processes (the organisation of care and teamworking) and outcomes for residents and staff.
- Developing transparent approaches that enable care home managers to effectively judge and make decisions about staffing levels is crucial for safe and appropriate care for residents.
- Reciprocal relationships, beyond the immediate care team and including residents, their families and health and social care professionals promote quality.
- Leadership and management behaviours influence staff commitment and thus their contribution to quality.
- A 'visible' unit supervisor and staff who 'connect' and influence the team are essential for quality and innovation in care homes.

Implications for research

Future research should:

- Unpack the contribution of direct care support workforce (including care assistants, senior care assistants and nursing associates) working at different levels of skills and competence to care home quality.
- Explore how training for care assistants, senior care assistants and nursing associates contributes to improving quality.
- Consider differences for temporary (i.e. step-up or step-down care) versus permanent (i.e. long-term placement) care home residents.
- Explore how resident population levels of dependency are related to quality.
- Use innovative methods to capture quality in ways that recognise individual stakeholder views, values, expectations and preferences and address both quality of care and quality of life.
- Develop robust social network interventions to change network structures to enhance reciprocity and advice and influence relationships to embed innovations for enhancing quality.
- Consider machine learning methods for analysis of routine data because these methods are better able to identify non-linear relationships between staffing and care quality indicators than traditional regression analysis in order to better identify minimum adequate staffing levels.
- Use methods to promote more accurate modelling of the staffing–quality relationship through data linkage.
- Further test and develop our logic model.

Study registration

This study is registered as PROSPERO CRD42021241066 and Research Registry registration: 1062.

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