The “Mi Care HQ” Project:

Measuring and improving Care Home Quality (Mi Care HQ)

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Project Team

Prof Jackie Cassell (PI), Dr Maxwell Cooper, Stefania Lanza

Brighton and Sussex Medical School (BSMS)

Dr Henglien Lisa Chen

University of Sussex

Prof Julien Forder, Dr Stephen Allan, Madeline Naick, Nick Smith, Ann-Marie Towers, Dr Florin Vadean

Personal Social Services Research Unit (PSSRU), University of Kent

Summary of Research

Background:

Over 300,000 older people in England live in care homes due to significant long-term health problems. Many have cognitive impairment.

In England, the Care Quality Commission (CQC) regulates care homes to ensure they provide appropriate quality of care. There are, nonetheless, concerns about the quality of some homes, and questions about what ‘quality’ means, and how we can measure it. The new Care Act stresses that care services should improve people’s ‘wellbeing’, and this could be measured to include people’s care-related quality of life (QoL) and health.

Care home staff have a critical bearing on quality. Issues of the type of staff employed, training provided and staff engagement with their local community (e.g. unpaid carers, volunteers) are likely to influence quality. Where staff are specifically trained to focus on the outcomes of care on quality of life, this should have a positive effect on quality, as should situations where staff work closely with relatives/friends (unpaid carers), volunteers and other local resources.

Aims:

1. To develop new health outcome measures for pain and anxiety/depression that can be used with care home residents unable to communicate their quality of life;
2. To assess how far the regulator’s (CQC) quality rating of care homes reflect residents’ quality of life, by measuring the correlation between these indicators;
3. To assess how much the staff mix and employment conditions of the care workforce matter for quality: especially staff turnover rates, training provision, different contracts, pay rates etc.;
4. To evaluate two potential measures for improving care home quality:
    a. First, where staff are facilitated to focus on resident quality of life through ‘outcomes-focused care planning and practice’ (OFCPP);
    b. Second, where care homes and staff are encouraged to draw on help from local communities e.g. unpaid carers, volunteers and other local resources, through ‘community engagement’ (CE).

Methods:

WP1 (Measures): Conceptual development of two domains (pain and anxiety/depression) and a scoping review of existing measures, with a particular focus on tools that already incorporate observational methods. Focus groups with care home stakeholders will explore the face and construct validity of the items, before they are used in WP3 (Innovation). WP3 (Innovation) will also provide data to test the reliability and validity of these domains.

WP2 (Workforce): Econometric analysis of secondary data to investigate the relationship between CQC quality ratings and workforce characteristics, training provision and community engagement. Care home quality data for all homes for older people (c. 10,000) in England are available from the regulator. Data on staff characteristics and conditions are available from the National Minimum Dataset for Social Care, which includes a sample of over 6,000 care homes for older people/dementia, employing about 250,000 staff.

WP3 (Innovation): Pragmatic evaluation of outcomes-focused care planning and practice (OFCPP) and community engagement (CE) using data collected from 20 intervention and 20 matched comparison homes. A filtering survey will be used to identify some of this sample. After matching, we will assess whether those in intervention homes have better care-related quality of life, measuring this using existing, validated tools and those developed in WP1 (Measures). We will also investigate the relationship between homes' CQC quality rating and resident QoL using the data collected in these 40 care homes.

WP4 (Change mechanisms): Narrative case studies through participatory action research will be conducted in 6 homes selected from the two-region WP3 (Innovation) sample to explore how OFCPP and CE are implemented and developed, and on how they can have an impact on outcomes. The analysis will have five stages: assessment of the care home's quality of care; identification of the quality 'problem' by staff; planning of a strategy for improving quality; implementation of the proposed innovation, carried out by the participants; and re-assessment and evaluation in group interviews.

Outputs/impact:
The project should help care homes, commissioners and regulators understand the impact of workforce policy, training, and community engagement, and so improve the quality of care. We will produce academic papers of the results/methods, along with reports/summaries and guides for those whose work concerns care homes. Literature for residents and carers will also be produced.

Background and Rationale

Over 300,000 older people in England live in care homes due to significant long-term health problems. Many have reduced cognitive functioning, e.g. as a result of dementia.

In England, the Care Quality Commission (CQC) regulates care homes to ensure they provide appropriate quality of care. There are, nonetheless, concerns about the quality of some homes, and questions about what ‘quality’ means, and how we can measure it. Health and social care policy has emphasised the need to consider person-level outcomes as indicators of impact and quality and yet measuring these outcomes is challenging, particularly when trying to assess the quality of life of people with cognitive impairment. Most quality indicators either only capture service-level outcomes or only reflect the experiences of people who are able to engage with conventional measures.

The quality of care provided by care homes will vary for many reasons, but the nature and characteristics of the workforce, and the approaches to care used by the workforce in care homes are likely to be major determinants.

The care home sector currently has relatively high levels of staff turnover and vacancy rates (Skills for Care, 2015) and there is a potential future workforce shortage (International Longevity Centre – UK, 2015). Wage rates are also low. These employment conditions of the workforce could be having a negative impact on care outcomes, given that issues of pay, training, status, terms and conditions are likely to influence quality (Bostick et al., 2006; Bourbonniere et al., 2006; Castle et al., 2008; Castle, 2009).

The ‘Care for our Future’ White Paper (DoH, 2012) stresses that person-centred care service provision should have a positive effect on quality, as should situations which develop stronger connections between care homes and the local community. Nonetheless, most care planning focuses on needs and health deficits. Furthermore, care home staff often work in comparative isolation from their local communities and other services. It could be argued that training provision and systems supporting outcomes-focused care planning and practice and/or building links with their local community (Granville et al., 2014; Tanner and Brett, 2014) could potentially help staff with providing good quality care.

Building on these conjectures, we can hypothesise that care homes with staff that adopt outcomes focused care planning and practice (OFCPP) and have good community engagement (CE) processes should produce better quality care, other things equal. OFCPP is defined as care planning and practice that explicitly considers the individual's health and well-being outcomes, and how best to improve these through the delivery of person or relationship-centred care and support.

Within the literature, there is a myriad of terms used to discuss concepts similar or related to community engagement in the care system. For instance, social engagement, service collaboration, multi-agency working, partnership and service integration. For the purposes of this study, we define community engagement as the ability of a group or network of people or organisations, bound either by the shared interest or by geography, to interact with one another for support, to promote inclusivity and to organise care support and/or social activities for the care homes (Middleton et al., 2005; Bauman, 2001). This might involve reaching out to the local community by supporting residents to attend local events, clubs and community hubs or by finding ways to bring the local community into the home itself, by working with community volunteers and local organisations. CE is also a strategy that might be employed by OFCPP homes to deliver positive outcomes in social participation, engagement in meaningful activities and the support of independence.

Evidence explaining why this research is needed now

For largely historical reasons, most public funding of care home residents in England is through local authority social care rather than the NHS, with a little over 150,000 older people supported. In addition, more than 120,000 older people pay for care home services themselves. NHS continuing care in care homes accounts for a relatively small minority of residents at somewhat over 30,000 people. Nursing care in care homes, as opposed to personal care, which is a social care responsibility, is also covered by the Registered Nursing Care Contribution of £112 per week per resident paid by the NHS. Around 90 per cent of care home services are provided under contract from private and voluntary sector providers.

Care homes are regulated for standards and quality by the Care Quality Commission (CQC), but the way in which homes are inspected has changed a number of times in the last decade. The most recent system is finding fewer homes rated as outstanding or good. A significant minority of homes are being rated as requiring improvement or inadequate.

As well as on-going concerns about the quality of care, especially given the cost pressures that now exist in social care, there is uncertainty about exactly how CQC quality ratings relate to 'final' outcomes for care home residents. The concept of improving 'wellbeing' lies at the heart of the Care Act 2014, defining the key purpose of the social care system. One way to measure wellbeing is in terms of final outcome indicators such as care-related quality of life (Netten et al., 2012a). As yet there is little evidence about how far care homes do improve the care-related quality of life and health of residents, and indeed the cost-effectiveness of this care.

Care home services remain highly labour-intensive, and as such the nature and training of the care home workforce is expected to be a highly significant factor for overall care home quality, and on the effectiveness of care on residents.

The focus of this study is on the effects of the care home workforce's employment conditions, training and community engagement on (a) the care- and health-related quality of life of care home residents and (b) their (avoidable) use of hospital services.

We hypothesise that three factors are important, as follows. First, where the workforce has good employment conditions, including relatively high wage rates, and where policies are in place to reduce vacancy rates and staff turnover, this will have a positive effect on quality of care and support, which will in turn lead to comparatively better outcomes for care home residents.

Second, where staff are specifically trained and facilitated to focus on the outcomes of care on QoL, this should have a positive effect on quality. Outcomes-focused care planning and practice (OFCPP) involves staff explicitly considering the impact of care activities when planning care and support, rather than focusing (just) on needs, health deficits etc. In particular, OFCPP is defined as care planning and practice that explicitly considers the individual’s health and well-being outcomes and how best to improve these through the delivery of person or relationship-centred care and support.

Third, in care homes that encourage staff to work closely with their local community, not only will these resources underline the importance of residents being able to retain their connections with family members, friends and their community of choice (Bowers et al., 2009), but also staff morale, esteem and empathy will also improve, leading to an (indirect) positive effect for residents. In addition, initiatives of this kind could generally be making better use of the totality of resources within a community (Knapp et al., 2010) and the volunteering approach can keep people active, promote health and wellbeing and strengthen local connections (Van Willigen, 2000). Taken together we describe these activities as community engagement (CE), which is the set of activities that involve reaching out to the local community by supporting residents to attend local events, clubs and community hubs or by finding ways to bring the local community into the home itself, by working with community volunteers and local organisations.

There is recent literature on measuring social care-related quality of life in care homes, e.g. Netten et al. (2012a). A related study – Netten et al. (2012b) – considers the relationship between care home quality ratings and resident quality of life, although this work concerns the previous regulation system, not CQC’s new system.

A substantial literature exists to measure health-related quality of life (HRQoL) and also clinical outcomes in care homes. However, the HRQoL methods are mostly unsuited to people with cognitive impairment, a substantial part of the care homes population. Most existing research focuses on the use of proxies: e.g. Smith et al. (2005) on health-related quality of life for people with dementia (DEMQoL). Clinical measures are used, but their link with QoL is unclear.

As such, the literature relating to the measurement of quality of care – as defined in resident quality of life terms – is limited.

The literature on the impact of workforce practices on care home quality is similarly limited. There is some research on dementia care practices in care homes, e.g. the evaluation literature on Dementia Care Mapping (DCM). There are some parallels in this literature with our proposed WP4 (Change Mechanism) on OFCPP, although our proposed work would use the ASCOT quality of life framework.

A small literature exists on the impact of workforce characteristics, e.g. staff turnover, on care home quality (Castle et al., 2008; Castle, 2009; Mukamel et al., 2009). However, most of this literature focuses on clinical markers of quality or other process measures, not final outcomes or quality of life. Also, this is mostly a US-based literature.

Training specific to the firm (or sector, e.g. Parent, 2000) will enhance a worker’s productivity and, therefore, a firm’s output (Borjas, 2008).There is some evidence for the US nursing home industry linking skill mix and training levels to care quality outcomes (e.g. Eaton, 2000; Hunter, 2000; Zimmerman et al., 2005; Comondore et al., 2009), but there is very little statistical evidence for England.

Similarly, very little literature is available on the community engagement of care homes (e.g. Chen, 2009; Granville, 2014; Tanner and Brett, 2014). This literature primarily examined a pilot study of volunteer support to local care homes (e.g. Essex), but the scope of community engagement nationally is not known. Much more evidence-based research on innovative approaches of community engagement and their impact on quality of life for residents is needed in order to widen policy implementation (i.e. as laid out in Care for Our Future (DoH, 2012)).

Aims and objectives

This research aims to:

1. Measure the health and quality of life (QoL) of care home residents, particularly for people with impaired mental capacity. The specific objective is to develop new health outcome measures for pain and anxiety/depression that can be used with care home residents unable to communicate their SCRQoL. The intention is for these measures to be used alongside an existing ASCOT mixed-methods social care-related quality of life measure (SCRQoL).
2. Assess how far CQCs quality ratings of the home are consistent with indicators of residents' QoL. The objective is to: (a) understand how indicators assessed at the home level (CQC quality ratings) relate to the care- and health-related quality of life of sample individuals; and (b) to assess how far operational measures such as CQC quality ratings can be used as summary statistics of resident QoL.
3. Assess how much the skill mix and employment conditions of the care workforce matter for quality, including factors such as training provision, staff turnover rates, staff qualifications etc. The objective is to assess how much these factors – some under the home's control (e.g. training and skill mix) and some outside (direct) control (e.g. local labour market conditions) are associated with indicators of quality. The intention is to understand how policies that change these factors might be implemented to improve the quality of care.
4. Evaluate two potential methods for improving care home quality:
    a. The first is where staff are specifically trained and facilitated through workplace systems to focus on the quality of life implication of care for individuals – called outcomes-focused care planning and practice (OFCPP). This approach involves staff focusing on improving residents' quality of life and understanding how their actions and the opportunities available to residents within a care home can affect it. The objective is

to explore whether this focus changes the way that staff work, which in turn leads to improvement in the quality of care they provide.

b. The second is through homes drawing more on help from local communities – called ‘community engagement’. The specific objective is to support care home staff with their jobs by exploring how care home staff and the communities could work together to improve the quality of care homes.

In both cases, we would seek to assess whether these quality interventions are associated with improved quality of life for residents in care homes (in England) and to explore why these measures work (or not) and how far their impact is mediated by the way in which they are implemented.

Research Plan / Methods

The research plan comprises four interlinked work packages, which taken together seek to address the aims outlined above. The underlying theme is to assess how care home quality is affected by the way the care home workforce is organised, supported and managed. There are a number of ways to measure and assess care home quality that might be combined to measure quality more comprehensively. Our plan is to use an outcomes-focused indicator in the form of the Adult Social Care Outcomes Toolkit (ASCOT), measuring quality as extent to which care can improve patient quality of life. ASCOT was designed to measure care-related quality of life and has a version that can estimate quality of life for people that cannot use self-completion methods. WP1 (Measures) will explore how key elements of health-related quality of life, such as pain and depression can be combined with ASCOT to provide a more comprehensive measure of quality that can be estimated without relying on self-completion. Another care home quality indicator is CQC’s quality rating of care homes. It is not a validated measure as such but is collected routinely as part of the regulation process.

We propose two general approaches to assessing the relationship between quality and workforce characteristics and deployment, one drawing on secondary data (WP2 (Workforce)), the other involving a primary data collection (WP3 (Innovation)). WP2 (Workforce) primarily comprises an analysis of existing data on around 6,000 care homes to model the relationship between CQC quality ratings and the following workforce characteristics: skill mix, training provision to staff, input of support from the community, such as by volunteers and staff terms and conditions (turnover/vacancy rates, and wages). All these variables, which can be affected by policy, are expected to be important determinants of quality. These data cannot be used directly to identify OFCPP and CE approaches being used in homes, but the variables can give important insights into the practices of homes in this regard. In particular, the analysis will be helpful in designing our primary data collection, which is our other method for assessing quality, research to be conducted as WP3 (Innovation).

In WP3 (Innovation) our intention is to two-fold. First to better establish the relationship between quality measured by CQC quality rating and quality measured by ASCOT and related outcome indicators. Second, we will assess how far homes utilising OFCPP and CE have better quality than other homes, other things equal. To identify homes using OFCPP and CE, we propose a self-completion questionnaire survey to all registered care homes in two regions plus pragmatic recruitment of around 10 homes known to be using care planning systems or frameworks that focus on improving residents' quality of life through person or relationship-centred practice. We expect to identify around 20 OFCPP and CE homes and will match these with around 180 potential control homes. Given the population of care homes, quality of life data will be collected using mixed methods including observation, which allows the estimation of QoL for people with profound cognitive impairment. However, these methods are resource intensive and so we propose selecting 40 homes from this 200, half OFCPP/CE homes and half control homes. WP3 (Innovation) will then involve a comparison of outcomes in these two groups of 20 homes – controlling for confounders – to assess the impact of OFCPP and CE. Furthermore, regression analysis will be used to estimate the relationship between CQC quality rating and ASCOT for 200+residents in these 40 homes, again controlling for confounders.

OFCPP and CE are complex interventions. As well as assessing the overall care home quality impacts of their use we propose to explore how they are implemented and developed in homes by staff, and what main mechanisms of change they involve. This is the proposed work of WP4 (Change Mechanism). The plan is to link with the data collection in WP3 and select 4 homes for in-depth study from the initial control sample not using OFCPP/CE and 2 homes from the initial intervention sample that are using these policies. Using Participatory Action Research (PAR) we hope to support staff to implement and develop OFCPP and CE in the first 4 homes and complement this with PAR work in the 2 homes already using these mechanisms. In this way, the first 4 homes will eventually move into the intervention group.

The flow diagram in Annex 1 gives details of these processes.

The above is an overview of how the WPs fit together. Specific details for each are described below.

WP1: Measures

The Adult Social Care Outcomes Toolkit (ASCOT) is a well-established set of tools for measuring outcomes in social care (Netten et al. 2012a). Its focus is on the social care-related quality of life (SCRQoL) of individuals. SCRQoL refers to those aspects of a person's quality of life that are relevant to, and the focus of, social care interventions. The care home version of ASCOT uses a mixed-methods approach comprising observation of lived experience alongside interviews to rate individual residents' SCRQoL (Beadle-Brown et al., 2011; Netten et al., 2012b; Towers et al., 2010). Although the tool can be used alongside other measures, including health-related quality of life (HRQoL) tools, the ASCOT tool itself does not include HRQoL domains. A mixed-methods approach is important for the high proportion of people in care home that are unable to use self-completion tools. Up to 80% of care home residents (Prince et al., 2014) are believed to have dementia. QoL measures need to be designed for use in these settings and must address these challenges.

In order to better reflect the overall wellbeing of those who live in care homes, we propose to develop two new HRQoL domains, pain and anxiety/depression, which could be collected using a mixed-methods approach. They would sit alongside existing SCRQoL domains. Both of these outcome domains have been shown to be highly relevant to the lives of people living in older adult care homes (Achterberg et al. 2013; Godfrey & Denby 2004). Whilst there are other areas of health related quality of life that are of relevance to older adults in care homes, for example usual activities and self- care as included in EQ-5D (Brooks 1996; The EuroQol Group), aspects of these are included in the existing SCRQoL measure.

The first stage of this work package – which is largely focused on aim 1 of the proposed study – would concentrate upon the conceptual development of these two additional domains and conduct a scoping review of existing measures, with a particular focus on tools that already incorporate observational methods. The scoping review would feed into the development of draft tools. For each domain drafts would include:

- Observational guidance;

- Two questions (current and expected) with fixed response options to gather proxy (staff and family members) perspectives (to go into a structured interview schedule);
- One question with fixed response options to gather an individual's current experience (to go into a structured interview schedule);
- A set of prompts for use in a semi-structured interview schedule for use with care home residents.
- Guidance for rating evidence gathered.

The initial inclusion criteria for the scoping review will be (1) English language tools (2) validated in populations over the age of 65 years of age (3) using observational or mixed-methods, however, in line with previous research (Armstrong et al. 2011), it is likely the final criteria will be amended post-hoc. For example, while the focus of the search is on measures used with older populations (and in particular older people living with dementia) and observational tools, if the initial search finds few tools, a broadening of the search criteria will be considered. Subsequent searches may include other populations (such as adults with intellectual disabilities) and methods (such as face to face interviews).

In the second stage, the draft tools will be shared with stakeholders (including care home staff) in three to four focus groups in order to explore the face and construct validity of the items. If significant issues are identified, a further period of adaptation and development will be carried out, followed by another two focus groups. Following revision, the tools will be used in WP3 (Innovation). Where appropriate, the structured questions with fixed response options (see above), will be cognitively tested with a sample of residents and staff participating in WP3 (Innovation). As it is only two domains, this cognitive testing will be conducted as part of the early WP3 (Innovation) interviews which gather ASCOT data. Placed at the end of the interview, once the respondent has answered the pain and anxiety/depression questions, they will be asked to reflect on the process of answering these two questions. This will be done via verbal probing techniques rather than the other main cognitive interview technique of thinking aloud.

The use of the pain and anxiety/depression items in WP3 (Innovation) will provide data to test the reliability and validity of these two items and feed into the finalised items that will complement the existing ASCOT SCRQoL domains.

WP2: Workforce

We propose to use econometric modelling to investigate the relationship between care home quality – as measured by the Care Quality Commission (CQC) quality rating of the home – and workforce characteristics, training provision and community engagement of care homes for older people in England. This analysis, which will mainly inform aim 3, will focus on the effects of workforce skill mix (e.g. share of registered nurses in total direct care staff), staff terms and conditions (e.g. turnover/vacancy rates, and wages), as well as training provision (e.g. dementia training, person-centred care, etc.) and community engagement (e.g. volunteers and employment of community support and outreach staff). Assessing the latter set of determinants (training provision/community engagement) would complement research by the Economics of Social and Health Care Research Unit (ESHCRU), which examined the impact of local labour market characteristics and staff terms and conditions. The ESHCRU work – which involves a number of current co-applicants – has provided valuable understanding of the data and the feasibility of our proposed analyses. The work would also extend the analysis from ESHCRU by using all English care homes quality ratings as of April 2017 (when CQC intends to have completed rating all social care providers).

We propose to assess determinants of CQC quality rating overall and also the components that underpin the overall rating (i.e. safe, effective, caring, responsive, and well-led). The components analysis should reveal whether some care outcomes are more strongly related to staff characteristics, training and engagement than others.

We will use a range of econometric methods to account for selection in the data, including multi-level modelling to account for selection on observables and instrumental variables to account for selection on unobservables (Forder et al., 2014). We will also explore the possibility of a longitudinal aspect to the analysis if a large enough subset of homes has been inspected on more than one occasion over the period January 2015 to April 2017. Compared to cross-sectional analysis, a longitudinal analysis would provide stronger evidence of causation.

The analysis would use the Skills for Care National Minimum Dataset for Social Care (NMDS-SC), matched with CQC quality ratings available from the CQC database of registered care homes. The NMDS-SC is a rich source of information on care provider staff characteristics and staffing levels in England. Social care provider registration and data input for the NMDS-SC is voluntary. Providers are encouraged to participate through: personalised staffing reports, local market comparisons, training incentives, and information held on NMDS-SC can be used to automatically update the staffing section of Provider Information Returns (PIRs), a legal requirement to their CQC registration. Despite the voluntary nature of the data provision, the NMDS-SC includes data for a large proportion of social care establishments (Skills for Care, 2015). In detail: the NMDS-SC as of April 2016 has data for more than 22,000 social care establishments (all establishments, including domiciliary care providers, and not just care homes). Over 16,000 of these are in the independent sector (for profit and voluntary sectors), of which nearly 10,000 are care homes. From these, there are nearly 6,000 care homes for older people and/or those living with dementia. A minority of these care homes may not be suitable for the analysis as they are aimed at specific clients, e.g. older people with brain injuries. Further refinement of the sample may be necessary based on when the staffing data was entered – if using only care homes that have updated information in the last year, we anticipate a sample of 3,500-5,000 care homes. The sample of about 6,000 care homes for older people/dementia employ more than 250,000 staff. We will initially focus on independent sector homes (to have a more homogenous dataset given that, for example, competitive forces in both the labour and care homes market are less likely to impact on LA homes), but will also run analyses with LA homes included.

In terms of community engagement, information is available on particular job roles (e.g. community support and outreach) and employment type (e.g. volunteer). Moreover, NMDS-SC contains information on training provision and particular training categories (e.g. dementia training and person-centred care, which are characteristics of outcomes-focused care planning and practice). Skills for Care have agreed to match in the CQC quality rating of the home and provide this linked dataset to the study.

There are several other factors that may affect care home ratings. These confounding factors can be classified into resident characteristics (or case mix), care home characteristics, and market characteristics (see Forder and Allan, 2014; Dellefield et al., 2015; Backhaus et al., 2014; Spilsbury et al., 2011). Resident characteristics (e.g. age, ADL function, mobility, mental status, long-term conditions, etc.) may provide some indication of care need and the amount of staff required to meet the care demand. Care home characteristics are often associated with nurse staffing levels and skill mix, but also include for example the type of ownership (i.e. for profit and not-for-profit status), group size, care home size (i.e. number of beds), work environment, payer mix (i.e. share of self-funders), and geographical location. Market characteristics usually capture the level of supply in the local area (e.g. number of beds) and indicators of the local labour market (e.g. unemployment rate).

WP3: Innovation I

This work package comprises a number of strands of work. The first strand is to evaluate the impact of outcomes-focused care planning and practice (OFCPP) and community engagement (CE), and is focused on aims 4a and 4b. We propose to conduct a pragmatic, non-randomised observational study. The second strand is a statistical analysis of the relationship between CQC quality rating and resident quality of life, relating to aim 2.

A primary data collection will be required. We propose to recruit 40 care homes into the study. Care homes will be recruited to the study in two ways. Primarily, we will conduct a ‘filtering’ survey of all care homes for older people on the CQC register in two regions of England. Homes will be sent a (paper or online) survey questionnaire to identify homes’ use of care planning systems and practices that are consistent with the logic model of outcomes-focused care planning and practice (OFCPP) and community engagement (CE). As both OFCPP and CE are not specific models as such, but rather general approaches based on the philosophies of person or relationship-centred care, we expect to develop a categorisation of homes as being more or less aligned with these philosophies.

The study will also seek to pragmatically recruit homes from care groups that identify themselves as operating an OFCPP approach. The first stage of WP3 (Innovation) will include a scoping review of providers’ websites and related grey literature to identify providers who are already implementing an innovative outcomes-focused approach, with an emphasis on residents’ quality of life. In parallel, we will also conduct a two-stage systematic literature review of quality of life interventions carried out in care homes for older people since 2007. The first stage will be limited to studies conducted in English care homes, with a view to assisting the scoping review in identifying innovative care practices already in place, as well as gaps in the evidence base. The second stage will expand this to the international literature, with a view to identifying learning opportunities from other countries. This will be helpful for WP4, which will be working with case study homes to help them implement an OFCPP approach during the research.

A rapid review of the literature suggests that there is very little prior evidence, and relatively limited practice using these innovative care approaches. Therefore, we are proposing an exploratory study. Moreover, there is little basis to form expectations as to the size of effects and so any power calculations are highly tentative. Nonetheless, for comparison, with a sample size of 200 a simple two means test would be powered to detect a 0.1 better improvement in resident SCRQoL from intervention care homes compared to the improvement in resident SCRQoL produced in non-intervention care homes (based on results from Netten et al., 2010). With further account for clustering (at the home level), a sample size of 240 would be indicated (although such adjustment should be seen as tentative given our limited prior knowledge about how effects would be clustered). As such, we will attempt to recruit 5 to 6 participants per home for a total of 200 to 240 residents (depending on clustering). In any case, we will be collecting a wide range of characteristics of homes and residents and expect this to compensate for headline sample size numbers.

We aim to recruit the first 16 ‘intervention’ homes to our sample in these two ways. A further matched sample of 24 homes, as identified by the survey results as not using OFCPP or CE, will initially act as controls. However, as part of WP4 we propose to work closely with 4 homes from this initial control group sample who are interested in developing CE or OFCPP strategies. The idea is that after initial contact and agreement to participate, we will support staff to implement OFCPP and/or CE approaches to care using participatory research methods. Subsequently, these homes will become part of the intervention group for comparison of outcomes. These strategies combined will therefore give a follow-up sample of 20 (16+4) intervention and 20 (24-4) control homes.

Following consent processes, involving consultees where appropriate, as laid out in the Mental Capacity Act, both health-related quality of life (HRQoL) and care-related quality of life SCRQoL will be assessed in a sample of 200+ residents in these 40 care homes. We will also collect clinical indicators from the homes about these residents, including hospital admission rates. We will consult with NHS partners (NHS Swale CCG) on appropriate indicators.

The study will also ask care homes to provide their submission to the National Minimum Dataset for Social Care (NMDS-SC) and the CQC data return.

Regarding the aim to evaluate OFCPP and CE (Aims 4a and 4b), we will compare outcomes as between OFCPP and CE homes with the controls. Simple regression analysis using a control group approach is likely to be vulnerable to selection bias, as OFCPP and CE care homes are likely to be positively self-selected, i.e. they may in general be relatively more committed to care outcomes compared to other homes. Our ‘treatment’ group could, therefore, have certain observable (e.g. staff with better skill mix) or unobservable (e.g. degree of management commitment to care quality) characteristics beyond OFCPP and CE that are associated with better care quality. Effects of OFCPP and CE on care quality would consequently be over-estimated if confounding factors and selection were not accounted for. To control for selection, a matching approach will be used (by regression or propensity score matching) to control for observable differences, and use of instrumental variables (IV), where possible, to control for unobservable difference factors. Sample sizes are modest and so we would expect results to be conditional on a number of modelling assumptions that will be required e.g. as to functional form.

We expect the effect sizes (of OFCPP and CE) to be mediated by a range of characteristics of residents and the homes. We will use the results of the qualitative (PAR) analysis in WP4 (Change Mechanism) to identify likely mediating factors as we evaluate the change mechanisms of these interventions.

The main outcome indicators in this analysis will be SCRQoL, HRQoL and SCRQoL + pain/anxiety (from WP1). Data will also be collected about residents’ use of community and acute health services, with hospital admission rates as potential outcomes measures. In this way, we will assess whether OFCPP or CE correspond to better quality of life and/or reduced hospital admissions.

Regarding the comparison of CQC quality rating and ASCOT (Aim 2), we will use (multi-level) regression analysis to estimate the correlation between sample SCRQoL and the care home’s CQC quality rating (40 homes). The estimation will use SCRQoL data from the 200+ residents in these homes. Given the relatively limited sample of CQC quality rating observations (40), we will look to supplement the resident data with data from the Measuring the Outcomes of Care Homes (MOOCH) project. This ongoing study assesses the relationship between CQC quality ratings and residents’ SCRQoL. The project will collect SCRQoL data for between 250-350 residents of 30-40 Kent care homes by August 2017. Also collected will be information on age, gender, needs levels, etc., and care home-level data including CQC quality ratings, which will allow this sample of data to be used in this analysis. This should allow comparison of the results of the regression analysis regarding the relationship between the individual SCRQoL scores and the CQC care home quality ratings (Aim 2) between our sample and the MOOCH sample. We will investigate the possibility of additional estimations being run with a pooled sample of residents from the two studies. Finally, we note that these findings would be tentative (given the sample size) should be treated accordingly.

The results of the filtering survey will also be analysed. We expect a minimum of 200 care homes to return questionnaires (c. 10% response). The filtering survey will identify quality interventions (OFCPP and CE) as outlined above, and will collect information about resident-mix and home-level characteristics. Regression analysis at the (200+) home level will be used to assess the relationship between quality interventions and quality as measured by the home's CQC quality rating, with controls on observables.

WP4: Change Mechanism

Building on WP2 (Workforce) and WP3 (Innovation) we will apply Participatory Action Research (PAR) (Maddenet al., 2014; Lahtinenet al., 2014) to explore how the quality mechanisms of: (i) training provision regarding outcomes-focused care planning and (ii) community engagement could impact on care quality. Three care homes for each of the quality mechanisms will be recruited from WP3 (Innovation). It will include a mix of the care homes where there is high and low practice evidence of the quality mechanisms, which the study operating in two geographical regions. WP4 (Change Mechanism) will conduct in-depth analysis with this small group of homes to gain a better understanding of how different levels of practice could further improve quality of care.

The work package involves five stages:

Stages One and Two: quality of care assessment and problem identification. Quality of care in the care homes will be assessed at baseline. In the main we will use initial baseline data that was collected in WP2 (Workforce) and WP3 (Innovation), including CQC quality rating, filtering survey and other home characteristics. Data on SCRQoL will not have been collected by this time point however.

As to problem identification, a Delphi study will be conducted with the staff (5 in each care home) to prioritise their potential needs developing outcome-focused approaches and better community engagement. Participants will be encouraged to think in SCRQoL terms about the need for improvement, drawing on the work of WP3 (Innovation). The Delphi method was chosen as it is suitable for areas where only uncertain or incomplete knowledge exists, as it allows experts (the staff) to evaluate the topic in a flexible, iterative, multistage, group process (Linstone and Toroff, 1975, Hasson et al., 2000).

Stage Three: planning. This stage comprises the co-design of a strategy to respond to the top priority area which staff feel would benefit from further implementation (of OFCPP and/or CE). The participants will include the relevant care actors identified by the care staff.

We will focus on visualisation (of scenarios and storyboards) as a way to allow the participants to develop and complete their early ideas creatively (Sanders and Stappers, 2014). One group work session will be held in each of the six care homes to develop a plan of action. Sessions will be facilitated; the role for the session facilitator is to stimulate and support the creative process and to obtain a maximum of variety in responses and input. The six plans (one in each care home and three for each of the quality mechanisms) will specify the proposed changes and adaptations required to improve quality of care for residents within the overall philosophies of OFCPP and/or CE. The six plans will each be documented on paper by the participants and photos taken by the researchers for further thematic and content analysis (Braun and Clarke, 2006; Krippendorff, 1989). The shared results of all six and the rationale behind them will be presented as case studies containing potential innovations that can be developed in more detail for implementation in stage four. The researchers will provide the participants with a summary of the research findings prior to stage four of the WP.

Stage Four: Implementation. The implementation of the above proposed innovation will be carried out with the support of PAR (Ericson-Lidman and Strandlberg, 2013) sessions by the participants from stage three. Two PAR sessions in each care home will take place during the third and fifth months of the intervention. Each session will be filmed and tape-recorded. Prior to each PAR session, each participant will be interviewed/observed about their daily work in implementing the proposed intervention. In addition, staff will complete a questionnaire relate to staff’s knowledge, motivation, work condition, resources and OFCPP and/or CE practices

The results from the interviews, observations and questionnaire will be presented by the researchers to the participants as a group in the PAR sessions. Out of this presentation, the participants will prioritise the situations that generate ‘a troubled conscience’. This allows them to discuss reasonable adjustment for change and to further work out a plan for possible and meaningful actions. Throughout the PAR sessions – with researchers acting as group facilitators and motivators – actions will be taken and will be evaluated and revised and new actions will be implemented. Any changes of OFCCP and/or CE plan will be recorded. The researchers will provide the participants with a summary of the research findings after stage four of the WP.

Stage Five: Evaluation. Improvements in quality of care in the care home will be assessed around the seventh month of the intervention. The data on SCRQoL-measured effects of OFCPP and CE from WP3 will be fed into this evaluation. It will be followed by a group interview with the participants where the researchers will provide a summary of comparative preliminary findings on quality of care, CE and/or OFCPP before and after the intervention from WP2 (Workforce), WP3 (Innovation) and WP4 (Change Mechanism) for the participants to reflect on: (i) how and why they are engaged in training provision and/or community engagement; (ii) how far the quality mechanisms could, or do, improve care quality for residents.

We can assess whether the results from the mediation analyses from WP3 (Innovation) are consistent with change mechanisms and contexts identified in the case study homes. This will help us refine our understanding of why effects on quality were seen (or not).

We would expect to frame this process evaluation using the Medical Research Council (MRC) guidance for evaluation of complex interventions. Following Waterman et al. (2010), we will draw on our action research results to feed into the assessment of the impact on quality for OFCPP and CE. As with other qualitative approaches, we will be exploring mechanisms of change, implementation, and context. Whilst, we cannot directly generalise from qualitative analysis results, a better understanding of why quantitative results might have occurred will help to focus our drafting of policy implications. For example, the quantitative analysis cannot assess the (many) ways that community engagement could be conducted, but when combined with qualitative results, insights will be gained about why and how community engagement approaches differ, and where they might be most effective.

Dissemination and projected outputs

In additional to the final report and PowerPoint slides (i.e. the required project outputs), we intend to inform a wide audience about the progress and results of the project.

First, we will produce interim reports and papers/articles on the results and methods. We expect to produce three papers in academic journals (e.g. NIHR HS&DR Journal, Health Economics and Ageing and Society) to engage with a wide range of disciplinary scholars (e.g. Social Policy, Economics, Gerontology and Geriatrics). We also expect to produce two articles in professional magazines (e.g. Community Care) to engage with the broader health and social care professionals.

Second, reports/summaries and tools/guides for those working in the care sector will also be produced. These will be concise papers or blogs focusing on the implications of the results. Where appropriate, these will be co-authored and disseminated in collaboration with PPI members of the advisory group.

Third, we will produce literature for residents and carers, developed, as far as possible, in conjunction with carers taking part in the study and experts in communication with people with limited mental capacity. These will likely take the form of digestible pamphlets, with the emphasis on key messages, such as what to look for when choosing homes, and how to get involved with activities to improve quality.

Fourth, we will have a project website which will contain all the project's outputs (e.g. reports and discussion papers, recordings/slides from webinars/presentations etc.). A range of social media, including Twitter and blogging, will be utilised to broadcast the main findings.

Fifth, we expect to report the results at: academic conferences (e.g. HESG, BSG), regional feedback sessions with those who took part in the study, CPD registered events (e.g. the National Care Forum and the Margaret Butterworth Care Home Forum) and also at stakeholder events, subject to invitations, e.g. Care England events. We will also present the findings to an international audience of policy makers, academics and providers through the annual ASCOT workshop and/or webinar series.

We aim to also work with stakeholder networks and policy makers to disseminate research findings. Care England and other care home representative organisations are concerned with these issues. Regarding policy, employment conditions form part of the new market-shaping responsibilities for local authorities as laid down by the Care Act 2014. We will build on our Policy Research Unit (QORU) networks to disseminate relevant findings from the research.

The project should help providers, commissioners and regulators to improve quality of care through developing new health outcome measures for care home residents and understanding the impact of workforce policy, training, and community engagement.

Specific impacts include:

First, in relation to promoting an effective workforce. The results will aim to influence the care sector regarding (a) employment practice e.g. staff recruitment and training etc., and (b) policy seeking to affect the operation of local labour markets. For example, the results might help shape DH guidelines or regulatory practices regarding staffing practice in care homes where that is linked to improved quality. These factors are important because the Care Act requires local authorities to foster a workforce that is able to deliver high-quality services. Where appropriate, we would develop benchmarking templates for this purpose.

Second, in promoting high-quality care through appropriate staff training provision. The proposed research will inform understanding of whether staff training and outcomes-focused care planning and practice (OFCPP) are associated with better quality of care. These results will help providers in developing policy and practice around training, assessment and care planning. The non-randomised nature of this study will limit conclusions about causal effects, but the findings from the participatory action research will inform understanding of the value of OFCPP. Also, the work will provide an understanding of whether configurations of OFCPP could be implemented on a nationwide scale.

Third, in influencing strategy and practice development in community engagement. The proposed research will assess whether care homes' engagement with their local communities is associated with better quality of care. Through participatory action research we aim to be able to advance theoretical understanding of greater engagement, and demonstrate practical ways for homes to reach out to their local community. One important area of potential influence from the study is in regard to new multi-agency working in localities. These approaches have potential to improve social inclusion and wider community support to residents and staff, with the goal of benefiting service users.

Finally, the research could also provide stakeholders with tools to measure relevant health outcome measures for pain and anxiety/depression when used alongside care-related quality of life indicators. These measure could be used with care home residents, especially those unable to communicate effectively how they feel because of dementia or very poor health.

Timetable

The research project will start in July2017 and runs for 36 months.

Months	*Activity*	*Work Package(s)*
1-6	Rapid review of existing measures of pain and anxiety	1
	Development of new, “mixed-methods” pain and anxiety domains	1
	Literature and scoping review informing study design	3
	Identification of homes already known to be using OFCPP	3
	Design of filter survey	2
	Ethical review of secondary data analysis and filter survey	2 and 3
7-12	Focus groups of pain and anxiety domains with care home staff	1
	Filter survey of care homes	2
	Begin secondary data analysis	2
	Ethical review of primary data collection (SCREC)	3 and 4
	Selection and recruitment of care homes	3 and 4
13-18	Cognitive interviews of pain and anxiety domains	1
	Secondary data analysis finished	2
	Primary data collection in care homes begins	3
	Delphi study carried out	4
	Participatory action research begins	4
19-24	Primary data collection and entry continues	3 and 4
25-36	Data analysis	all
	Dissemination	all

Project management

Prof Jackie Cassell (PI) will provide overall management of the project, produce analyses, and oversee the drafting of the progress reports and final report. JC will also provide links to relevant NHS projects and health and residential care networks.

Mr Nick Smith (Co-I) will lead the WP1 (Measures) and the drafting of the Interim Report 1.

Dr Max Cooper (Co-I) will advise the project, particularly from a primary care perspective and mainly contribute to WP1.

Dr Stephen Allan (Co-I) will co-lead WP2, (Workforce) drafting of Interim Report 2 and a research paper on the results of the secondary data analysis in WP2.

Dr Florin Vadean (Co-I) will co-lead WP2, (Workforce) organise and manage the filter survey (WP3 (Innovation)), and provide quantitative analysis for WP3 (Innovation). He will co-lead the drafting of Interim Report 2, a research paper on the results of the secondary data analysis in WP2 (Workforce), and the research paper on the results of the primary data analysis in WP3 (Innovation).

Ms Ann-Marie Towers (Co-I) will provide day-to-day management of the project at Kent and also lead on the completion of the ethical review at PSSRU/University of Kent, manage the primary data collection (WP3) (Innovation), and co-lead drafting the research paper on the results of the primary data analysis in WP3 (Innovation).

Dr Henglien Lisa Chen (Co-I) will lead WP4 (Change Mechanism) and on the completion of the ethical review at the University of Sussex. She will organise and conduct the participatory action research and draft a research paper presenting the results.

Prof Julien Forder (Co-I) will support the research work (mainly WPs 2 (Workforce) and 3 and (Innovation) and provide advice about social care policy.

Communication and coordination of activities between the two teams at the PSSRU/University of Kent and the University of Sussex will be mainly through contact by email and phone. Four face-to-face team meetings are planned at key stages of the project: a kick-off meeting in the first month of the project; a meeting on the selection/recruitment of care homes for the primary data analysis (WP3 (Innovation)) and the participatory action research (WP4 (Change Mechanism)) around month 11; and two meetings during the drafting of the interim and final reports. We also anticipate monthly project meetings by video/audio conference that will involve all or some subset of the research team. In addition, specific meetings will occur as required regarding the business of individual work packages.

Liaison and reporting to NIHR will be via the project HS&DR research liaison officer.

Data and information governance will be managed in line with PSSRU/University of Kent and University of Sussex data and IG policy.

Study steering committee and data management and ethics committee

We can confirm that we have already begun identifying suitable experts for these two committees, with a view to appointing members if we are successful with this application.

Study Steering Committee

The PI (Professor Cassel) will sit on the steering committee and other work package leads will be invited to present their contributions to the project to the committee at relevant stages of the research. In addition, we aim to appoint an independent chair with expertise in research in care homes, and a further three independent members consisting of a minimum of one: statistician/health economist;; service user recruited via the University of Sussex’s public involvement group; and care home manager.

The steering group will meet at the very start of the project and at least another 3 times (annually) after that.

Data management and ethics committee

We will invite a member of the data management team from the PSSRU, a member of the QORU public patient involvement group, a representative from the care regulator and at least one academic with expertise in the ethics of care homes research to sit on this independent committee.

The Data Management and Ethics committee will meet approximately 2 weeks before we submit the application to the National Ethics Committee and at least another 3 times (annually) after that.

Approval by ethics committees

Ethics and research governance approval will be sought in two stages to insure an early start of the project work: (1) we will apply at an early stage (months 4-6) with University of Kent Faculty of Social

Sciences Research Ethics Advisory Group for ethic clearance for the stakeholder focus groups (WP1 (Measures)), secondary data analysis (WP2 (Workforce)) and filter survey (WP3 (Innovation)); (2) once filter survey completed and the care homes for primary data analysis (WP3 (Innovation)) and participatory action research (WP4 (Change Mechanism)) identified, we will seek ethical approval from the Social Care Research Ethics Committee (SCREC) as well as the appropriate research governance consent in the LAs sampled for the project (months 10 to 12).

Patient and Public Involvement

In relation to the commissioned call for research, the specific aims and methods of this research proposal, as laid out in plain English summary, have been considered by five members of the public. We have also revised the following sections based on comments and feedback from two members of QORU's Research Advisory Group: Plain English Summary, Dissemination and Outputs, and Patient and Public Involvement.

PPI input will be delivered in four ways:

- The study steering group and data management and ethics group will include PPI representatives. We plan to include one member of the QORU Public Patient Involvement Group and one or more service users recruited via the University of Sussex's public involvement group. Members of the steering group will review project plans and outputs for written quality and clarity, attend meetings and give a public/patient perspective on any issues that may arise.
- We will recruit lay research advisors from QORU's research advisors panel (RAP) to help us conduct WPs 1 to 4 e.g. to comment on study materials and specific design issues. There are 25 RAP members with various backgrounds in, and experience of, the workings of health and social care services.
- We propose to involve two members of the RAP in our fieldwork data collection activities in WP1. These persons will be given training through participation on our ASCOT courses. We propose that these people work as part of the research team for these activities.
- Finally, we will invite PPI members as co-authors on reports and summaries and tools/guides.

Formal support and training for PPI reps will be offered through PSSRU’s QORU programme. The two RAP members recruited to be directly involved with fieldwork will be trained on QORU’s ASCOT training courses. This course teaches mixed methods assessment of care-related quality of life using the ASCOT care home tool.

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Annex 1. Flow diagram