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Using comprehensive geriatric assessment for quality improvements in healthcare of older people in UK care homes: protocol for realist review within Proactive Healthcare of Older People in Care Homes (PEACH) study

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ABSTRACT

Introduction Care home residents are relatively high users of healthcare resources and may have complex needs. Comprehensive geriatric assessment (CGA) may benefit care home residents and improve efficiency of care delivery. This is an approach to care in which there is a thorough multidisciplinary assessment (physical and mental health, functioning and physical and social environments) and a care plan based on this assessment, usually delivered by a multidisciplinary team. The CGA process is known to improve outcomes for community-dwelling older people and those in receipt of hospital care, but less is known about its efficacy in care home residents.

Methods and analysis Realist review was selected as the most appropriate method to explore the complex nature of the care home setting and multidisciplinary delivery of care. The aim of the realist review is to identify and characterise a programme theory that underpins the CGA intervention. The realist review will extract data from research articles which describe the causal mechanisms through which the practice of CGA generates outcomes. The focus of the intervention is care homes, and the outcomes of interest are health-related quality of life and satisfaction with services; for both residents and staff. Further outcomes may include appropriate use of National Health Service services and resources of older care home residents. The review will proceed through three stages: (1) identifying the candidate programme theories that underpin CGA through interviews with key stakeholders, systematic search of the peer-reviewed and non-peer-reviewed evidence, (2) identifying the evidence relevant to CGA in UK care homes and refining the programme theories through refining and iterating the systematic search, lateral searches and seeking further information from study authors and (3) analysis and synthesis of evidence, involving the testing of the programme theories.

Strengths and limitations of this study

► To our knowledge, this is the first review of the use of comprehensive geriatric assessment (CGA) in the care home setting (long-term care residence).
► The review will develop and refine realist programme theories about the practice of CGA in care homes using evidence from literature and professional bodies and experts within the field.
► A potential limitation will be the availability of relevant evidence for the care home setting. This will be mitigated by a realist theory-driven approach to evidence review.
► Public involvement in studies of CGA has been limited and it is difficult to ascertain views from care home residents with frailty and/or dementia as to their personal experience of CGA.

INTRODUCTION

The challenge of healthcare in care homes

A total of 433,000 older people in the UK live in care home.¹ Care home residents have complex medical needs and they use primary and secondary care more than similarly aged
people outside of long-term care. Healthcare to care home residents in the UK is provided by general practitioners under the General Medical Services contract, as it is for home-dwelling citizens. However healthcare for care home residents has often been found to be ad hoc, reactive and inequitable.2

A recent study “Optimal NHS service delivery to care homes” noted that effective services for care home residents required dedicated and specific time and resources focused on the residents of care homes to foster relational working between the healthcare services and the care home staff.3 4 The use of comprehensive geriatric assessment (CGA) for assessment, goal setting and care delivery could improve relational working.

Why CGA?
CGA has been shown to improve outcomes for older people including improved physical and cognitive function, reduced mortality and readmissions to hospital.5–7 Its evidence base has predominantly derived from acute hospital settings, but it has also been found to improve outcomes in community settings.8 Rubenstein et al have defined CGA as a ‘multidisciplinary diagnostic process intended to determine a frail elderly person’s medical, psychosocial and functional capabilities and limitations in order to develop an overall plan for treatment and long-term follow-up’9 10 (see figure 1). Its focus on health and social care needs and recognition of the need for multidisciplinary working has potential for use in UK care homes. However, its impact is unknown,11 specifically, what needs to be in place for uptake and, if effective, sustained implementation.

It is also likely that there are interventions that follow very similar processes but are not called CGA, for example, case management12 or approaches to the identification and management of frail older people.13 There is also variability, both within and between different types of settings, in terms of how CGA is actually used and implemented in practice and different forms or models of CGA have been identified.7 14 15 Descriptions of CGA range from solely an assessment process, exemplified by its use in minimum data sets,16 to a model of interprofessional working and integrated care across health and social care.16 Existing systematic reviews and meta-analyses of the evidence around CGA illustrate that, even though the evidence in favour of CGA in general is promising, how it is delivered is not uniform and how the CGA process achieves its outcomes is unclear.6 14 17 Greater attention is needed to understand and refine the processes of CGA in order to enhance its effectiveness.7

Objectives of the Proactive Healthcare of Older People in Care Homes realist review
The purpose of the Proactive Healthcare of Older People in Care Homes (PEACH) realist review is to propose the best ways of organising and implementing CGA within UK care home settings. The outcomes of interest are health-related quality of life, satisfaction with and appropriate use
of National Health Service (NHS) services and resources of older care home residents. The specific objectives of the PEACH realist review are:

1. To identify and characterise the particular elements of CGA which are potentially more likely to be effective with regard to our specific outcomes of interest, under what circumstances and why.
2. To understand the configuration of different contexts of implementation and how these may act as a resource, or trigger particular mechanisms, to achieve the successful implementation, uptake and working of CGA in UK care home settings.
3. To establish what evidence there is on the feasibility of using CGA within UK care home settings and its resource implications and costs.

METHODS

CGA in care homes is a complex, context-dependent intervention. Realist review is a theory-driven review method which seeks to facilitate understanding of how complex interventions like CGA work and in what circumstances.21 22 In critical realism, change is not directly achieved by an intervention, rather change is generated through the influence of an intervention resources and contextual factors on human reasoning.21 22 By making explicit the evidence that underlies an intervention and explains how it works to achieve the desired outcomes,23 24 As a starting point therefore, and to address objective 1 of the PEACH realist review, the focus will be to develop explanatory models of why and how CGA as an intervention is believed to work. This will be done through:

a. Exploratory, semistructured, qualitative interviews with a group of relevant professionals with expert knowledge on CGA and its use;
b. A review and analysis of research and scholarly literature on CGA, alongside professional literature and documentary evidence from the UK, such as official policies and guidelines, in relation to the use of CGA within different settings.

Interviews with experts

Exploratory, semistructured, qualitative interviews will be undertaken with healthcare and care home practitioners working in the area of older people’s health and social care, specifically with those who are seen to have expert knowledge regarding CGA and its use. Identification and recruitment of stakeholders will include members of the research team who are actively involved in CGA (ALG, JRFG) and a wider network of practitioners known to the team. This will include geriatricians, care home managers and therapists. We anticipate completing up to 10 interviews with individuals who are either part of the team or known to the team. The purpose of these interviews will be to identify and test the range of assumptions or theories about why and how CGA is believed to work and why it might be needed for UK care homes.24 This will be done by presenting participants with propositions about what needs to be in place for CGA to be effective. Participants will be asked to articulate how the contextual circumstances of CGA may impact on professional, resident and family behaviours.

Residents and family carers will also be invited for interview as ‘experts by experience’. Only residents with capacity to provide consent to participate in interviews...
will be included. These interviews will focus on the experience of assessment and care planning, and include questions about data sharing between practitioners. This section will also draw on findings of the “Optimal NHS service delivery to care homes” study about how residents and relatives understood healthcare provision, and medical involvement in assessment and decision-making about their care. Consensus documents that have been developed to describe the priorities expressed by patient groups in terms of organisation of care and services will also be drawn on.

Practitioners, residents and family carers will be given participant information sheets and requested to sign consent forms. Governance of the project has been approved by Nottinghamshire Healthcare Foundation Trust.

Scoping of research and professional literature
Alongside the analysis of the interviews with experts in CGA, professional literature and documentation, such as written documents and published communications about official policies and guidelines on CGA use in UK care homes, will be reviewed. These sources of information will provide us with more detailed data regarding how, for the UK care home context, CGA has been conceptualised to work effectively (or not) in terms of achieving positive outcomes for older people’s health-related quality of life and their use of NHS healthcare services. Alongside the data from the interviews with the local CGA experts, this scoping of the CGA literature will make explicit the range of assumptions underlying CGA’s proposed use within UK care home settings.

Professional literature will be accessed mainly through literature searching on the websites of the relevant UK-based organisations and also requesting information through identified contacts within the organisations. Members of the PEACH project team with professional affiliations and/or knowledge of the various relevant organisations will lead the process of contacting the identified organisations. These organisations will include:

- British Geriatrics Society, Community Geriatrics Special Interest Group
- AGILE—Chartered Physiotherapists working with older people
- College of Occupational Therapists
- Association of Directors of Adult Social Services

Interview data will be organised using Excel spreadsheet using the following themes: the type of theory being used to describe why and how CGA works; the proposed context of its implementation or the resources described as needing to be in place for it to work; and details of its presumed mechanism of action. NVivo V.11 (QSR International) qualitative software will be used to index and link relevant sections of data to the emerging framework of the relevant candidate programme theories.

A review of the empirical literature on CGA will summarise the range of approaches to implementing CGA in care homes and other similar community settings. The relevant literature on CGA will be searched electronically in the first instance (see box 2) using a searching methodology that is well aligned with the methods employed in undertaking a systematic review, that is, following a systematic, transparent and replicable process of literature searching and shortlisting.

A series of ‘if then’ statements that capture the range of possible situations that need to be in place for CGA to work will be developed and tabulated with supporting evidence from the interviews, professional and research literature and discussed within the team. From this, candidate programme theories that can capture the different accounts with linked putative CMO configurations will be presented to the PEACH study steering group for review and challenge. Discussion will focus on the plausibility...
and relevance of the programme theories for CGA in care home settings. These will be set specifically against the evidence identified in this first stage of the review process.

This stage will result in candidate programme theories and related contexts that will inform the remainder of the review process.

Stage 2: identifying the evidence and testing and refining the programme theories

Stage 2 will address objective 2 of the PEACH realist review, that is, understanding the contextual resources that are likely to trigger particular mechanisms which will achieve the successful implementation, uptake and working of the various components of CGA in care home settings. The focus of the analysis here will mainly be on evidence relevant to the UK care home context and outcomes consistent with the PEACH study aims and objectives, building on earlier related work. For example, it is likely that we will expand the searches from stage 1 to address approaches that overlap or are very similar to CGA, but we will exclude literature that is not relevant to long-term care or, as in the case of some US Minimum Data-set-derived systems, have not gained traction in UK care homes.28 We also know that person-centred approaches are the mainstay of care home work and particularly for those living with dementia. Drawing on the findings from two recent care home reviews, we anticipate however that there will be limited evidence on the process of how person-centred care is implemented that can explain how CGA might work.3 29

An expanded and iterative, review of the relevant literature will be conducted. The literature search terms will be based on the description above but will also take into account other sources of evidence relevant to the candidate theories. For example, if evidence around what supports implementation in care homes is identified as key to developing a theory of what needs to be in place for CGA to be effective, the searches will be expanded to include evidence in this area. In addition to the above electronic database searches we will undertake the following lateral searches:

► Checking of reference lists from primary studies and relevant systematic reviews (snowballing).
► Citation searches using the Cited by option on Web of Science (WoS), Google Scholar and Scopus, and the Related Articles option on PubMed and WoS (Lateral Searching).
► Contact with experts and those with an interest in care homes and CGA to uncover grey literature.

The guiding principle for the review is that the quality of the evidence will be judged on its contribution to the building and testing of relevant theory. Appraisal of the included primary studies and the data extraction process will be conducted taking into account the guidelines for undertaking realist reviews21 23 and the use of the method as illustrated by Rycroft-Malone et al.30 Hence, appraisal of the evidence from the primary studies will involve an assessment of relevance and rigour—involving a consideration of whether the research does address one or more of the theories under test and if it supports the conclusions drawn from it by the researchers.

Data extraction will be based on the content of the programme theory. If the evidence meets the test of relevance described above, data will be extracted by one member of the team19 using the form and then checked by a second member (RD, ALG, CG) of the team. Data extraction and review forms for stage 2 will gather information on the relevant theory area being addressed by a research article—including which specific programme idea they address; what claims are made or conclusions drawn (either explicitly or implicitly) with respect to which theories; and how the apposite evidence is marshalled23 (see box 3). Once data have been extracted and reviewed for all the papers found to be relevant, the analytical task is in synthesising the relationships between mechanisms (eg, underlying processes, structures and entities), contexts (eg, conditions, types of settings, organisational configurations) and outcomes (ie, intended and unintended consequences and impact).

Stage 3: analysis and synthesis of evidence

This stage will address objective 3 of the PEACH realist review. Following the methods employed by the PEACH research team in an earlier study,9 once the preliminary mapping of the evidence into tables is complete, we will consult with the whole project team and steering group. This will be carefully structured to facilitate in-depth discussion of the findings and to develop and confirm or reject the resultant hypotheses. Those confirmed will act as synthesised statements of findings around which a narrative can be developed summarising the nature of the context, mechanism and outcome links, and the characteristics of the evidence underpinning them.
The iterative process of data analysis, synthesis and discussion will continue until the programme theories are refined enough for use as an organising framework for the next phase involving the PEACH realist evaluation work. During this next phase, the theories will be further tested and refined in relation to the PEACH quality improvement collaborative.

**DISCUSSION**

Care homes are complex environments and many residents have frailty or multimorbidity. CGA is a complex intervention which may be able to improve quality of care within care homes. Care homes are also heterogeneous, ranging in size from a few beds to hundreds, resourced through a mix of funding models and types of healthcare support. CGA has been extensively described and tested within hospital settings and also for people living in their own homes in the community, but there is limited understanding of how CGA may be optimally implemented within a care home setting, or indeed the extent to which CGA, when operationalised for this setting, overlaps with other models of integrated and patient-centred care already in place. This realist review will describe some of the causal mechanisms that may explain how CGA may bring about improvements in quality of care in care homes.

The findings from this realist review will feed into the next phase of the PEACH study work, involving a realist evaluation of CGAs’ implementation in local care homes. In this latter phase, these findings from the realist review will be further analysed, tested and refined against the empirical evidence gathered, in order to improve our understandings regarding how CGA can work in UK care homes to support older residents’ health-related quality of life, satisfaction and use of NHS services and resources.

**Ethics and dissemination**

The PEACH project was identified as service development following submission to the UK Health Research Authority and subsequent review by the University of Nottingham Research Ethics Committee. The study protocols have been reviewed as part of good governance by the Nottinghamshire Healthcare Foundation Trust.

We aim to publish this realist review in a peer-reviewed journal with international readership. We will disseminate findings to public and stakeholders using knowledge mobilisation techniques. Stakeholders will include the quality improvement collaboratives within PEACH study. National networks, such as British Society of Gerontology and National Care Association, will be approached for wider dissemination.

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**Contributors**

CG and ALS conceived the study, MZ and NHG drafted the protocol, with JRPJ, TD, CS and ALS developing and refining methods and objectives. All authors have read and approved the final version.

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**Competing interests**

None declared.

**Provenance and peer review**

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