Full title: Developing Research Practice Partnerships to deliver novel, sustainable collaborations between adult social care research and practice in the UK

Short title: Creating Care Partnerships (CCP)

Background

How can investment in adult social care research be optimised to support improvements for people with lived experience of social care services? A promising approach in the literature is research practice partnerships (RPPs). RPPs offer a different way of producing and mobilising research. RPPs involve the establishment of long-term partnerships between people who traditionally produce research and those who provide and access services. The partnerships engage in a range of activities including capacity building, making use of existing research and data and producing new research. They also build trust and mutual understanding to support the use of research over time. Where this approach has been tried and tested, the results look promising.

While there has been a long tradition of partnership working between social care research and practice in the UK, there has been little rigorous evaluation of the approach to support sustainability of partnerships and wider spread. Focusing on care homes, this proposal aims to co-design three new research practice partnerships for implementation and evaluation in adult social care in England. If the approach proves to be successful, the team will consider how RPPs can become a more established part of the social care research landscape in the future. The study aims to:

- To conduct a rigorous evaluation of the implementation of the RPP model in three different partnership sites to investigate the impact of the partnerships on a range of outcomes including building research capacity, informing decision making in adult social care and preparation of joint research bids

1. What is the problem being addressed?

There are many pressing questions about how to provide adult social care for different types of service users that is compassionate, responsive, acceptable, equitable, efficient and cost effective. Where there is research evidence addressing these questions it is known that there is limited use of it by social care commissioners, providers and the workforce (Ghate and Hood 2019). Sometimes this is attributed to the lack of perceived relevance and inaccessibility of the research itself. Furthermore there has been an underinvestment in activities to support evidence use. For example, there has been limited investment in capacity building for the social care workforce to support the use of research evidence, little in terms of support for brokering and intermediaries to promote the use of research evidence, limited funding for research networks and few opportunities for practitioner research. An exception in England is the NIHR funded ENRICH programme which has sought to build capacity for research engagement in the care home sector (https://enrich.nihr.ac.uk/).

In particular, there are challenges around the social care workforce accessing and using evidence, which include the fragmented market structure that results in numerous organisations loosely linked together through local provider associations, or with contractual relationships (between Local Authorities (LAs) & providers). There has been little attention paid to developing research skills and capacity in the care workforce. Care workers typically have low levels of educational qualifications (Skills for Care 2019). Social workers, who might develop research skills as part of their undergraduate education, are a small proportion of the workforce. In addition, research capacity within LAs is no longer available due to budget constraints (Rainey et al 2015). While there are a number of tools to collate research for practitioners such as the Social Care Elf (https://www.nationalelfservice.net/social-care/) and those produced by the Social Care Institute for Excellence (SCIE), it is not clear that they are accessible and used by the workforce.

People in the sector have also questioned whether the right research is being done and whether research is being framed in a way that makes sense for practice. Recently there have been several pieces of work to establish research questions (e.g., the James Lind Alliance priority setting for social work (http://www.jla.nihr.ac.uk/priority-setting-partnerships/adult-social-work/) and in social care a research

prioritization exercise based on a scoping review (Cyhlarova & Clark 2019)). However, while identifying relevant research questions is essential, it is equally important that researchers understand the practice context and that practitioners understand both research and the requirements of funders. In social care, this understanding is often lacking on both sides leading to communication issues and frustrations (Ghate and Hood 2019). Where opportunities for practice-led research have emerged to pursue practice-relevant research questions, this research is often poorly funded, with unrealistic timescales, resulting in poor quality research (Knapp et al 2010). One strength of the RPP approach is the promotion of equal partnerships and this, along with its long-term nature, may help to break down some of the challenges around power/fragmentation and the misunderstandings between research and practitioners, leading to relevant, rigorous and usable research.

Within adult social care, we have identified care homes as a critical area for further work on engaging with and using research (and the COVID crisis has reinforced the gaps in research activity in this sector). Using a definition from Hanratty et al (2019) we use the term 'care home' to describe residential care for older adults in facilities with registered nurses on site (nursing homes) and those without (residential care). A study by the ENRICH team (Enabling Research in Care Homes - an NIHR programme bringing together researchers, care home residents, staff & relatives to improve care home research and impact) is working on building the capacity of care homes to engage in research. Davies et al (2014) concluded that future work needs to consolidate and develop strategies that encourage reciprocity and relationship building with care homes. They highlight that it is important to *'include care home staff and owners in the research design and dissemination process to ensure they have greater involvement in setting research priorities and contributing to improved quality of care for residents'* (2014:7). Studies of the NHS England Vanguards in care homes (Stocker et al 2018) have highlighted the importance of partnership working and the recognition of challenges in establishing trust to support change processes in the care home sector.

To summarise, despite significant investment in ASC research in the UK, there is a growing concern that this research is not always seen as relevant to practitioners and agencies. This problem has been highlighted across policy domains and geographical areas (Boaz et al 2019). It is recognised that activities and interventions are needed to support the mobilisation and application of research to improve practice. This project provides an opportunity to set up and evaluate partnerships designed to: increase capacity among researchers to understand diverse practice contexts, to build capacity among practitioners to use research to inform in their practice, to understand research and the funding context and to build relationships and trust between researchers and practitioners and. It is anticipated that RPPs will increase high quality adult social care research applications to funders, from teams with a track record of working together.

2. Why is this research important in terms of improving the health and/or wellbeing of the public and/or to patients and health and care services?

There is increased research evidence addressing problems in adult social care (Knapp et al 2010) but it is often poorly used. Many more questions need investigating and there are also opportunities to provide more evidence to directly meet the needs of commissioners, providers and staff. Given the challenges in the sector and in promoting the use of research evidence more widely, building long term, trusting partnerships between providers of services and producers of research evidence looks like a promising way to mobilise research evidence to improve the health and wellbeing of social care service users.

There is a growing interest in approaches that build stronger links between those who produce research, those who use research and those who are the intended beneficiaries of research (Metz et al 2019). This theme of increasing engagement between the producers and potential users of science also features strongly in a number of recent policy documents, including the 2019 Science Capability Review. The potential benefits relate to research quality, research utility and equity and propriety (Government Office for Science 2019). Building long term relationships (beyond an individual study) has further potential benefits (Coburn and Penuel 2013). It has been acknowledged for some time that Research Practice Partnerships provide a promising methodology

for building long term, equal partnerships between different producers, users and beneficiaries of research to generate good quality, usable research evidence (Walter et al 2004).

This bid provides a unique opportunity to develop an infrastructure for supporting the mobilisation of evidence to practice in social care, designed specifically to fit the features of the adult social care context. It will seek to augment the social care components of existing infrastructure investments (in particular the NIHR Applied Research Collaborations (ARCs)) which generally remain very healthcare focused and are not currently set up to take on board the features of social care such as fragmentation of provision and local politics and a low qualified workforce. However, it will aim to align with and support existing infrastructure (such as the ARCs) to support mutual learning, complementarity and sustainability. In particular, this bid links to the ARC national priority theme on adult social care and social work led by ARC Kent, Surrey and Sussex.

The National Institute for Health Research is also keen to support research capacity building in ASC services. This commitment is signalled in investments such as the NIHR School for Social Care Research. RPPs will provide a further mechanism for building research capacity within the social care sector in both practice and research settings. We will work closely with the School for Social Care Research to share learning on capacity building in ASC and with the ESRC/ Health Foundation Centre for Evidence Implementation in Adult Social Care to share learning on mechanisms for knowledge mobilisation. We will also take on board learning from previous studies that have sought to build capacity for engagement in research in adult social care (for example, ENRICH in the care homes sector: https://enrich.nihr.ac.uk/).

While building an 'evidence base' through investment in the production and synthesis of social care research is important, ensuring that this evidence is mobilised is crucial if we are to close the gap between what we know and what we do. We know from the small number of studies of research engagement, including an NIHR-funded review (Hanney et al 2013), that interventions to build capacity and support evidence use can lead to improvements in practice and in the wellbeing of recipients of health and care services. So perhaps most importantly this proposal includes a substantial evaluative component so that we can learn whether and how RPPs contribute as a mechanism for improving the production and use of research evidence.

3. How does the existing literature support this proposal?

What is being learnt about partnerships between research and practice internationally?

There are many different forms of partnerships between academic and practice organisations. The models these partnerships adopt differs between countries and sectors. Some approaches focus on work in single sites such as schools and hospitals, and others with service-delivery providers operating across local areas. How these partnerships are named and described also varies from place to place. In the social work sector, academic-practice partnerships are informed by a body of literature on Practice-Based Research (Epstein, 2010; Dodd & Epstein, 2012). While different terms are used the partnerships share very similar underlying principles, goals and practices. There is an international network of social work scholars (which meets annually for its International Conference on Practice Change) interested in the potential of long-term partnerships to improve both practice and research. In other sectors, such as education and healthcare, larger investments have been made in academic-practice partnerships, and a considerable body of evaluation evidence has been generated. Research practice partnerships have been identified as a promising approach to supporting evidence use in social care (Walter et al 2004), but their use in adult social care has not yet been well explored. We draw in particular on a Research-Practice Partnership (Coburn and Penuel 2003) model as a starting point for this work. Learning from this model highlights critical mechanisms for sustaining effective partnerships, facilitating knowledge mobilisation and capacity building, and overcoming barriers to success in social care and social work. The section provides an overview of the learning from international examples of practice partnerships in social work and social care, followed by international examples from other sectors.

4. What is the research question / aims and objectives?

Research Aims

This study aims to explore how investment in adult social care research can be optimised to support improvements for people with lived experience of social care services. Focusing on RPPs as a promising approach, this multi-method study aims to evaluate the application of a RPP approach to building novel, sustainable partnerships between social care research and practice.

The objectives are to:

1. Evaluate whether RPPs work, why and how, and in what circumstances
2. Evaluate the costs of delivering RPPs and the economic value of RPPs

5. Project Plan

The evaluation will be led by Juliette Malley from the Care Policy and Evaluation Centre at the London School of Economics. The approach to evaluation is informed by what we know about how RPPs aim to improve the use of research, what we have learnt about how best to study the use of research evidence in practice and our understanding of the adult social care system. We propose a theory-based approach to evaluation, using a mixed methods comparative case study design, and including an economic component led by Annette Bauer, also from LSE. It aims to address these questions:

1. How, why and in what circumstances do RPPs in the care home context contribute to enhancing research and research use in local care homes and informing wider care home improvement efforts?
    a. To what extent have the main outcomes been achieved?
    b. How significant is the contribution of the CCP partnership to the main outcomes, given other factors?
    c. How, why and in what circumstances do the CCP partnerships contribute to each outcome?
    d. To what extent is the way the CCP partnerships operate consistent with the RPP approach?
2. What are the costs of delivering RPPs, and are RPPs good value for money?

The evaluation consists of four workstreams. The first focuses on the evaluation approach and overarching design and the second on data collection. The final two workstreams focus on analysis relating to the two objectives.

Stream 1: Evaluation approach and overarching design (months 8-10)

A) A theory-based approach to address the complexity of RPPs and long timescales for impact:

Although RPPs aim to have a positive impact on care home residents, staff and benefits for the wider ASC system (e.g. through efficiency gains), we are unlikely to observe these impacts within the timeframe of the project because of the time it takes to effect changes in practice and outcomes (Penuel and Hill 2019). Following the approach taken by a team of US researchers investigating RPPs (Penuel and Hill 2019, Henrick et al 2017, Farrell et al 2018), our evaluation will focus on the outputs and the short- and medium-term outcomes related to research use and research production, which are considered as *indicators of progress* towards the desired impacts. Taking a theory-based approach, we will map out a 'theory of change' (ToC) for RPPs which articulates the assumptions underpinning the rationale and design of the RPPs and explains why we expect the RPP to lead to greater research use, with positive impacts for participating care homes, their residents and staff and the sector more broadly. The ToC then provides a template for evaluating the RPPs, guiding a firmly contextualised analysis of causal chains from the activities of the RPP to outputs, outcomes and impacts (Moore et al 2014). We expect RPPs to produce many different outputs and outcomes for different individuals, organisations and sectors. The economic evaluation will focus on exploring some of the more

tangible economic consequences and utilise knowledge on indicators to model economic consequences for different types of outcomes.

The complexity of RPPs means it is challenging even with a theory-based approach to establish causality. For example, relational outcomes like trust are key for promoting both research use and production, but evidence also suggests that practitioners who *engage* in the production of research are more likely to *use* research (Huberman 1999). This implies that research use may improve over time as the RPP begins to produce research. In recognition of the causal complexity, we propose adopting an approach based on contribution analysis (Mayne 2012), which has been used successfully to assess research impact (Morton 2015). For contribution analysis, the focus is on verifying that the steps and assumptions in the ToC were realised in practice, accounting for other major influencing factors. If this can be demonstrated, we will assume that it is reasonable to conclude that RPPs have made a difference, i.e. are a contributory cause for the outcome. The contribution analysis approach has much in common with other theory-based approaches (Connell et al 1995; Fulbright-Anderson et al 1998, Pawson and Tilley 1997), and we will draw on insights from these approaches to help develop the ToC, in particular the emphasis on articulating both, what Weiss (1995) refers to as, 'implementation theory' (relationship between activities and outcomes) and 'programme theory' (causal links between mechanisms for change and outcomes) (Blamey and Mackenzie 2007) and on understanding how particular contexts might be 'triggers' for certain mechanisms that lead in turn to particular outcomes (Pawson and Tilley 1997).

A distinctive feature of this evaluation is that we take seriously the need to understand the effectiveness of RPPs within the context of the wider system and the social, political, economic and technological environment within which the RPPs are being implemented, since we see this as key to developing a model of RPPs that is sustainable and spreadable. Selection of the three RPP sites and the related comparative component of the evaluation will support this aspect of the evaluation. There are existing collaborations/networks that can support elements of the RPP model (e.g. NIHR ARCs, ENRICH network) and RPP members within each site may already be linked into some of them. Additionally, while sites will be supported to implement all components of the RPP model outlined, (as acknowledged in the design phase) we also expect them to have different goals for the partnership reflecting differences in, for example, staff skills and knowledge and the local context, which in turn will influence how RPP activities are implemented, both over time and in the shape they take. We will also include these wider stakeholders in the data collection to strengthen our ability to draw conclusions about contribution of RPPs to the observed outcomes, e.g. interviewing ARC leaders and collecting ARC data on research production and use. The comparative aspect of the evaluation will help to identify the potential trade-offs between different strategies and provide insights for thinking about sustaining, spreading and/or redesigning the RPP approach (WP4) (Coburn & Penuel 2016).

Following empirical studies of research use (Gitomer & Crouse 2019) and US research into RPPs (Penuel and Hill 2019, Henrick et al 2017, Farrell et al 2018), a mixed-methods design is proposed for each case study (Yin 2018, Creswell 2014). The different methods provide complementary perspectives, allowing for investigation of processes, evaluation of a broader range of outcomes and for unintended consequences to be uncovered and investigated. Since we have only three case study sites, we do not have sufficient numbers to conduct robust statistical analysis of outcomes. Combining quantitative and qualitative data from multiple sources, however, will enable us to triangulate data, to make sure the use of research is not over-estimated or exaggerated (Gitomer & Crouse 2019).

The need to maintain the independence of the evaluation has also shaped our approach. The evaluation will focus on the implementation of the RPP model *within the sites*, including the set-up and co-design phase. Each site will have a point of contact for the study's evaluation team, supporting data collection and using the evidence collected to improve the implementation of the RPPs. The evaluation team will support this activity

by providing structured feedback at two time points to each RPP to support the ongoing development of the partnership, facilitated by the CCP implementation team.

The project will be guided by the UK Policy Framework for Health and Care Research and the set of principles it outlines that apply to all health and social care research. Given the focus on care homes, there are likely to be particular ethical challenges conducting this study, particularly in ensuring that residents living with dementia have opportunities to participate in the study. The general principle for this work will be as inclusive as possible, providing support/ modifications to tasks to enable participation and, where that is not feasible, working with people who know the person with dementia well. The team have experience (across the work packages) of working to be as inclusive as possible in the conduct of research.

B) Refining the Theory of Change and evaluation plan

We will develop and refine the ToC and evaluation plan, taking into account learning from work underway in the USA to develop metrics for the effectiveness of RPPs (Henrick et al 2017; Farrell et al 2018). The main outputs from this phase will be a ToC for RPPs in care homes describing what is anticipated at each stage and a detailed evaluation protocol (for publication), with a set of tools for data collection.

Should it be necessary, for example because insufficient insight is gathered from the review of existing evidence about how RPPs work in practice and from the co-design work, we will facilitate a workshop with the whole research team, members of the advisory group and the PPI oversight group to develop the ToC and evaluation protocol. The participants will develop the ToC, mapping problems and root causes, assumptions, relevant context, risks, harms, or unintended consequences, drawing on the WP1 co-design activities. The ToC will support discussion around appropriate activity, output and outcome indicators, expected longer-term impacts, collection of information about costs, and the expected trajectory for achieving goals and therefore for the timing of data collection. It will hopefully also provide an opportunity to identify advisory group and PPI oversight group members who would be interested in connecting with the evaluation as it progresses and contributing to the data analysis process.

The ToC and evaluation protocol will form the template for the evaluation at each site and inform the agreements with the RPPs, especially around the point of contact and the plans for data collection. Since each RPP site will have its own co-design phase and workshops to decide how to implement the RPP for its particular context, it may be necessary to adapt the ToC for each site. These site-level ToCs will ensure that lines of questioning within sites are relevant and will also help to articulate differences between how sites implement the RPP model. The evaluation team will document the co-design workshop discussions and observe how the RPP members work together. Should there be clear divergence in the ToC for each site, we will summarise and present the site-level ToC back to each RPP for validation by each RPP.

Stream 2: Data collection for the evaluation (months 10-41)

Data collection for the various strands of the evaluation will be managed and coordinated within this stream. The focus of data collection and analysis will change over the course of the study, reflecting the expected evolution of the partnership and its activities. Initially, we will focus on the RPP set-up and core activities, including the development of partnership relationships, the implementation of new ways of working and what this means for the day-to-day work of participating organisations and their staff. An early focus will be the relational aspects of partnership work that we know to be critical to their ToC: the nature and quality of relationships, the extent which these are characterised by mutualism, and knowledge exchange in multidisciplinary partnership teams. As partnerships become established, the focus for data collection and analysis will move to knowledge exchange activities and the nature of engagement between research partners and social care partners. It will explore how RPPs are aiming to improve the use of research through changes

in relationships. Data collection tools will therefore be adapted to ensure sensitivity to the focus of the RPPs, and quarterly (online) meetings will be scheduled with the point of contact to facilitate this.

The quantitative data will generally be collected on an ongoing or regular basis; while the qualitative data collections will be phased to coincide with events, or changes in the work of the RPPs. We have suggested the collection frequency to balance the potential for recall bias with workload, and this will be discussed and agreed with the sites.

Quantitative data collections will include:

- an online Qualtrics survey (http://www.qualtrics.com/) of RPP members (max 15mins), at baseline and then approximately every six months. We will use Excel for analysis.
- use of an activity monitoring tool – we propose data collected through an existing time tracking app (Harvest, http://www.getharvest.com), which will allow RPP members to report activities in real-time and add immediate responses. The prospective nature of data collection through an app is likely to lead to more accurate picture of the actual activities and costs involved in setting up and running of RPP than retrospective data collection (Boaz et al 2009). Data will be visualised on an ongoing basis using the app and imported to Excel.

Qualitative data collections will include:

- semi-structured interviews with RPP members, including leaders, care home residents and carers, researchers and social care practitioners. 30 x 1hr in total per site, face-to-face, transcribed, at baseline, and approximately 6 months, 27 and 38 months
- semi-structured interviews with key stakeholders within the wider system, including research leadership, local authority leaders, directors of care homes, local trade associations, ARC members. 12 x 1hr in total per site, by telephone, transcribed, at baseline and approximately 6 months, 27 and 38 months
- observation of meetings and research events
- review of documents produced by the RPP, e.g. meeting minutes, strategies, reports, analysis notes, research papers, guides, tools for analysis, proposals submitted

Analysis of the qualitative data, integration of the quantitative and qualitative data and comparison across case study sites will take place shortly after baseline data collection, at transition from set-up phase to implementation, and towards the end of the implementation support. This approach will allow us to iteratively build evidence to support (or disconfirm) the elements of the ToC. It will also provide a structure for feeding back to the sites to support implementation. We will use NVivo for the analysis of qualitative data and the data integration and synthesis. To ensure the validity of the coding and support the data integration and synthesis procedures, the team will meet regularly to review the data, agree coding rules and discuss emerging patterns in the data. The data collection instruments, purposes and measures are summarised in Table 3.

Table 3 – Data collection instruments, purposes and measures

Instrument	**Purpose and measures**
Online survey of RPP members	*Output achievement* • measure personal development (research skills, research and practice context knowledge acquisitions) • capture research and analytical products from the RPP *Short-term outcomes achievement*

	• relational outcomes, including trust, mutual understanding and respect, making time for RPP work (synchronicity in work cycles) • changes in views about research, e.g. valuing research and evidence • changes in organisational capacity to use research (absorptive capacity) • changes in economic indicators (e.g. productive hours) *Medium-term outcomes achievement* • commitment to the RPP • organisational goals achieved • evidence of involvement in RPP research activities and use of RPP research • changes in outcomes with economic consequences (e.g. changes in service provision)
Interviews with RPP members	*Why, and how activities are implemented and experiences* • understand how strategies and activities are put into practice • how members work together and the work of the RPP is experienced • understand emergent strategies and activities and reasons for development • exploring (expected) resource inputs and economic consequences linked to those strategies and activities *Consequences of activities, and why and how outputs and outcomes are achieved* • exploring mechanisms for change, i.e. responses to RPP products and processes developed, e.g. how members have reacted to systems in place for collecting, organising, analysing and synthesising data, or for evidence use, and how people beyond RPP have reacted to RPP products • exploring (realised) economic consequences, assumptions or parameters involved in those (e.g. assumed uptake or acceptance of an service improvement) and data to evidence changes *Role of the context within which RPPs are operating on activities, outputs and outcomes* • understand the role of contextual barriers and facilitators, e.g. local conditions and characteristics of the RPP (including budget and resource constraints) *Costs and economic consequences* • gathering workforce, resource, financial and service use data collected by RPP organisations
Interviews with stakeholders instrumental to RPP activities	*Role of the context within which RPPs are operating on activities, outputs and outcomes* • understand the role of contextual barriers and facilitators to implementation and effectiveness, e.g. local conditions, characteristics of RPP member organisations, wider system; this includes funding environments, affordability considerations • capture research use by organisations beyond the RPPs • compare RPP research production and use to the ARCs
Observation of activities and events	*How activities are implemented and experienced* • understand how members work together, make decisions and put strategies into practice
Review of documents produced by RPP	*Why and how activities are implemented* • evidence of decision-making and strategic choices *Achievement of outputs and outcomes, and economic consequences* • evidence of research prioritisation, locally tailored analysis, formation of new organisational identities and roles, locally tailored research, development of research proposals for funding bodies, use of evidence by the RPP

Stream 3: Investigating implementation of the RPPs (evaluation question 1 and sub-questions, months 10-48)

The aim of the analysis is to provide evidence about whether RPPs are a promising approach for driving improvements in practice in the care home context and to understand how, why and in what circumstances RPPs contribute to enhancing research and research use in local care homes and informing wider care home improvement efforts. Since this is a longitudinal evaluation, data will be gathered in waves and analysis will proceed iteratively, using evidence gathered from previous waves to inform subsequent data collection. Following each data collection wave findings will be updated to generate a picture of how the CCP partnerships are developing over time, and the ToC/programme theory refined as we learn more about how and why the CCP partnerships are working and the kinds of impact they are having. At each wave the available data will be analysed in stages.

The first stage is to prepare descriptive profiles for each site. Each dataset will be analysed independently initially. We will use framework analysis (Ritchie and Spencer 2002), supported by Nvivo software to index the qualitative data (interviews, observation, document analysis) and identify evidence for outcomes, outputs, key constructs (e.g. boundary infrastructure), activities or strategies being enacted by the partnership. To inform decisions about whether or not data can be considered as evidence for or against outcomes, outputs and key constructs we will draw on theory and studies of research use (Farrell et al 2018; Honig et al 2017). Working within-case study sites, we will then compare across data types to triangulate evidence for each outcome, output and activity in a first stage of synthesis. This will enable us to develop outcome, output and activity profiles for each site, which will be used for the economic analysis.

Subsequently analysis will focus on the sub-questions, working first within case study sites then comparing across case study sites. The outcomes profile will enable us to assess sub-question 1a -- the extent to which outcomes have been achieved by each RPP. To address sub-question 1b and determine how significant a contribution the CCP partnership is making to the observed outcomes, we will use contribution analysis. We will follow the analytical steps outlined by Mayne and practical guidance (Delahais and Toulemonde 2012; Lemire et al 2012; Mayne 2011) to use the evidence we gather to assemble and assess the contribution stories for how the partnerships have led to research being produced that is used to improve practice within the site and care improvements beyond the site. An important part of this analysis will be to understand the influence of the CCP co-design and implementation support teams. Comparing across case studies to identify whether patterns are consistent or are specific to particular CCP partnership will be important for ToC refinement.

We will complement our use of contribution analysis by drawing on realist methods to explore in more depth how, why and the circumstances in which the CCP partnerships contribute to each outcome (sub-question 1c). The focus will be on developing and refining links between CMOs, following guidance for realist evaluation (Wong et al 2017), as well as exploring narrower aspects of causality within the broader ToC (Rolfe 2019). As the analysis progresses, we will explore how later CMOs relate to and might depend on earlier CMOs (Jagosh et al 2015). We will also investigate whether these patterns occur regardless of context, or are specific to particular CCP partnerships by comparing across sites. This analysis will provide insight, for example, into whether certain strategies are more suited to particular contexts.

Finally, we will explore whether the way in which the CCP partnerships are operating is consistent with the RPP approach (sub-question d). Additional coding schemes will be developed to capture who is involved in the activities, their context and purpose, the way in which they are being enacted (e.g. power differentials are present and not addressed), their consequences, and the contextual factors influencing the initiation and progress of the activities/strategies. As coding proceeds, the team will write memos to capture thinking around whether activities/strategies can be considered as faithful to the RPP approach, the applicability of the RPP approach to the social care context and what these new partnerships can tell us about whether the core principles underpinning RPPs need to be adapted.

Stream 4: The costs and economic value of RPPs (evaluation question 2, months 10-48)

The analytical objectives for this stream are to establish the costs and economic consequences of RPPs, which combined will be used to derive an understanding of economic value of the RPP approach. The work will build on the other analysis streams, using the data collected and analysed in streams 1-3.

For the economic evaluation, full cost-effectiveness analysis would not be appropriate given the aims and design of this study. Instead, we will use a 'narrative' economic analysis to examine both the costs of delivering the RPPs and some of the potential economic consequences. This method, widely used in economic evaluations of social care interventions and guidelines (e.g. Knapp et al., 2012; Bauer et al., 2014; Bauer et al 2019) draws on simulation modelling and cost-consequence analysis techniques. It provides information on the estimated costs of an initiative and the estimated cost of alternatives so allowing the decision maker to determine whether a course of action is worth investing in given the particular context in which they operate.

There are two parts to the analysis: part one, assesses the costs of delivering RPPs, and part two, models the economic consequences of RPPs. The two parts are subsequently synthesised to assess the value for money for each of the RPPs. As economic consequences are likely to differ across sites, we need a way of structuring and categorising them to facilitate a narrative comparison between RPPs. We will use the 'Payback Framework', which has been developed for precisely this purpose (Donovan and Hanney, 2011). The perspective taken in the economic analysis will be the one of health and social care as well as broader societal value. The latter will consider improvements in (health- or social care-related) quality of life, productivity and unpaid care.

Assessing costs: to cost the set-up and implementation of RRPs, we will use both bottom-up and top-down costing approaches (Beecham, 2000). We will draw on the activity data from the time tracking app, and attach unit costs for staff time. Unit costs will be taken from local sources where possible or – where this is not possible - adapted from national sources to reflect local salaries, overheads and capital costs. Descriptive costs profiles will be provided for each site.

Modelling economic consequences: potential economic consequences will be established drawing from indicators, outcomes and trajectories identified through the ToC workshop, subsequent discussions, and interviews. As a first step, this will therefore include the further development of the outputs and outcomes profiles (see stream 3), to derive economic indicators, and expected trajectories to potential economic impacts. Economic vignettes will be drawn and shared with each of the site. In a next step, monetary values will be assigned to outputs and outcomes identified in the vignettes as being linked to economic impacts. For some of those economic impacts, it will be possible to attach monetary values either directly, or based on data from published sources (through modelling). An example of a consequence with direct monetary value is the income gained from grant activity. An example of a consequence that would require further modelling to assign a monetary value is the implementation of an evidence-based intervention as part of service and quality improvements known to be cost-effective (such as the implementation of cognitive stimulation-therapy for people with dementia; D'Amico et al 2014). The modelling will be done using (where available) data or information from the sites (e.g. routinely collected data), and published data. Since some of the economic gains will be realised during the research period whilst others will take place in the future, the analysis will have different time horizons (e.g. short-, medium-, long-term) reflecting differences in the certainty of (potential) economic gains. For example, it may be the case that a research project completed during the study period with known benefits for the care homes, but in another site a research project may only just have started or may still be at the planning stage, but nevertheless with expected but uncertain future gains.

Cross-site comparison and synthesising costs and economic consequences: economic consequences for each site will be categorised using the 'Payback Framework' and value for money of RPPs compared across the sites using the categories. Examples of categories include health and social care (sector) benefits, such as a cost reduction and health improvements due to changes in service delivery, benefits from product development or broader economic benefits, such as commercial exploitation, or improvements in workforce productivity.

The framework has been developed and implemented in health service research, and while we expect many of the categories to have read across to this context, we will apply the framework flexibly developing new categories if necessary and omitting irrelevant categories.

Evaluation outputs (months 42-48)

Outputs will include interim reports from each analysis phase for each case study site and a comparative report covering the activity profile of sites, implementation challenges and deviations from planned implementation, and the effects of activities. Outputs from the economic analysis will include economic vignettes outlining the economic indicators relevant for each site; descriptive cost and economic consequences profiles, including a final assessment of economic value of RPPs. An economic framework will be produced on the methods that that can be used by those who want to replicate the analyses of economic value of RPPs. The analysis will also feed into the sustainability and spread workpackageto support the identification of core and peripheral components of the RPP to inform sustainability and spread of the model. Articles discussing the implementation of the RPP model and on the economic value of the RPPs will be submitted to international journals.

6. Funding statement

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