

## Care home readiness: a rapid review and consensus workshops on how organisational context affects care home engagement with health care innovation.

Claire Goodman<sup>1</sup>, Rachel Sharpe<sup>1</sup>, Charlotte Russell<sup>1</sup>, Julienne Meyer<sup>2</sup>, Adam L Gordon<sup>3</sup>, Tom Denning<sup>3</sup>, Kirsten Corazzini<sup>4</sup>, Jennifer Lynch<sup>1</sup>, Frances Bunn<sup>1</sup>.



University of  
Hertfordshire **UH**



 The University of  
Nottingham  
UNITED KINGDOM · CHINA · MALAYSIA



---

<sup>1</sup> University of Hertfordshire

<sup>2</sup> City, University of London

<sup>3</sup> University of Nottingham

<sup>4</sup> Duke University USA

**March 2017**

## Contents

Care home readiness: a rapid review and consensus workshops on how organisational context affects care home engagement with health care innovation. ....	1
Summary .....	
Introduction .....	4
Aim .....	5
Method .....	5
Phase one Rapid Review .....	5
Inclusion criteria.....	6
Search strategy .....	6
Data extraction and analysis.....	7
Phase Two Consensus workshops.....	8
Results.....	9
Rapid Review of evidence on health care services working with care homes .....	9
Leadership.....	10
Culture .....	11
Evaluation .....	12
Social Capital.....	13
Informal and Formal interactions .....	13
Structural/electronic resources, Organisational slack (staff, space and time) .....	13
Summary of Rapid Review .....	14
Consensus Workshops .....	14
Discussion.....	17
Limitations .....	18
Conclusions .....	19
Next steps .....	20
References .....	23
Appendix 1: Domains of the ACT, underlying assumptions and how conceptualised for this review (adapted from Squires et al 2014) .....	32
Appendix 2 Vanguard relevant papers mapped against the ACT headings.....	34
Appendix 3 Summary of responses from Workshops 1 and 2.....	62

## Summary

The NHS Five-Year Forward view recognises that the NHS needs to do more to support older people living with frailty in care homes. This paper presents the findings from a rapid review and consensus events that explored how organisational context affects uptake of healthcare innovation in long term care settings. Care home managers and front line staff, care home researchers, NHS commissioners and NHS practitioners participated in the workshops.

The review found that uptake is likely to be better when contextual factors are addressed. Leadership and care home culture were important but there was a limited consensus about how to identify this or, for example, what kind of leadership made a difference. A few studies highlighted the importance of making sure that the priorities of care home and health care practitioners were aligned and establishing that care home staff had the resources and time to implement the change.

Workshop participants agreed that the different contextual factors discussed in the literature were important and resonated with their experience. NHS services and practitioners had not however, structured their work with care homes to take these factors into account. Also discussed was the need to consider if NHS services understood how to work with care homes.

In deciding how and when to allocate resources to care homes to support new initiatives, the NHS needs to consider carefully the organisational contexts and assess them appropriately. Based on the combined findings we suggest **ten key questions** for commissioners and service providers working with care home providers. Ideally these questions can be used prior to working with care homes. They can also help to structure reviews of uptake of innovations to enhance health in care homes.

- 1. Does this intervention align with care home priorities? Or are there other potential interventions that care homes identify as more pressing?***
- 2. What evidence is there of senior management interest and enthusiasm for this intervention at organisation & unit level? Are they willing and able on a daily basis to take a leadership role in supporting the proposed change?***
- 3. Do care home staff have enough “slack and flexibility” to accommodate the change into their current workload, is this recognised as core to their work?***
- 4. How is change discussed (formally and informally) in the care home setting? Who needs to be involved in decision-making about what is being proposed and how it is implemented?***
- 5. What are the recent changes or health related projects this care home has been involved with?***
- 6. Is there a champion in both the care home and in the linked NHS service with protected time to help facilitate change?***
- 7. What are the pre-existing working relationships between NHS services and care home staff and networks of care and support around the care home? ( e.g. GPs, visiting specialists, links with local hospital)***
- 8. Could the intervention appear judgemental by signalling in a negative way that the care home needs to change?***
- 9. How well do existing care home training programmes and work schedules fit with what is proposed?***
- 10. Will care home staff have to collect and enter new data or is it held in existing systems?***

The report concludes by suggesting some strategies that might support how NHS practitioners and care home staff address their capacity and readiness to work together.

## Introduction

In England there are almost three times as many care home places as there are beds in the acute hospital sector and one in six people aged 85 or over are living permanently in a care home. Care home residents have complex healthcare needs due to multiple co-morbidities (including dementia), yet do not always have access to a healthcare service that they would have if they were living in their own home. In the UK approximately 5000 out of 18000 care homes are registered for nursing. Most care homes do not have registered nursing staff on site(1,2).

There is a growing recognition of the need for care home specific evidence that informs and improves health care of older people these settings (3,4). How improvements to healthcare for residents in care homes are implemented depends on a range of factors (5,6).

Understanding from the outset how the organizational context and culture of a particular care home influences readiness to participate in change is important. It has the potential to shape how health care professionals plan their work with care homes and help to explain the variability of uptake of new initiatives across the sector.”

Implementation science recognizes that differences in context influence innovation and implementation (7). Context is a broad concept and multiple implementation frameworks have operationalised what its components are (8). Despite the rapid growth in implementation science in the health care sector in general, there remains limited knowledge regarding how context affects care home innovation and implementation (9,10). This is especially relevant when implementation involves practitioners from different types of organisations (public and private), with overlapping priorities, beliefs and values working to improve the health care of frail older people.

A Canadian programme of work has linked assessment of care home context (Alberta Context Tool<sup>®</sup> (ACT) with a care home's capacity to embed new ways of working and caring into its everyday practice(11–13). This has been done by studying different elements of organizational context, such as leadership styles and communication patterns and their impact on implementation of innovative models of care (14). In the English context this reasoning has been supported by a study evaluating the uptake of a peer-to-peer training programme on end-of-life care. This found positive associations between certain institutional characteristics and care homes' engagement with the scheme. There were some surprising findings, for example, that a care home's previous experience of working on end of life care projects did not improve the likelihood of uptake. However, there were improvements in both the level of involvement of the care home manager and workforce turnover (15).

Building on this work we wanted to explore in more detail how the organisational context of the care home and its constituent elements might shape care home staff capacity and readiness to engage with NHS services and innovation. Specifically, could this information inform:

- How care homes are identified
- How priorities are agreed,
- The intensity and frequency of support that visiting health care professionals offer
- How to evaluate effectiveness when care homes are at different stages of readiness?

The underlying rationale was that any evaluation of how a health care intervention affects a care home should consider from the outset the context dependent nature of the implementation process.

## Aim

To identify and map the contextual influences that affect successful implementation of healthcare interventions in English care homes.

## Method

The study was conducted in 2016 and there were two phases of work. Phase one was a rapid review (16) of evidence on context measurement in care homes and the contextual factors that impact on care home readiness to engage with health-related innovation. Phase two involved two consensus workshops where the review findings were discussed with relevant stakeholders.

### Phase one Rapid Review

#### *Review structure*

To structure the review we undertook a preliminary scoping of implementation frameworks that had been used in health care and/or care home research. Three frameworks were identified: the PARIHS framework (17), the Alberta Context tool (ACT) (13) and the Consolidated Framework for Implementation Research(18) . The frameworks had overlapping components including assessment of leadership, organisational culture and activities that support evaluation, such as use of different data sources, reflection and group review.

We used ACT to inform how we interrogated the evidence because it drew on the theoretical work of PARIHS, had been used in long term care settings and was developed to enable researchers to test how context facilitates and/or hinder successful knowledge translation. A survey instrument (13), it includes ten concepts or domains considered important to the organisational context, each domain is measured by several questions or items. These 10

domains and related published information, were used to guide data extraction and synthesis (see Appendix 1). While the ACT had not previously been used in the UK, it has been translated for use in other countries (19,20). The domains provided a structure to organise data extraction, evidence synthesis and interpretation of the literature on health care interventions in care homes.

#### Inclusion criteria

Following on from the earlier review work of Gordon et al (3) the rapid review drew on two sources of evidence. The first source was Randomised Controlled trials (RCTS) of health care interventions conducted in care homes between the years 2009-2016 that fell into one of the following four intervention categories.

- Telehealth, telecare, telemedicine (including video consulting and remote monitoring)
- Integrated working between care home staff and visiting health care professionals.
- Use of integrated records/data
- Comprehensive assessment and care planning (face to face or remotely) by GP or consultant hospital doctor

These intervention categories were chosen because they were commonly used to promote integrated working between the NHS and care homes across the six care home specific Vanguards. The second source of evidence was care home studies that had reported on how context had informed uptake and implementation but whose intervention differed from these four areas of care. This could include any empirical evaluation and was not just restricted to RCTs. For both sets of evidence we included studies published in English, that involved health care professionals and care home staff working together for the benefit of residents' health-related outcomes. The included studies were mapped against the 10 concepts/domains in the ACT (appendix 1). Studies that did not provide information on contextual factors were excluded.

#### Search strategy

We searched PubMed and Cinahl for records published between 2009-2016. The searches were conducted in July 2016. Search terms used are shown in box 1. In addition we identified relevant studies through the knowledge and networks of the research team.

## Search terms

### PubMed

“nursing home” OR “residential facilities” OR “homes for the aged” (MESH) OR nursing homes (TI/AB), care home [TI/AB] OR residential care [TI/AB]

AND “randomised controlled trial” OR “randomized controlled trial” (MESH)

Limited to June 2009 onwards

### CINAHL

"nursing homes" OR "residential facilities" OR "skilled nursing facilities" limited to RCTs and from 2009 onwards

*Box: 1: Search terms for rapid review*

### Data extraction and analysis

Search results were downloaded into bibliographic software and duplicates deleted. Two authors independently screened the first twenty titles and abstracts identified by the electronic search to check for agreement (RS, CR). Criteria for inclusion were the focus of the study and whether the intervention was relevant to working between visiting health care services and care home staff. We screened papers as to whether they were relevant to the four Vanguard topics. For those that were not, we assessed what kind of contextual factors were being explored.

Screening was an iterative process with papers being revisited if there was doubt or if new issues were identified during data extraction. The remaining records were screened by one author and checked with a second author if there was uncertainty. Hard copies of potentially relevant papers were screened by one author (either RS or CR) and checked by a second. Disagreements were resolved by discussion with a third author (CG and FB).

Data were extracted into an Excel database. The form included information on study aims/research question, intervention (including who delivered it, duration, intensity, how care home staff were involved) participants, setting, type and size of care home, country and information relevant to the 10 ACT domains (Appendix 1). For the analysis data were mapped against the ACT framework in order that we could assess:

- Had the study reported care home contextual factors (as specified in the ACT)?
- Had the study considered care home contextual factors when designing the intervention and setting up the study?

- Had they reported on how contextual factors were thought to impact on the uptake of the health care intervention?

## Phase Two Consensus workshops

The impetus for the rapid review came from NHS England's investment in six Vanguard sites to develop new ways of working between the NHS primary care and care homes (<https://www.england.nhs.uk/ourwork/new-care-models/>). Three consensus workshops were planned to be held in the South, Midlands and North of England. At the request of participants those for the Midlands and North were combined and two workshops were held, one each at Nottingham and London. A presentation of the rapid review findings for sharing and comment was subsequently submitted to a Gateshead care home evaluation event.

In collaboration with the National Care Home Research and Development Forum and the Vanguard sites we invited care home managers and front line staff, care home researchers, NHS commissioners and providers of services to care homes. Participants were invited via existing databases and evaluation networks, those who responded were self-selecting but had to have direct experience of working with NHS services and care homes. Participants were sent a briefing document and programme before attending the half day workshop. At the workshops the findings of the rapid review were presented using the ACT headings to structure the discussion. Participants were asked to respond based on their experiences of what needs to be in place to secure care home engagement and participation. Using nominal group technique participants ranked what was most important when assessing care home readiness to participate in NHS led service improvement and delivery (21). Box 2 summarises the stages.

Findings from the two phases were synthesised with a focus on points of agreement, disagreement and *how* key ideas about care home readiness were represented as important.



- After a presentation of the evidence participants discussed their experiences of working with care homes. In particular, what it is important to have in place, or know, prior to working together
- Individuals independently noted down characteristics that they felt are important, being as specific as possible.
- Participants shared all ideas with the group until all characteristics had been presented and recorded on post it notes.
- Period of clarification, removal of duplicates, and discussion of the different characteristics' relative importance.
- Finally, participants chose and ranked the five most important characteristics

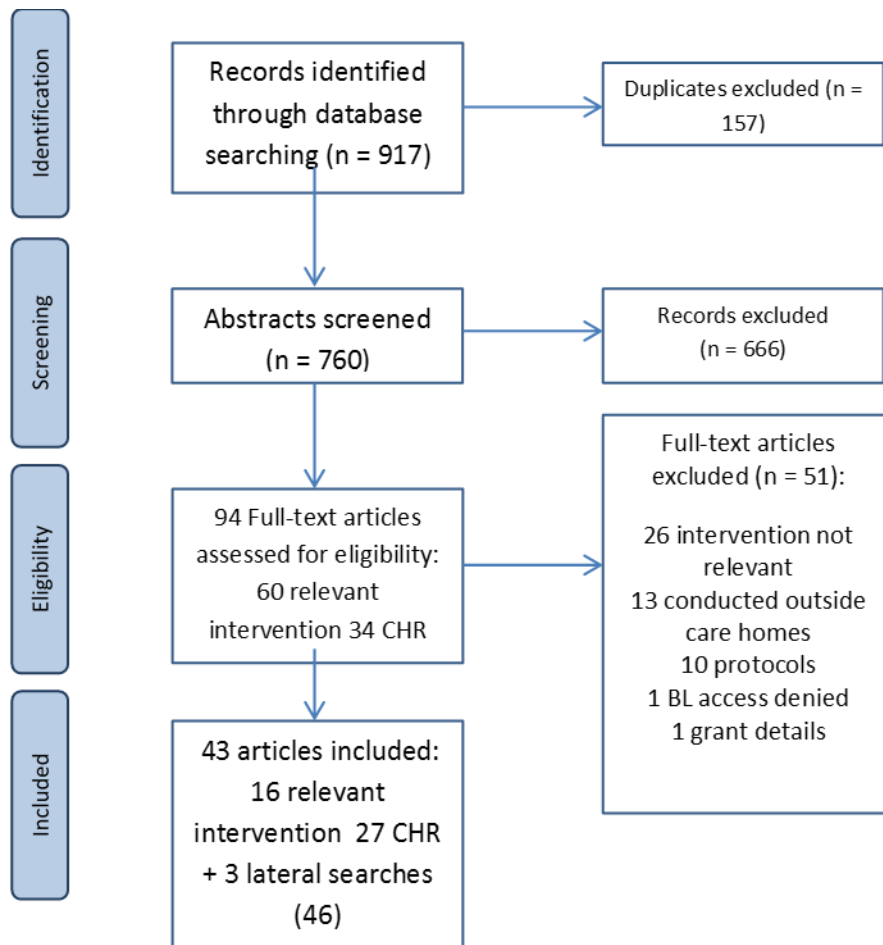
*Box: 2: Nominal group technique to assess what should be considered when assessing care home readiness*

## Results

### [Rapid Review of evidence on health care services working with care homes](#)

Forty-six papers met our inclusion criteria. An overview of the selection process can be seen in Figure 1. We found studies from 11 different countries: US (12) UK (10), Mainland Europe: Belgium, France, Netherlands, and Norway (10), Australia (9) New Zealand (2), Canada (2) and China (1).

Interventions either focussed on particular issues for example, residents' medication management (22,23), reduction of anxiety and depression(24) or were focused on broader system change to improve residents' health, provide support to care home staff and residents and reduce avoidable hospital admissions (25–27).



. PRISMA flow diagram

\*10 full text protocols excluded (because the full trial could not be accessed).

\*CHR = intervention was not relevant but some CHR was mentioned in the abstract

Figure 1: Flowchart showing identification of literature for rapid review

In the following text we summarise the main findings based on the ten key domains of the ACT. More details of how the studies mapped against the different domains, and the impact of the intervention on the primary outcome, can be seen in Appendix 2.

### Leadership

Leadership was defined in the ACT as how the recognised leaders in an organization influence change and excellence in practice (12). The assumption is that uptake of an innovation is more likely where leadership within the organisation is positive. The kind of evidence that we looked for in the review was description or discussion of how managers or unit leaders were involved in the change, if there was information about how stressful

situations or conflict was resolved, how managers motivated and mentored staff, and if there was focus on achievement and feedback on progress

Twenty-seven (59%) of included papers made reference to how the leadership of the care home affected the process or uptake of the innovation. Of those, seven studies focused almost exclusively on the negative impact of a lack of leadership. Issues cited included poor role clarity, manager resistance, delegation of responsibilities to staff who lacked skill or authority, turnover of managers and insufficient management attention to the innovation (28–35) .

Thirteen studies viewed care home managers as skilled leaders who needed to be engaged in a project from the outset. This was felt to help foster positive working relationships and meant that the intervention (and the changes it involved) were presented to care home staff as feasible and important (36–41). Some papers argued that this kind of leadership needed to be present at the resident level of care (28) backed also either by national imperatives (41), or with staff actively mentored and empowered to act as champions leading change (42–46).

Two studies excluded care homes at the point of recruitment either because care home managers had no day to day contact with residents or because the care home was under formal investigation (47,48). One ethnographic study on the impact of leadership on the use of physical restraints in nursing homes concluded that the observed diversity in leadership styles meant that one could not assume one approach was better than another, but, as a minimum, a leader's presence in the care home was necessary to facilitate the internal processes that support change (49,50) .

## Culture

Culture can be conceptualised as the way that things are done within an organisation, those activities that enable a positive work environment. This includes how staff are observed to support one another, opportunities for professional development, how the priorities and wants of residents are defined, how work is organised and the amount of control staff have over their day to day practice

Twenty-eight studies (61%) made some reference to the impact of care home culture on the uptake of the innovation. Only one paper considered how visiting health care professionals' ways of working may have contributed to a negative outcome(41) . Positive cultural attributes identified were those that gave time and resources to the support of staff education and reinforcement of learning and quality improvement (30,39,40,44), feedback on progress and a sense of ownership of the change (28). Uptake was observed as more likely when an intervention was acceptable to health care professionals, residents and staff, fitted with

existing care home routines, and when there were opportunities for ongoing consultation with staff (37,48,51,52).

Factors that were thought to work against uptake were when the systems of care and required staffing levels were incompatible with those proposed by health care professionals, or if care home staff felt that the proposed change inferred a criticism of current practices (32,46,53,54). In these situations the support of the leadership was not sufficient to achieve change. A preoccupation with the safety of residents or tasks, difficulties in talking to individual residents or residents with advanced dementia, or a complex range of needs could negate the impact of initiatives designed to increase residents' participation and activities(26,29,38,49,55–57) .

Studies were divided about how previous experience of working with visiting health care services affected readiness for change. Too much or too little prior experience in the proposed area of work could limit care home staff engagement (31,36,58,59). One study suggested that the financial model of the care home, whether commercial or not-for-profit, could influence care home receptiveness(55) .

### Evaluation

Evaluation refers to the processes a care home uses to collect data to assess staff performance and achieve outcomes at an organisational or unit level. This is observed in how information about performance is formally and informally shared and monitored within the organisation and if there are action plans in place. The assumption is that care homes that report using data routinely to inform care planning will be more receptive to incorporating new evidence into their practice.

Eleven papers (26%) collected data about performance. Where collected this was discussed in terms of a care home's familiarity with inputting data, and how information was used to inform care. Specifically, whether care homes could easily provide information about residents' characteristics, document their participation and health related outcomes or provide information about relatives' involvement in care(26,31,36,39,49,52,59). One study noted the related challenges of synthesising data from the multiple data sources held in the care home(46).

Other studies described the benefits of engaging in pre-intervention work or adaptations to current processes to ensure approaches to and the documenting of care were at an agreed level from the outset(35,60,61). There was no consensus as to whether the characteristics of a care home population affected uptake of the innovation.

## Social Capital

Social capital is characterised as the stock of active connections that exist between people. It is those activities that support *bonding* between individual team members on a unit, *bridging* connections between different care teams and linking vertical connections between individual team members and individuals in positions of authority, e.g. care managers(13).

This places the care home as one organisation in a wider network of care. This was not explored in the majority of the research reviewed and only seven papers referenced how care homes' connections particularly with external services affected implementation. (31,37,51,58,59,62) . Specifically, the absence of connections between General Practitioners, secondary care (hospitals)and professional or academic organisations were seen as an important contextual factor affecting how care homes worked with health care practitioners Two studies reported on the advantages of having specific clinicians working with care homes to support interventions to improve the quality of care and reduce admissions to hospitals (42,48).

## Informal and Formal interactions

The number, frequency and who is involved in formal interactions (e.g. team meetings) and informal exchanges within a care home staff, both qualified and unqualified, can be a proxy indicator of how information about an innovation is shared and assimilated by those involved. Linked to social capital, ten (22%) studies considered formal and/or informal interactions. Some of the studies had focused on multidisciplinary working, noting the frequency of meetings or the challenges of arranging meetings and case conferences that involved key participants, e.g. GPs, user representatives, (25,30,58,62,63). Where staff interactions were limited, this could lead to dissonance between formal reporting and what had been observed to occur. It could also mean there were few opportunities to discuss the challenges staff experienced when implementing change (45). One study identified limited opportunities for staff communication within the organisation as a reason for study attrition (64) and another the need for staff to have access to intensive coaching to build confidence in their practice(36). In three studies the interventions relied on a combination of structured meetings and informal interactions to deliver their intervention. They recorded positive outcomes in the physical care of residents and staff-to-staff communication. This was despite one study showing no measurable improvement in staff knowledge and another reporting a backdrop of high leadership turnover (32,44,65)

## Structural/electronic resources, Organisational slack (staff, space and time)

These combined headings refer to: a) the level of resources that staff can use to support how they respond to an innovation and b) the capacity or slack within the organisation to incorporate the pressure for change with the existing demands of the care home.

Studies highlighted the challenges encountered when care homes were going through system change or reorganisations (42) and the need for quiet space for meetings and training(29). The biggest issue identified by almost all the studies was staff availability. This was expressed in three ways: staff turnover, staff with the relevant skills and authority, and the extent to which an innovation was made a priority when set against the stretched resources of the care home (24,26,28,30,34–36,39–41,44,48,53–55,62,64,66–71). A number of studies suggested that providing backfill funding for staff time could be needed to address problems of staff availability (28,29,43,45). Also important was providing a lead in time to build relationships, agree how to work together and establish if the intervention is relevant to the care home(41,47,52,62,72) However, how many or what type of staff would be more or less likely to support an innovation were not discussed.

### Summary of Rapid Review

The literature was identified on the basis that it was testing the effectiveness of an intervention that required health care and care home staff to work together to improve residents' health and/or that it had addressed how care home context affected the uptake of health care innovations. Leadership and care home culture and staff capacity to engage with and prioritise an innovation were recognised as important influences on uptake and there was recognition of the need to consider a care homes' existing networks of support, patterns of working and communicating. Availability and capacity of care home staff were linked to how the intervention was structured, specifically if it required the involvement of senior staff, involved extra training and/or required staff to participate in extended periods away from their existing work. We found limited evidence in the included studies of these context specific issues being discussed prior to an intervention being introduced.

### Consensus Workshops

Thirty-five participants were involved in the consensus workshops. Table 2 summarises the groups represented.

In the first workshop the nominal group technique was only partially applied as more time was given to discussing experiences of working with care homes and the implications of the evidence review. The workshop established areas of common agreement within small groups but did not progress to a ranking by the whole group (Appendix 3). Participants at workshop two received feedback on what might be important questions to ask care homes based on the first workshop and summary sent to the Gateshead evaluation event and completed the ranking process

Workshop	Participants
London workshop n=21 + 3 facilitators	Care home managers 3  Care home representative organisation/charity 4  NHS Physician/Nurse/therapist working with care homes 6  NHS manager/ commissioner 3  Care Home Researchers 5
Nottingham n= 14+ 2 facilitators	Care home manager 1  Care home representative organisation/charity 3  NHS physician/nurse/therapist working with care homes 4  NHS commissioner/manager 4  Care home researchers 2
Total participants	35

*Table 1: Workshop participants*

Initial discussion at both workshops (Appendix 3) focused on whether the findings from the rapid review resonated with their experience. In workshop 1 participants emphasised the need to find a balance between the priorities of health services and care homes and recognising where these intersect. Several participants talked about having champions, both formal and informal, in the care home and the NHS who were willing to take risks, advocate for care homes and “unlock the potential” in both services to work together.

Participants at both workshops stressed the importance of having enough time to get to know each other, build a shared agenda and building mutually beneficial working relationships.

Everyone identified leadership approaches in the care home as important but struggled to unpack what level of managerial involvement or type of staff turnover and availability might affect uptake of the healthcare intervention. Fewer had considered how the internal systems of the care home and surrounding networks of care affected uptake.

*One care home manager observed that often it was not that care homes were uninterested in health care innovation but that they had few opportunities to influence what they were offered. She gave the example of how her care home had already invested in education and training in end of life care. Consequently, being offered more input on end of life care was not as valued as other areas of health-related care such as medication management. Workshop 1*

Participants in both workshops noted that there was nothing in the evidence reviewed about the readiness of health care professionals to work with care homes. NHS practitioners' prior knowledge and experience of working in care homes could also affect implementation.

Further commented on was the lack of evidence about *how* to establish from the outset if what was proposed by health care professionals was wanted or needed by the care home.

Twenty-one characteristics likely to affect care home readiness were identified from the second workshop. The final top five that were ranked as most important by workshop participants, emphasised a receptive and engaged leadership, a questioning care home culture and ensuring that the proposed changes fitted with the priorities of all staff ( Box 3).

1. Capable and confident care home manager with the autonomy to make decisions
2. Alignment of NHS and Care home priorities and evidence of buy-in from relevant staff (care home and NHS), depending on the intervention
3. Engagement from proprietor and home manager (leaders of the home) with an expressed and shared vision to improve services / quality of care
4. Evidence of a culture of wanting change or seeing change as something to be welcomed? Is there an appetite for it?
5. Receptiveness of manager and senior staff within the care home to engage and lead the change

*Box: 3: Care home characteristics ranked as most important by workshop participants*



The inference from the discussion was that if these were in place other issues such as staffing time, skills, availability of a champion to work with, available resources, effective channels of communication within the care home and with NHS services over time, could be resolved.

## Discussion

The aim of the evidence review and consensus workshops was to identify and map the contextual influences that affect successful implementation of healthcare interventions in English care homes. A clear message from the workshops, and to a lesser extent the rapid review, was the time it took to learn together and develop relationships that supported effective working between the NHS and care homes. Findings that are supported by recent papers on working with care homes (5, 73).

There was an emerging consensus about the characteristics of care home readiness from the review that were consistent with participants' experience and priorities for future assessment. These were:

- The importance of allowing time to build relationships between care home and NHS staff and identify how the priorities of health services and care homes intersect
- Paying attention to how the manager(s) work in the care home and how authority to effect change is delegated.
- How the care home leadership and their staff responded to and took ownership of change

The rapid review also provided very useful pointers that should be considered in assessing readiness around internal communications in the care home. Evidence (often negative) suggested that this affected whether a change was known about and staff engagement. This was not something that participants had given much attention to but acknowledged it made sense.

Both the review and the workshops struggled to operationalise the different aspects of care home readiness in ways that could be used to guide commissioners and practitioners involved in service development. For example, how much time is needed to establish a working relationship and how do you judge its strength or quality?

There were accounts in both workshops of care home managers and staff initial enthusiasm dwindling over time. This would suggest, based on the evidence that, as important as the manager's involvement is the capacity of staff to participate and if an intervention fits with care home values and beliefs.

This could involve asking about the microsystems within care homes and the presence (or absence) of relationships between care home staff, their managers and the pre-existing networks of support around the care home. Whilst the evidence would suggest these care home characteristics are important, participants were less able to describe situations where they had considered them. The workshops demonstrated the benefits of triggering these kinds of discussions, pooling experiences and building a shared knowledge of working in and with care homes.

The ACT was used to organise our thinking and analysis but it was not appropriate or feasible to apply the specific linked questions for each of the ten domains to interrogate the evidence or inform the discussion. Nor is there any suggestion that there is a composite score based on the ten domains signal whether a care home is ready or not to engage with NHS services. What this exercise does signal however, is the value of systematically considering, domain by domain, what is known about the care home prior to its participation. The workshops highlighted the importance of creating time and space to consider for example, how staff availability is assessed or what needs to be in place to ensure that the focus of the service reflects the priorities of care home staff, residents, family and visiting health care professionals.

Martin Marshall (73) and colleagues provide a very honest account of and reflection on an implementation failure in care homes. They ruefully comment that despite knowing what supports implementation often evaluations of success or uptake are done too early in the process of learning how to work together. The following quote about what they would do differently concurs with some but not all of the findings of this review and workshops.

*“We will not rely on a single senior care home manager to provide a practitioner view for the original proposal and we will seek a wide range of views from frontline staff and from care home residents in an inclusive and iterative way. We will not assume that the intervention can be implemented as described in the proposal and we will be more sensitive to the resource constraints under which the improvement team and the care homes are operating. If we do all of this, the outcome will almost certainly be better.” P4.*

### Limitations

The study findings are limited by the scope of the review. It is likely that there are other research accounts of how the organisational context of the care home has affected uptake. The consistency of the findings and their resonance with the workshop participants would however suggest that the findings should be considered by NHS services working with care homes.

It is also worth considering if the review found a form of informant bias that reported healthcare interventions positively but care home leadership in negative terms.

We were only able to run two workshops and whilst they had a wide range of participants the consensus rankings need further refinement and testing with a wider audience. Also, those people attending may have a higher level of enthusiasm and commitment in this area and so not be truly representative of the range of views across the country. In particular the views of care home managers and staff need closer attention.

The residents and relatives' voice are largely missing from this report. This is in part because it was absent in the evidence reviewed, nor were there residents or relatives at the workshops. This is a significant limitation that so little can be said about how residents and their representatives influence the planning and uptake of health care interventions.

## Conclusions

The review and workshop highlighted many contextual factors that enable integrated working between care home and NHS services and ranked them by importance. Learning about how to approach the assessment of care home readiness provides a platform for shared conversations and arguably identifies from the beginning when and where the NHS will need to allocate more time and resources to working with particular care homes.

There would be value in undertaking a structured assessment of the organisational context of care homes that have participated in the Vanguard sites using the ACT or equivalent. This could:

- Provide an overview of the capacity and readiness of care homes that participated in the initiative
- Test the assumptions of participants about what needs to be in place against what was present in the care homes and the observed outcomes.
- Explain the observed variability in uptake within and between the sites.

We propose a set of questions that combines the review findings with the workshop priorities and could be used to base conversations between those planning and reviewing health care interventions with care homes.

- 1. Does this intervention align with care home priorities? Or are there other potential interventions that care homes identify as more pressing?***

2. ***What evidence is there of senior management interest and enthusiasm for this intervention at organisation & unit level? Are they willing and able on a daily basis to take a leadership role in supporting the proposed change?***
3. ***Do care home staff have enough “slack and flexibility” to accommodate the change into their current workload, is this recognised as core to their work?***
4. ***How is change discussed (formally and informally) in the care home setting? Who needs to be involved in decision-making about what is being proposed and how it is implemented?***
5. ***What are the recent changes or health related projects this care home has been involved with?***
6. ***Is there a champion in both the care home and in the linked NHS service with protected time to help facilitate change?***
7. ***What are the pre-existing working relationships between NHS services and care home staff and networks of care and support around the care home? ( e.g. GPs, visiting specialists, links with local hospital)***
8. ***Could the intervention appear judgemental, by signalling in a negative way that the care home needs to change?***
9. ***How well do existing care home training programmes and work schedules fit with what is proposed?***
10. ***Will care home staff have to collect and enter new data or is it held in existing systems?***

### [Next steps](#)

Based on the assessment of the care home’s capacity to participate, we have limited evidence of what strategies might support integrated working, especially in situations where uptake of innovation is slower or initially resisted. The most consistent finding is that relationships between staff in the different sectors has a strong influence on outcomes, so any strategy should aim at enhancing relational working between care homes and their partners.

Taking the pooled experience of the workshop participants and the rapid review the following considers how NHS services and care home managers might work together when care home. It also draws on work on MyHomeLife resources around caring conversations to help

understand what matters, how people feel and what might support practitioners to work well together. <http://myhomelife.uws.ac.uk/scotland/caring-conversations>

Top priorities identified by workshops	Findings from scoping review	Implications and strategies to support change
Capable and confident manager with the autonomy to make decisions	Uptake more likely when manager on-site and involved. Some evidence more effective if a senior staff members have a champion role and are involved in residents' care	Clarify with the care home manager and senior staff what being involved is going to entail in terms of time and resource. If the manager is new to their post or uncertain consider offering extra support and/or an extended time to test different ways of working together. Ask:  <b><i>What would happen if we gave this a go?</i></b>
Alignment of priorities and buy-in from staff, depending on the intervention/shared vision	When staff did not believe in the importance of the innovation or see it as part of their work there was limited uptake	Establish if what is being proposed is important to the care home. Are there other issues they want to address first? If it is really not of interest to the care home staff or not a priority, ask:  <b><i>What do others think?</i></b>  <b><i>How can we work together to make this happen?</i></b>
Care home staff are keen to change and committed to improving residents' health care	Where there is evidence of supporting staff learning and a focus on residents rather than tasks, uptake of innovation is more likely	Find out how staff are supported to learn and try new approaches to care. What do they have in place that could complement your initiative? Ask:  <b><i>Is it real and possible?</i></b>  <b><i>Help me to understand what is happening?</i></b>
Agreement about what the outcomes will be, between care home and NHS staff. What would "good" look like?	If care home staff were unclear about what the intervention would achieve they were less likely to participate or sustain involvement	Discuss what good care looks like and how everyone involved would recognise when it happens. Have systems that recognise and reward good care in the care home. Create opportunities to note and celebrate success during the implication. Ask: <b>What worked well?</b>
Need care home staff to know each other and have opportunities to discuss with each other and NHS staff what is happening.	How care home staff communicate with each other and visiting health care professionals affected staff confidence about the innovation and how progress was understood and recorded.	Create informal opportunities to talk about what is happening in the care home and the impact of the intervention. Plan times and meetings when staff and NHS staff can meet to review and provide feedback (that is responded to) on progress. Provide updates for other visitors and services who are also involved in working with the care home  Ask: <b>How did this make you feel?</b>

Table 3 Overview of Priorities support from evidence and implications for future working

## References

1. British Geriatrics Society. Quest for Quality, Inquiry into the Quality of Healthcare Support for Older People in Care Homes: A Call for Leadership, Partnership and Quality Improvement. London; 2011.
2. Buisson L&. Care of elderly people: UK market survey 2012/2013. London; 2012.
3. Gordon A, Logan P, Jones R, Forrester-Paton C, Mamo J, Gladman J, et al. A systematic mapping review of Randomized Controlled Trials (RCTs) in care homes. BMC Geriatr [Internet]. 2012;12(1):31. Available from: <http://www.biomedcentral.com/1471-2318/12/31>
4. Morley JE, Caplan G, Cesari M, Dong B, Flaherty JH, Grossberg GT, et al. International Survey of Nursing Home Research Priorities. Vol. 15, Journal of the American Medical Directors Association. 2014.
5. Goodman C, Dening T, Gordon AL, Davies SL, Meyer J, Martin FC, et al. Effective health care for older people living and dying in care homes: a realist review. BMC Health Serv Res. 2016 Dec;
6. Mayrhofer A, Goodman C, Smeeton N, Handley M, Amador S, Davies S. The feasibility of a train-the-trainer approach to end of life care training in care homes: an evaluation. 2016; Available from: <http://europepmc.org/abstract/med/26801232>
7. Greenhalgh T, Robert G, Macfarlane F, Bate P KO. Diffusion of innovations in service organizations: systematic review and recommendations. Title. Milbank Q. 2004;82(4):581–629.
8. Benzer JK, Charns MP, Hamdan S, Afaible M. The role of organizational structure in readiness for change: A conceptual integration. Heal Serv Manag Res. 2017;30(1):34–46.
9. Cammer AMDSNMKR-MJDSEC. The Hidden Complexity of Long-Term Care: How context mediates knowledge translation and use of best practices. Gerontologist. 2014;54:1013–23.
10. McConnell, E. S., Corazzini, K. N., Lekan, D., Bailey, D. C., Sloane, R., Landerman, L. R., & Champagne MT. Diffusion of Innovation in Long-Term Care (DOI-LTC) Measurement Battery. Res Gerontol Nurs. 2012;5(1):64–76.
11. Estabrooks CA, Squires JE, Hayduk LA, Cummings GG, Norton PG. Advancing the argument for validity of the Alberta Context Tool with healthcare aides in residential

- long-term care. *BMC Med Res Methodol* [Internet]. 2011;11(1):107. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3156800&tool=pmcentrez&rendertype=abstract>
12. Squires JE, Hayduk L, Hutchinson AM, Mallick R, Norton PG, Cummings GG, et al. Reliability and validity of the Alberta context tool (ACT) with professional nurses: Findings from a multi-study analysis. *PLoS One*. 2015;10(6):1–17.
  13. Squires, J.E., Hutchinson, A.M., Hayduk, L., Cranley, L., Cummings, G., Norton, P.G., & Estabrooks CA. *Alberta Context Tool: User Manual*. Knowledge Utilization Studies Program,. University of Alberta; 2014. 1-43 p.
  14. Estabrooks, C. A., Hoben, M., Poss, J. W., Chamberlain, S. A., Thompson, G. N., Silvius, J. L., & Norton PG. Dying in a nursing home: Treatable symptom burden and its link to modifiable features of work context. *J Am Med Dir Assoc*. 2015;16(6):515–20.
  15. Mayrhofer A, Goodman C, Smeeton N, Handley M, Amador S, Davies S. The feasibility of a train-the-trainer approach to end of life care training in care homes: an evaluation. 2016;
  16. Sara Khangura, Kristin Konnyu, Rob Cushman JG and DM. Evidence summaries: the evolution of a rapid review approacho Title. *Syst Rev* [Internet]. 2012;1(10). Available from: <https://systematicreviewsjournal.biomedcentral.com/articles/10.1186/2046-4053-1-10>
  17. Rycroft-Malone J. The PARIHS framework--a framework for guiding the implementation of evidence-based practice. *J Nurs Care Qual*. 2004;19(4):297–304.
  18. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander J a, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci*. 2009;4(50):40–55.
  19. Hoben M, Estabrooks CA, Squires JE, Behrens J. Factor Structure, Reliability and Measurement Invariance of the Alberta Context Tool and the Conceptual Research Utilization Scale, for German Residential Long Term Care. *Front Psychol* [Internet]. 2016 Sep 7;7. Available from: <http://journal.frontiersin.org/Article/10.3389/fpsyg.2016.01339/abstract>
  20. Eldh AC, Ehrenberg A, Squires JE, Estabrooks CA, Wallin L. Translating and testing the Alberta context tool for use among nurses in Swedish elder care. *BMC Health Serv Res* [Internet]. 2013 Dec 19;13(1):68. Available from:



<http://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-13-68>

21. Bartunek, J.M. Murningham J. The nominal group technique: expanding the basic procedure and underlying assumptions. *o Title. Gr Organ Manag.* 1984;9(3):417–32.
22. McSweeney K, Jeffreys A, Griffith J, Plakiotis C, Kharsas R, O'Connor DW. Specialist mental health consultation for depression in Australian aged care residents with dementia: a cluster randomized trial. *Int J Geriatr Psychiatry* [Internet]. 2012;27(11):1163–1171 9p. Available from: <http://search.ebscohost.com/login.aspx?direct=true&db=jlh&AN=104372672&site=eho-st-live>
23. Field TS, Tjia J, Mazor KM, Donovan JL, Kanaan AO, Harrold LR, et al. Randomized trial of a warfarin communication protocol for nursing homes: an SBAR-based approach. *Am J Med.* 2011/02/08. 2011;124(2):179.e1-7.
24. Dozeman E, van Marwijk HW, van Schaik DJ, Smit F, Stek ML, van der Horst HE, et al. Contradictory effects for prevention of depression and anxiety in residents in homes for the elderly: a pragmatic randomized controlled trial. *Int Psychogeriatr.* 2012/03/23. 2012;24(8):1242–51.
25. Beer CD, Horner B, Almeida OP, Scherer S, Lautenschlager NT, Bretland N, et al. Dementia in residential care: education intervention trial (DIRECT); protocol for a randomised controlled trial. *Trials.* 2010/05/27. 2010;11:63.
26. Hall S, Goddard C, Speck P, Higginson IJ. "It makes me feel that I'm still relevant": a qualitative study of the views of nursing home residents on dignity therapy and taking part in a phase II randomised controlled trial of a palliative care psychotherapy. *Palliat Med.* 2012/06/19. 2013;27(4):358–66.
27. Brodaty H, Mittelman M, Gibson L, Seeher K, Burns A. The effects of counseling spouse caregivers of people with Alzheimer disease taking donepezil and of country of residence on rates of admission to nursing homes and mortality. *Am J Geriatr Psychiatry.* 2009/08/26. 2009;17(9):734–43.
28. Blekken LE, Nakrem S, Gjeilo KH, Norton C, Morkved S, Vinsnes AG. Feasibility, acceptability, and adherence of two educational programs for care staff concerning nursing home patients' fecal incontinence: a pilot study preceding a cluster-randomized controlled trial. *Implement Sci.* 2015/05/24. 2015;10:72.
29. Ellard DR, Thorogood M, Underwood M, Seale C, Taylor SJ. Whole home exercise intervention for depression in older care home residents (the OPERA study): a

- process evaluation. *BMC Med.* 2014/01/07. 2014;12:1.
30. Agar M, Beattie E, Luckett T, Phillips J, Luscombe G, Goodall S, et al. Pragmatic cluster randomised controlled trial of facilitated family case conferencing compared with usual care for improving end of life care and outcomes in nursing home residents with advanced dementia and their families: the IDEAL study protocol. *BMC Palliat Care.* 2015/11/22. 2015;14:63.
  31. Innis J, Berta W. Routines for change: how managers can use absorptive capacity to adopt and implement evidence-based practice. *J Nurs Manag* [Internet]. 2016;n/a-n/a. Available from: <http://doi.wiley.com/10.1111/jonm.12368>
  32. Rantz MJ, Zwygart-Stauffacher M, Hicks L, Mehr D, Flesner M, Petroski GF, et al. Randomized Multilevel Intervention to Improve Outcomes of Residents in Nursing Homes in Need of Improvement. *J Am Med Dir Assoc* [Internet]. 2012;13(1):60–68 9p. Available from: <http://search.ebscohost.com/login.aspx?direct=true&db=jlh&AN=104622500&site=ehost-live>
  33. Rantz MJ, Zwygart-Stauffacher M, Flesner M, Hicks L, Mehr D, Russell T, et al. The influence of teams to sustain quality improvement in nursing homes that “need improvement.” *J Am Med Dir Assoc.* 2013;14(1):48–52.
  34. Stern A, Mitsakakis N, Paulden M, Alibhai S, Wong J, Tomlinson G, et al. Pressure ulcer multidisciplinary teams via telemedicine: a pragmatic cluster randomized stepped wedge trial in long term care. *BMC Heal Serv Res.* 2014/02/25. 2014;14:83.
  35. Wenborn J, Challis D, Head J, Miranda-Castillo C, Popham C, Thakur R, et al. Providing activity for people with dementia in care homes: a cluster randomised controlled trial. *Int J Geriatr Psychiatry.* 2013/05/03. 2013;28(12):1296–304.
  36. De Visschere L, de Baat C, Schols JM, Deschepper E, Vanobbergen J. Evaluation of the implementation of an “oral hygiene protocol” in nursing homes: a 5-year longitudinal study. *Community Dent Oral Epidemiol.* 2011/03/03. 2011;39(5):416–25.
  37. Gage H, Dickinson A, Victor C, Williams P, Cheynel J, Davies SL, et al. Integrated working between residential care homes and primary care: a survey of care homes in England. *BMC Geriatr.* 2012/11/16. 2012;12:71.
  38. Stein-Parbury J, Chenoweth L, Jeon YH, Brodaty H, Haas M, Norman R. Implementing Person-Centered Care in Residential Dementia Care. *Clin Gerontol* [Internet]. 2012;35(5):404–424 21p. Available from:

<http://search.ebscohost.com/login.aspx?direct=true&db=jlh&AN=104505176&site=ehost-live>

39. Brodaty H, Low LF, Liu Z, Fletcher J, Roast J, Goodenough B, et al. Successful ingredients in the SMILE study: Resident, staff, and management factors influence the effects of humor therapy in residential aged care. *Am J Geriatr Psychiatry* [Internet]. 2014;22(12):1427–37. Available from: <http://dx.doi.org/10.1016/j.jagp.2013.08.005>
40. Beeckman D, Clays E, Van Hecke A, Vanderwee K, Schoonhoven L, Verhaeghe S. A multi-faceted tailored strategy to implement an electronic clinical decision support system for pressure ulcer prevention in nursing homes: a two-armed randomized controlled trial. *Int J Nurs Stud*. 2012/10/06. 2013;50(4):475–86.
41. Chami K, Gavazzi G, Bar-Hen A, Carrat F, de Wazières B, Lejeune B, et al. A Short-Term, Multicomponent Infection Control Program in Nursing Homes: A Cluster Randomized Controlled Trial. *J Am Med Dir Assoc* [Internet]. 2012;13(6):569.e9-569.e17 1p. Available from: <http://search.ebscohost.com/login.aspx?direct=true&db=jlh&AN=104469931&site=ehost-live>
42. Boorsma M, Frijters DH, Knol DL, Ribbe ME, Nijpels G, van Hout HP. Effects of multidisciplinary integrated care on quality of care in residential care facilities for elderly people: a cluster randomized trial. *Cmaj*. 2011/06/29. 2011;183(11):E724-32.
43. Beer C, Lowry R, Horner B, Almeida OP, Scherer S, Lautenschlager NT, et al. Development and evaluation of an educational intervention for general practitioners and staff caring for people with dementia living in residential facilities. *Int Psychogeriatr*. 2010/10/19. 2011;23(2):221–9.
44. Colon-Emeric CS, McConnell E, Pinheiro SO, Corazzini K, Porter K, Earp KM, et al. CONNECT for better fall prevention in nursing homes: results from a pilot intervention study. *J Am Geriatr Soc*. 2013/11/28. 2013;61(12):2150–9.
45. Davison TE, Karantzas G, Mellor D, McCabe MP, Mrkic D. Staff-focused interventions to increase referrals for depression in aged care facilities: a cluster randomized controlled trial. *Aging Ment Heal*. 2012/11/03. 2013;17(4):449–55.
46. Brooker DJ, Latham I, Evans SC, Jacobson N, Perry W, Bray J, et al. FITS into practice: translating research into practice in reducing the use of anti-psychotic medication for people with dementia living in care homes. *Aging Ment Health* [Internet]. 2015;7863(March 2016):1–10. Available from:

<http://dx.doi.org/10.1080/13607863.2015.1063102>

47. Anderson K, Bird M, Macpherson S, McDonough V, Davis T. Findings from a pilot investigation of the effectiveness of a snoezelen room in residential care: should we be engaging with our residents more? *Geriatr Nurs*. 2011/02/11. 2011;32(3):166–77.
48. Boyd M, Armstrong D, Parker J, Pilcher C, Zhou L, McKenzie-Green B, et al. Do gerontology nurse specialists make a difference in hospitalization of long-term care residents? Results of a randomized comparison trial. *J Am Geriatr Soc*. 2014/10/07. 2014;62(10):1962–7.
49. Oye C, Mekki TE, Jacobsen FF, Forland O. Facilitating change from a distance - a story of success? A discussion on leaders' styles in facilitating change in four nursing homes in Norway. *J Nurs Manag*. 2016;(February):745–54.
50. Testad I, Mekki TE, Forland O, Oye C, Tveit EM, Jacobsen F, et al. Modeling and evaluating evidence-based continuing education program in nursing home dementia care (MEDCED)--training of care home staff to reduce use of restraint in care home residents with dementia. A cluster randomized controlled trial. *Int J Geriatr Psychiatry*. 2015/04/08. 2016;31(1):24–32.
51. Greenspan S, Nace D, Perera S, Ferchak M, Fiorito G, Medich D, et al. Lessons learned from an osteoporosis clinical trial in frail long-term care residents. *Clin Trials*. 2011/12/14. 2012;9(2):247–56.
52. Close H, Hancock H, Mason JM, Murphy JJ, Fuat A, de Belder M, et al. "It's Somebody else's responsibility" - perceptions of general practitioners, heart failure nurses, care home staff, and residents towards heart failure diagnosis and management for older people in long-term care: a qualitative interview study. *BMC Geriatr*. 2013/07/09. 2013;13:69.
53. Cohen-Mansfield J, Thein K, Marx MS, Dakheel-Ali M. What are the barriers to performing nonpharmacological interventions for behavioral symptoms in the nursing home? *J Am Med Dir Assoc*. 2011/08/30. 2012;13(4):400–5.
54. Arendts G, Etherton-Beer C, Howard K, Lewin G, Sim M, Pickstock S, et al. Nurse led care coordination: trial protocol and development of a best practice resource guide for a cluster controlled clinical trial in Australian aged care facilities. *Arch Gerontol Geriatr*. 2013/08/27. 2014;58(1):15–9.
55. Van Ness PH, Peduzzi PN, Quagliarello VJ. Efficacy and effectiveness as aspects of cluster randomized trials with nursing home residents: methodological insights from a

- pneumonia prevention trial. *Contemp Clin Trials*. 2012/08/25. 2012;33(6):1124–31.
56. Kinley J, Stone L, Dewey M, Levy J, Stewart R, McCrone P, et al. The effect of using high facilitation when implementing the Gold Standards Framework in Care Homes programme: a cluster randomised controlled trial. *Palliat Med*. 2014/06/20. 2014;28(9):1099–109.
  57. Meeks S, Van Haitsma K, Schoenbachler B, Looney SW. BE-ACTIV for depression in nursing homes: primary outcomes of a randomized clinical trial. *J Gerontol B Psychol Sci Soc Sci*. 2014/04/03. 2015;70(1):13–23.
  58. Dorsey ER, Deuel LM, Voss TS, Finnigan K, George BP, Eason S, et al. Increasing access to specialty care: a pilot, randomized controlled trial of telemedicine for Parkinson's disease. *Mov Disord*. 2010/06/10. 2010;25(11):1652–9.
  59. Shepherd V, Nuttall J, Hood K, Butler CC. Setting up a clinical trial in care homes: challenges encountered and recommendations for future research practice. *BMC Res Notes*. 2015/07/17. 2015;8:306.
  60. van der Kooij CH, Droes RM, de Lange J, Ettema TP, Cools HJ, van Tilburg W. The implementation of integrated emotion-oriented care: did it actually change the attitude, skills and time spent of trained caregivers? *Dement*. 2013/12/18. 2013;12(5):536–50.
  61. Poot AJ, Caljouw MAA, Waard CS de, Wind AW, Gussekloo J. Satisfaction in Older Persons and General Practitioners during the Implementation of Integrated Care. *PLoS One* [Internet]. 2016;11(10):e0164536. Available from: <http://dx.plos.org/10.1371/journal.pone.0164536>
  62. Connolly MJ, Boyd M, Broad JB, Kerse N, Lumley T, Whitehead N, et al. The Aged Residential Care Healthcare Utilization Study (ARCHUS): A Multidisciplinary, Cluster Randomized Controlled Trial Designed to Reduce Acute Avoidable Hospitalizations From Long-Term Care Facilities. *J Am Med Dir Assoc*. 2015;16(1):49–55.
  63. Crotty M, Halbert J, Rowett D, Giles L, Birks R, Williams H, et al. An outreach geriatric medication advisory service in residential aged care: a randomised controlled trial of case conferencing. *Age Ageing* [Internet]. 2004;33(6):612–617 6p. Available from: <http://search.ebscohost.com/login.aspx?direct=true&db=jlh&AN=106627237&site=ehost-live>
  64. Brooker DJ, Latham I, Evans SC, Jacobson N, Perry W, Bray J, et al. FITS into practice: translating research into practice in reducing the use of anti-psychotic medication for people with dementia living in care homes. *Aging Ment Heal*.

- 2015/07/15. 2016;20(7):709–18.
65. Beeckman D, Clays E, Hecke A Van, Vanderwee K, Schoonhoven L, Verhaeghe S. International Journal of Nursing Studies A multi-faceted tailored strategy to implement an electronic clinical decision support system for pressure ulcer prevention in nursing homes : A two-armed randomized controlled trial. *Int J Nurs Stud* [Internet]. 2013;50(4):475–86. Available from: <http://dx.doi.org/10.1016/j.ijnurstu.2012.09.007>
  66. Schnelle JF, Alessi CA, Simmons SF, Al-Samarrai NR, Beck JC, Ouslander JG. Translating clinical research into practice: a randomized controlled trial of exercise and incontinence care with nursing home residents. *J Am Geriatr Soc* [Internet]. 2002;50(9):1476–1483 8p. Available from: <http://search.ebscohost.com/login.aspx?direct=true&db=jlh&AN=106982562&site=ehost-live>
  67. Chi I, Law B V, Leung AC, Liu CP, Yeoh CS, Cheng YH, et al. Residential Assessment Instrument 2.0 in care planning for residents in nursing homes. *Hong Kong Med J*. 2010/07/17. 2010;16 Suppl 3:29–33.
  68. Kinley J, Stone L, Dewey M, Levy J, Stewart R, McCrone P, et al. The effect of using high facilitation when implementing the Gold Standards Framework in Care Homes programme: A cluster randomised controlled trial. *Palliat Med* [Internet]. 2014;28(9):1099–109. Available from: [http://pmj.sagepub.com/content/28/9/1099%5Cnfiles/969/Kinley et al. - 2014 - The effect of using high facilitation when impleme.html%5Cnhttp://www.ncbi.nlm.nih.gov/pubmed/24942282](http://pmj.sagepub.com/content/28/9/1099%5Cnfiles/969/Kinley%20et%20al.%20-%202014%20-%20The%20effect%20of%20using%20high%20facilitation%20when%20impleme.html%5Cnhttp://www.ncbi.nlm.nih.gov/pubmed/24942282)
  69. Rantz MJ, Zwygart-Stauffacher M, Flesner M, Hicks L, Mehr D, Russell T, et al. Challenges of using quality improvement methods in nursing homes that “need improvement.” *J Am Med Dir Assoc*. 2012/08/29. 2012;13(8):732–8.
  70. Simpson KM, Porter K, McConnell ES, Colon-Emeric C, Daily KA, Stalzer A, et al. Tool for evaluating research implementation challenges: a sense-making protocol for addressing implementation challenges in complex research settings. *Implement Sci*. 2013/01/04. 2013;8:2.
  71. Yates LA, Orgeta V, Leung P, Spector A, Orrell M. Field-testing phase of the development of individual cognitive stimulation therapy (iCST) for dementia. *BMC Heal Serv Res*. 2016/07/09. 2016;16(1):233.
  72. Vowden K, Vowden P. A pilot study on the potential of remote support to enhance

wound care for nursing-home patients. *J Wound Care*. 2013/09/06. 2013;22(9):481–8.

73. Martin Marshall, Debra De Silva, Lesley Cruickshank, Jenny Shand, Li Wei JA. What we know about designing an effective improvement intervention (but too often fail to put into practice)No Title. *BMJ Qual Saf*. 2016;1–5.

Appendix 2: Domains of the ACT, underlying assumptions and how conceptualised for this review (adapted from Squires et al 2014)

ACT CONCEPT/ DOMAIN	Definition	Underlying assumption (hypothesis)	How interpreted for data extraction
Leadership	The actions of formal leaders in an organization to influence change and excellence in practice;	Care providers who are reported as being/perceived as positive in their leadership report higher research use	Descriptions of how care home managers and staff with responsibilities for leading change engage with the innovation, level of interest, participation, evidence of support when difficulties or resistance to change encountered
Culture	The way that “we do things” in the organization; items indicative or a supportive work culture	Care providers who perceive a more positive unit culture report higher research use	Descriptions of how care home staff values and beliefs and priorities were seen as positively linked (or not) with the innovation. What was prioritised as important or core work.
Evaluation	The process of using data to assess group/team performances & to achieve outcomes in organizations or units	Care providers who perceive a larger number of unit feedback mechanisms report higher research use	Descriptions of how data/information on performance is used and shared in the care home. If the innovation was compatible with existing systems for feedback
Social Capital	The stock of active connections among people. These connections are of three types: bonding, bridging, and linking	Care providers who perceive more positive unit social capital activities report higher research use	Descriptions of how the staff in the care home worked together, the mix of skills and expertise available, who the care home worked and linked with outside the care home and how this had an impact on uptake
Informal Interactions	Information exchanges that occur between individuals working within an organization (unit) that	Care providers who perceive a larger number of informal unit	Descriptions of communication in the care home, how staff shared information about the innovation. Who was involved



	can promote the transfer of knowledge	interactions report higher research use	and the different methods of communication about the innovation.
Formal interactions	Formal exchanges that occur between individuals working within an organization (unit) through scheduled activities that can promote the transfer of knowledge	Care providers who perceive a larger number of formal unit interactions report higher research use	Descriptions of meetings about the innovation, team meetings, events to support staff learning and training, who is involved, how these are scheduled
Structural/ Electronic Resources	The structural and electronic elements of an organization (unit) that facilitate the ability to assess and use knowledge		Information on resources that support communication and education and training e.g. online teaching materials, newsletters, updates
Organizational Slack Staff Space Time	The cushion of actual or potential resources which allows an organization (unit) to adapt successfully to internal pressures for adjustments or to external pressures for changes.	Care providers who perceive sufficient unit staffing levels report higher research use  Care providers who perceive having sufficient time on their unit report higher research use  Care providers who perceive having sufficient space on their unit report higher research use	Descriptions of staff availability and staff turnover, perception of capacity of the workforce to provide care.  How the design and layout of the care home affects uptake.  How the innovation and related activities (e.g. workshops) were assimilated into the care home routine, how extra or new ways of working were accepted and staff capacity and time to do this

Appendix 2 Vanguard relevant papers mapped against the ACT headings

ACT Headings											
Trial	Leadership	Culture	Evaluation	Social Capital	Informal interactions	Formal Interactions	Structural/ Electronic Resources	Organizational Slack - Staff	Organizational Slack - Space	Organizational Slack - Time	Positive impact on primary outcome ?
Arendts et al Australia	x	Perception that by introducing new model were denigrating existing care models	x	x	x	x	x	Frequent staff turnover in RACF making upskilling of staff difficult  Intervention was 'overambitious' – reduced adherence	x	x	Protocol – no results provided
Beer et al 2011 Australia	support for dementia champions	Need sustainable culture change	x	x	x	Case conferences more frequent in the IG Low GP participation (possibly because approached by CH)	x	Low CH staff participation CH staff participation improved QOL.	x	Budgeting for staff backfill should be considered	No (although some effects in sub group analyses)
Boorsma et al 2011	Training & empowerment of nurse-assistants,	x	Used GAI	PC physician was present at much higher % of MDT	x	x	new national funding system caused problems	x	One CH in middle of move to new building	x	Yes (higher Q of care and lower mortality)

The Netherlands	important for improvement of the Qof C. Changes to funding system caused high turnover of managers			meetings in IG compared to CG facilities control facilities (no reason offered)							
Boyd et al 2014 New Zealand	Two facilities were excluded from study because under formal investigation	Researchers conducted extensive consultation with all facilities (nurses, managers, owners) to discuss program dev and imp		GNS also provided care coordination for residents transitioning across healthcare settings (but this was not well documented)	x	x	x	Intervention planned/delivered within constraints of available <u>advanced nursing expertise</u> and <b>healthcare budgets.</b>	x	x	Partly – hospital admissions increased in both groups but it was less in intervention group
<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome ?</b>

Connelly et al 2015 New Zealand	x	Reasons given for not participating were work load & similarity to another recent study Suggest that facility ethos, including willingness to change important  Authors say 'our study had excellent facility buy-in and retention'	x	x	x	An advisory group, including DHB and RAC sector representatives, healthcare professionals, a Maori advisor and an Age Concern representative provided advice before & during the study	x	Couldn't employ nurse practitioners (NP) (a scarce NZ resource). Most NP are authorised to prescribe medication, and thus can intervene quickly.... It may be that we need to intervene 'harder and smarter' e.g. on-site NP (as opposed to nurse specialists) and/or targeting specific diagnoses		Suggest that longer or more intensive intervention may have fostered greater relationships between RAC and hospital-based staff, with consequent clinical benefits.	No – no effect on avoidable hospital admissions or mortality
Crotty et al 2004 Australia	The challenge of coordinating a group of multidisciplinary health professionals (see OS-time)					Barriers: lack of formal communication & MDT planning, funding model that doesn't support this approach in RC. Facilitators (suggested): facility identifies all				Focus groups with GPs undertaken at the end of the project indicated that the major obstacle to using case	Yes  Medication appropriateness improved in intervention grp, significant reduction in MAI for benzodiaz

						residents in need of a case conference (CC), liaises with the GPs as to which additional HCPs required, and organises a block of CC involving the same staff.				conferen ces is the time required to organise, and the challeng e of coordinat ing MDT	epinesRe sident behaviour unchange d.	
Dorsey et al 2010  USA		Both the nursing home and academic institution had prior experience using telemedicine (TM) to provide Parkinson's disease care		Challenges: developing relationships that foster a successful partnership and a sustainable economic model. TM programs require coordinated activities e.g., a CH & an academic institution, who are vested in establishing & maintaining the program		During focus groups at the end of the study, residents discussed challenges in changing doctors, and indicated that their previous physicians did not seem receptive to this change.	TM has its challenges. Technology is a relatively minor one, as the necessary equipment has become increasingly widespread & inexpensive	x		x	x	Partly – trend towards improvement in Q of L and pt satisfaction

Dozeman (Thesis) The Netherlands	x	x	x	x	x	x	Drop out rate higher in intervention than control group (only 21% could complete the intervention)	x	x	x	No – no significant impact on depression and anxiety but uptake was low
Field et al 2011 USA	x	x	x	x	x	x	x	x	x	Challenges to providing services across a geographical region	Partly – INR values more likely to be in therapeutic range but no significant effect on preventable adverse warfarin-related events
Krajic et al 2015 Austria	x	x	x	x	x	x	x	x	x	x	Not entirely clear – describes a pilot study – say intervention had some effect on ADLs

Lucket et al (submitting to Jags soon) Australia	The success of facilitated case conferencing (FCC) varied according to support from management and staff, & whether facilities had a culture of collaboration and quality improvement. Barriers included resistance from management.	whether facilities had a culture of collaboration and quality improvement (see leadership)				Barriers included resistance from GPs.		Barriers included resistance from staff; staffing levels; lack of confidence. Facilitators included training for the Palliative Care Planning Coordinator (PCPC) role. CC unlikely to receive the levels of nursing qualification, training and time needed to optimise benefits.		Barriers included time pressures. The time needed to optimise benefits (see OS - staff). Facilitators included funded time.	This is a qual paper – quant data not yet available
McSweeney et al 2002 Australia	x	x	x	x	x	x	x	x	x	x	Yes – more effective in treating clinical depression
Rantz et al 2012 USA	All “Full Adopter” homes had either the	Perception that there was no time for team meetings	x	x	x	Facilitators: information about meetings readily	x	Once staff saw improvements coming from	x	Problems in partial adopter	No – did not improve quality of

<p>NB. Study provides a lot of info – see excel for more details</p>	<p>NHA (Nursing Home Administrator) or the DON (Director of Nursing) or both supporting the team efforts</p> <p>Lack of effective leadership was a common cause for teams to fail in “Partial Adopter” homes An increased leadership turnover increased the odds that a facility will have a high turnover rate of direct care workers.</p>	<p>in some homes</p>				<p>available, all levels of staff invited to meetings, connectivity between team members, open discussion about the clinical topics being addressed, identification of clinical topics for quality improvement that could be measured and evaluated</p>		<p>this system, their enthusiasm grew, and further changes became somewhat easier (consolidate gains and produce more change)..</p>		<p>homes was no cover for staff to attend team meetings , or being interrupted during meetings , perception that there was no time for meetings</p>	<p>care. Staff retention, organizational working conditions , staffing and staff mix and most costs were not affected by the intervention</p>
--	---	----------------------	--	--	--	---	--	---	--	---	---



Simpson et al 2013 USA	x	x	x	x	x	x	x	Suggest ways of planning to deal with CH staff turnover, schedule changes, and absenteeism,	x	x	Doesn't provide results of RCT – focuses on framework used
Stern et al 2014 Canada	Uptake likely to be inhibited by staff turnover & insufficient managerial attention	x	x	x	x	x	x	Presence of the APNs meant that treatments which were not necessarily going to be effective (e.g. no evidence of their success) could be avoided and therefore money could be saved i.e. the right staff are financially beneficial to care home implementation success.	x	Insufficient allocation of care home staff time to wound care may explain the lack of impact found on healing	No No significant difference in primary outcome – rate of healing (or on any of the other outcome measures)
Vowden et al 2013 England	x	x	x	x	x	x	Need time for staff to iron out technical problems and become	Image quality (of wounds) was an issue with some patients in the	x	x	Numbers too small to allow any statistical

							familiar with technology	current study, but this related mainly to staff skills, rather than smart- phone camera quality and could be addressed by further training.			analysis – qual data suggested there were benefits
--	--	--	--	--	--	--	--------------------------	---	--	--	--

X = information not available

**ACT Headings**

<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome?</b>
Anderson 2011 Australia	2 managers were excluded because they did not have regular contact with residents.	Some staff members uncomfortable engaging socially with residents.	x	Need for therapist involvement	Enthusiastic leadership but not communicated to care home staff	x	x	Care home staff perceptions that Snoezelen was not a priority i.e. they did not think multisensory therapy constituted "real" work.		Staff failed to attend sessions because they forgot, did not have time, had competing commitments or were understaffed.	NO sig difference in observed resident behaviour, between Snoezelen room and control conditions.
Beeckman 2013 Belgium  The intervention was based on the six-step model for effective implementation (Grol & Wensing 2005)	Lack of clarity about each one's responsibilities  Leadership role of key nurse (seen as a "clinical champion", a persuasive leader being the force for change) may explain sig improvement in attitudes towards pressure ulcer prevention	Ease of use/ accessibility of the current pressure ulcer protocol  Needed time repetition and practice to change practice	x	X	X	Development, format & layout of PrevPlan (decision support system) required involvement of a ward based consultation team. The use of interactive education i.e. participatory small group sessions & case discussions, influenced uptake.	Limited availability of materials (e.g. pressure redistributing mattresses) and the high cost of such a device, may have limited uptake	Lack of appropriate education  Lack of knowledge  Not all staff were able to attend the educational activities (reason not specified)		Repositioning is time consuming & difficult to integrate in daily routines. Participation was lower during post-implementation assessments "the additional workload".	YES, electronic decision support group were sig more likely to receive fully adequate pressure ulcer prevention when seated BUT no effect on knowledge
<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome?</b>

<p>Blekken 2015 Norway</p> <p>Pilot study of faecal incontinence education: Single intervention (SI) vs multifaceted intervention (MI) vs control</p>	<p>.Both care manager and opinion leader reported that it was important to recruit one opinion leader per unit for the main study. The units have separate staff with different cultures, and it was challenging to fulfill the role as intended in two units.</p>	<p>All informants considered a positive care community as essential for change. "Change require guidance over time, feedback and a sense of ownership".</p> <p>RNs described the nursing role as unclear based on the tendency to distribute tasks equally between staff irrespective of their level of qualification</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Uncertainty on how to communicate and report care in the EPR, inefficient software, too few computers in the units, + a reluctance to use computers.</p>	<p>3/27 NHs were recruited. Major staff turnover was a key reason (see OS – time)</p> <p>Barriers to change reported by RNs were sub-optimal use of skill-mix and many different care staff members resulting in problems spreading the information about assessments and care decisions to all care staff.</p> <p>It is important that as many as possible of the staff have ownership of the routine to be implemented.</p>		<p>Reasons for declining were lack of time or that the NH was already involved in other time-demanding projects</p> <p>Economic compensation to cover extra hired staff, so that the RNs responsible for data collection could withdraw from daily patient work (these were reported as essential). BUT RNs and the research team found use of time involved in the data collection procedure as unacceptable.</p>	<p>Due to challenges with recruitment &amp; a single intervention with being insufficient, the main study will be reduced to 2 arms</p>
<p>Brodady 2014 Australia</p>	<p>Good leadership associated with better resident outcomes. Management support had positive effects on Laughter Boss</p>	<p>Future clustered trials should investigate the effects of other site-level covariates on individual</p>	<p>In contrast to the facility-level variables, few resident-level demographic and</p>	<p>X</p>	<p>Management support for an intervention affect staff commitment to that</p>			<p>Staff ability to engage residents is important in improving resident outcomes. Staff need to be</p>			<p>LBC &amp; Management Support did not affect depression scores, however, LBC was</p>

	commitment (LBC), & LBC increased resident engagement	outcomes (e.g., care plan protocols and staff timetabling/regimens)	clinical characteristics variables significantly affected outcomes.		intervention, this impacts on residents' response and outcomes.			committed to the intervention			associated with higher Resident Engagement that in turn was associated with decreased depression scores
<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome?</b>
Brooker 2015 UK  FITS (Focussed Intervention Training and Support) into Practice Programme	The main vehicles for change within the care home were members of staff designated as Dementia Care Coaches (DCCs).  Approximately, 65% of those who withdrew were from registered manager or deputy manager positions.  Those who implemented <50% of their	Participation in FITS even prompted at least one DCC to challenge the home regarding staffing levels and contributed to her decision to resign their post.	Managing and synthesising different types of data from so many different sources over time was a challenging and affected results		Both DPDCs reflected that the role required consideration of the relationships they formed with DCCs. Successful relationships were built on respect & trust so required good listening skills & empathy	34/100 DCCs withdrew from the study  2 cohorts had sig higher attrition rates which coincided with workload pressures exacerbated by poor communication within their org regarding training requirements and travel distances.	<u>Teleconference</u> supervision were disliked & eventually rejected by DCCs.  Both the DCC and DPDC (Dementia Practice Development Coach) thought the length of the supervision period was too long (TIME)	Those who implemented <50% of their learning reported having a role that was not suited to being a DCC.  DCCs often had to use personal resources to participate and implement FITS  Both DPDCs reflected that the role was challenging		Crucial was the allocation and protection of time for the DCC to attend training and supervision and to carry out implementation tasks in addition to their existing job role.  (41% of responses cited 'lack of time' as barrier to uptake	Increased knowledge and confidence and improved attitudes to dementia. 31% reduction of prescribed antipsychotics (additional reductions with improved personalised goal attainment)

Chami 2012 France	National infection prevention and control programme in NHs may help to consolidate initiative and support effective leadership to promote the 'culture' of compliance with infection control guidelines in these settings.	The absence of an intervention effect may be attributed to environmental and contextual features of the NHs as well as staffing- related issues	X	X	X	X	X	Understaffing, staff turnover, staffing turnover. nurse-to-patient ratios & non- compliant caregivers (examples given of how understaffing affects care)	X	Implementation requires time and coaching as well as means in terms of allocated budget, skills and staffing.	NO, the hygiene- encourage ment program did NOT sig reduce infection rates
<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organization al Slack - Space</b>	<b>Organizationa l Slack - Time</b>	<b>Positive impact on primary outcome?</b>
Chi 2010 China					Some facilities offered more activities and entailed more time talking with those who were recognised to be at risk. Such		Some staff might have ignored information provided by the MDS- RAI.	Staff resistance to implementing such a tool and its resultant care planning was predictable as no immediate benefit accrued to facilities and their staff members & its adoption might			After 12m the exp group worse cog performanc & urinary continence but better psychosoc

					'intervention' might trigger better outcomes in those areas.			have created additional workload.			outcomes. No sig diff after 18 months.
Close 2013 England  A qualitative sub-study of the Heart Failure in Care Homes (HFinCH) study	Responsibility for care of residents with heart failure unclear	Concerns about risks and benefits		GPs reported a reluctance to refer for diagnosis or specialist treatment for reasons including comorbidity, immobility, and access difficulties, alongside recognition that older people may be more willing to tolerate symptoms	Care-facility staff & residents welcomed intervention but experienced a lack of opportunity for dialogue about the balance of risks and benefits.		An onsite heart failure service acceptable to residents and care-facility staff	Many visiting clinical staff expressed negative assumptions about the acceptability and utility of interventions  GPs & CH staff had conflicting views about diagnoses & treatment			Who took responsibility for HF care seen as overarching issue that needs to be addressed
<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome?</b>

<p>Cohen-Mansfield 2010 USA</p> <p>Personalized nonpharmacologic interventions (NPIs)</p>	<p>X</p>	<p>System process issues created barriers for 34.8% of participants</p>	<p>Physician concluding that the resident had no pain, despite the detection of pain through formal assessment or observation</p>	<p>X</p>	<p>.X</p>	<p>Require education of physicians and communication with them and methods to educate family</p>	<p>Intervention items, not always available from budget</p>	<p>Barriers arising from general staff refusal or interruptions were reported for 10% of participants</p>	<p>X</p>	<p>The research design did not always allow flexibility e.g. when more than the allocated time was needed to locate a specialized NPI (e.g., a translator or an item from a hard-to-reach relative).</p>	<p>Developed a scale to measure barriers to uptake</p>
<p>Colon -Emeric 2013 USA</p> <p>Pilot study of CONNECT (intervention aid)</p>	<p>Strategies used to promote long-term change in the face of expected high turnover include identifying "champions" i.e. staff at all levels, specifically trained to continue individual mentoring</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Staff who had received CONNECT reported wider and richer interactions with co-workers within and between disciplines, resulting in more effective fall care plans</p>	<p>X</p>	<p>Strategies used to promote long-term change in the face of expected high turnover include providing training materials that can be used in new staff orientation.</p>	<p>With already constrained resources and potential cuts to NH reimbursement looming, adding additional staff to implement risk reduction programs for complex geriatric syndromes such as falls is not feasible.</p>	<p>Temporary agency staff and staff working only as needed were excluded.  Different funding and organisations had different levels of staffing</p>	<p>X</p>	<p>Fall rates reduced 12% in. Significant improvements in staff reporting of communication quality, participation in decision making, safety climate, care giving quality, and use of local interaction strategies</p>



<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack – Staff</b>	<b>Organization al Slack - Space</b>	<b>Organizationa l Slack – Time</b>	<b>Positive impact on primary outcome?</b>
Colon-Emeric 2013(b) USA  Qualitative evaluation of CONNECT RC	X	Notable differences in descriptions the learning climate	Greater use of social constructivis t learning	X	X	X	X	Due to care responsibilities and staffing levels, could not organise focus groups by role in the care home	X	X	Interventio n participant s reported more creative fall prevention plans, more respectful work environme nt& improved relationshi ps with co-workers

Davison 2013 Australia	It may be the case that only senior staff require training in order to change practices.  To avoid diffusion of responsibility among care staff, 3-4 senior staff (RNs) from each facility were appointed as 'depression champions' (in charge of					GPs often disregarded referrals or continued with existing treatment. GP training and better availability of clinicians with expertise in aged mental health to liaise with medical practitioners may be required.		Particular difficulty was encountered recruiting part-time and night-shift staff, and only a minority of staff were able to be absent from the floor at any one time.		The training programme was fairly extensive. It is possible that a briefer programme may suffice.	Training + protocol (not training alone) lead to a sig increase in referrals for depression , but this did not lead to treatment changes.
<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive</b>

De Visschere 2012 Belgium	Managerial leadership influenced the outcome regardless of the experimental manipulation employed. This was confirmed by significant outcome differences between the institutions regardless of the intervention.	NHs were excluded if 1. an oral health guideline had already been implemented; 2. Staff had received oral care training in last 24 m; 3. >5 major innovation projects had been implemented in the last 24 m.	; no. of FTE staff, & % coverage (NH capacity; managerial umbrella; residents' age & length of stay ratio of resources to health care needs) were collected initially.		Caregivers reported difficulties in convincing residents to follow the new guidelines, and it is possible that they had problems in dealing with this resistance to change.	Intensive and continuing coaching seems to be necessary to improve knowledge and skills in order to increase the confidence of care givers.		Most nurses & nurse aides negative attitudes resistance to dental hygiene	Group pressure & working hours influenced the outcome regardless of the experimental manipulation employed. This was confirmed by significant outcome differences between the institutions regardless of the intervention.	....when focussing on all nurses, nurse aides, and residents, group dynamics and peer pressure may facilitate the adoption of the intervention.  ←	YES, Oral hygiene guideline intervention had small but sig effect on dental plaque
Ellard 2014 England	Few homes identified champions	A culture that prioritised protecting residents from harm over encouraging activity (the intervention did not change the culture of the homes)  *see extraction table for resident characteristics	Evaluation activity had to be organised around the structured timetable of homes, leaving limited opportunities for data collection.	Some homes already had an 'activities coordinator' who took the role (also not effective- either they felt it beyond their remit or they were also required for basic care duties.		In a small number of cases the information about the session was so poorly disseminated that the trainer arrived to find staff unaware that the training was happening and so they were unable to attend.	Some homes did not pay staff for time spent in training, thus reducing the incentive to attend.	The barriers to facilitating change included staff turnover, staff attitudes towards manual handling, staff morale, low levels of staff training (*reasons given) & time constraints	Challenges included the physical structure of the homes.  Not all homes had a quiet space for staff to attend training.	The physiotherapists collectively noted that, despite the intervention lasting 12 months, there was little time to facilitate a lasting change in staff behaviour around encouraging residents' mobility.	NO, the OPERA trial found no intervention effect (exercise on depression)  Low exercise group attendance (50%)

<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome?</b>
Gage 2012 England	Commissioners need to capitalise on good working relationships and address idiosyncratic patterns of provision to care homes	Differences in working cultures. Practices dictated by NHS methods of service delivery and priorities for care. Lack of understanding of the role of care homes	X	Difficulties getting GPs to visit residents in the care home  Retaining fees to GPs  Accessing specialist services	X	Lack of mechanisms for exchange of information, care planning or follow up of residents transferred to or from hospital  Low levels of respect for the experience and knowledge of care home staff.	X	X	X	X	N/A  78.7% of the care homes worked with more than 1 general practice
Greenspan 2012 USA  SUB study of the ZEST trial (zoledronic acid effect on bone mass)		Study activities and measurements should fit into the routine schedules of the nursing homes so the procedures are not disruptive.	Onsite study examinations and measurements eliminates the need for participants to leave the facility for assessments.	Used a strategy to overcome the issue of participants (20%) who went to hospitals outside of the network.  Stipends ensured a good working relationship between our study staff	X	Used a strategy to overcome the difficulty of obtaining hospital records.  Used a number of social activities to overcome barriers to implementation	Because the NH residents were difficult to treat & resources were limited, a single dose was judged to have many advantages.	The drug was administered by study personnel, compliance was not an issue and long term-care-staff were not burdened with additional responsibilities.		Adequate time should be built into the study plan for each assessment that takes account of the setting and health of target participants.	Not reported

				and the care home.							
Hall 2009 England  Barriers to interviewing residents		Protecting the privacy of residents an issue						The involvement of care home staff and residents' families.	Challenges included maintaining resident's privacy during the interviews	Finding opportunities to conduct interviews.	N/A (interviews )
<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome?</b>

Kinley 2014 England	Nurse managers must be actively engaged when implementing the GSFCH (see data extraction for more detail)  Nurse managers reported multiple managerial pressures on their time and opportunities to participate	Complex residents and challenging families affected approach to work		Availability of trained nursing staff		Relationships with GPs affected decision making.  Inappropriate hospital often arose from admissions/poor communication.		Workload  Shortage of staff  Advanced care planning will remain problematic in CHs because the majority of staff are not trained nurses		Time pressures.	Sig association between the level of facilitation and NHS completing the GSFCH.
Meeks 2015 USA	Behavioural activities intervention effect on depression	Heterogeneity of the clinical population.  Differences among facilities.					Cost of conducting research in numerous facilities that are geographically dispersed.				YES, intervention group participants showed better diagnostic recovery. They were more likely to be remitted but not after 6
<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack - Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack - Time</b>	<b>Positive impact on primary outcome?</b>

Schnelle (programme of research on continence intervention research USA	X	X	X	X	X	X	X	Staffing levels/finance.  Fundamental changes in the staffing of most nursing homes necessary for effective interventions to be incorporated into everyday practice	X	X	YES, Inter vention residents maintained or improved performanc e whereas the control group's declined on 14 of 15 measures
Shepherd 2015 Wales  Probiotics effect on antibiotic- associated diarrhoea		A 'largely research naïve environment' that resulted in significant challenges and delay	Strategies needed to streamline the approvals process and minimise the impact.	Requirement s for each GP practice to be a trial site (approvals, GCP training & specific training), were a 'major barrier'..		The practical difficulties experienced when seeking all relevant GPs' agreement to participate (several from several practices per site).		CH managers required assurances that support would be provided by the research team & additional workload for staff would be minimised.			Not implem ed due to emerging data but report PRE- TRIAL issues
<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack – Staff</b>	<b>Organization al Slack - Space</b>	<b>Organizationa l Slack – Time</b>	<b>Positive impact on primary outcome?</b>
Simmons 2015 USA  2 nutrition interventions effect on intake and weight							NHs may find it difficult to afford the costs.				No sig increase in body weight (but positive trend)

Stein-Parbury 2012 Australia  Person centred training effect on agitation (dementia)	Management willingness to alter working practices.	A task focused environment can reduce the likelihood of staff responding to the emotional needs of residents.									It's possible to introduce PCC into mainstream care but it requires a 'whole system' approach.
<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack – Staff</b>	<b>Organization al Slack - Space</b>	<b>Organizationa l Slack – Time</b>	<b>Positive impact on primary outcome?</b>
Van der Kooij 2013 The Netherlands  Evaluation of the implementatio n of: Integrated emotion- oriented care (IEOC)			Both exp & control wards received a 6 month pre- intervention i.e. were involved in a process of changing and learning. Exp wards then received the								IEOC resulted in increased emotion- oriented skills and more knowledge of the residents



Van Ness 2012 USA		Challenging due to NHs environment: care varies; resident disinclination or inability to participate; co-morbidity; different and changing administrative and economic characteristics (e.g. corporate chain versus independent non-profit ownership)						Financial constraints and labor strife can prevent intervention protocols from being implemented.			Ongoing / incomplete study
Intervention to reduce pneumonia rate											
<b>Author</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack – Staff</b>	<b>Organizational Slack – Space</b>	<b>Organizational Slack – Time</b>	<b>Positive impact on primary outcome?</b>

<p>Wenborn 2013 England</p> <p>(feasibility study) OT educational intervention effect on QOL</p>	<p>Poor staff attendance in some homes was primarily due to managers' lack of planning i.e. staff availability despite dates/times being agreed previously.</p> <p>Lack of senior staff involvement in all but two of the CHs</p>	<p>Wide variability in implementation i.e. patchy provision of additional activities, severity of dementia or the choice of outcome measures.</p>	<p>Initial assessment included recommendations for adapting the CH.</p>			<p>Information was not passed on from the sessions to other staff. Equally, staff attendees were not supported in completing the work learning tasks.</p>	<p>Staff engagement difficult in CHs - no commensurate financial recompense (as is available to NHS bodies).</p>	<p>Low staff attendance at the education and coaching sessions.</p>			<p>Staff rated QOL slightly lower in intervention group. No diff in self-reported QOL or secondary outcomes.</p>
<p>Yates 2016 England</p> <p>(Feasibility study) Cognitive stimulation therapy</p>								<p>(Possibly not staff as 'dyads' are dementia patients and their carer): Common barriers to completing sessions were illness, motivation</p>		<p>Lack of time</p> <p>Barriers largely a result of life commitments, rather than problems with the intervention. Time/motivation were impacted by expected (moving house) and unexpected events (illness), or commitments</p>	<p>Feasible. However most dyads completed &lt;3 sessions a week.</p>

<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack – Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack – Time</b>	<b>Positive impact on primary outcome?</b>
<b>Additional context relevant papers)</b>											
Innis 2016 Canada  (No intervention) Literature review around how CHs adopt EBP  *lots of detail, see extraction table*	When decisions (RE selecting EBP) are made by committees at the level of senior management i.e. don't include staff, patients or family	'Scanning' - Care homes that don't search externally for new EB ways of practice	Care homes that do not reflect and update e.g. collect and use feedback; staff that do not understand the connection between practice changes and outcomes	Care homes that have not established relationships with universities, professional associations and other health-care organisations		CHs that do not encourage multidisciplinary working by ensuring that staff, managers and admin have opportunities to share info/experiences (either formally e.g. journal clubs or regular staff meetings or informally)				Care homes that do not allocate training, protected time, I.T resources & support and that have restricted access to journals	Insights into the metaroutines that nurse managers need to consider

### Care home readiness (context) papers

Oye 2016 Norway  (No intervention Sub-study of MEDCED) Ethnographic analysis of leadership style	Paradoxically, a strong collective and collaborative leadership style was found to hamper change in one particular home, whereas a remote leadership style combined with almost no cooperation with staff proved successful in another setting. . . 'Many small bosses'... leader's presence is necessary (increased staff	Staff culture, resident mix and milieu influenced the social processes of knowledge utilisation.	Initial analysis: size, location, staff diversity, leadership diversity			The leadership, workload & communication issues made it harder for the team to agree on care plans and to stick to such plans.		The nurses expressed that they were tired and exhausted which causes friction. Workload was a significant barrier. They expressed a need for an arena at work in which they could share and process their experiences e.g. challenging work			Le ca un on hi co as su by PA fra
---	--	--	---	--	--	--	--	---	--	--	---

<b>Trial</b>	<b>Leadership</b>	<b>Culture</b>	<b>Evaluation</b>	<b>Social Capital</b>	<b>Informal interactions</b>	<b>Formal Interactions</b>	<b>Structural/ Electronic Resources</b>	<b>Organizational Slack – Staff</b>	<b>Organizational Slack - Space</b>	<b>Organizational Slack – Time</b>	<b>Performance outcomes</b>
Poot 2016 The Netherlands  (No intervention Sub-study of MOVIT) Satisfaction with GP care			The implementation strategy i.e. the freedom CMTs had in translating the general concept of integrated			Incomplete response on the part of GPs could mean that particularly those with an interest in care for older persons participated.					No in sa bu inc sa wit rel p, wil to

before vs after mutltidisc int			care to their preferred improvement plans. This meant that few relevant complete evaluation instruments could be used and we had to use parts of these.									ab mi inf dr
-----------------------------------	--	--	---	--	--	--	--	--	--	--	--	-----------------------

## Appendix 3 Summary of responses from Workshops 1 and 2

### VANGUARD CARE HOME READINESS

CITY UNIVERSITY OF LONDON, 14<sup>TH</sup> DECEMBER 2016

#### **NOMINAL GROUP WORK**

Table 2

1. Commitment to improvement
  - a. Quality improvement process in place, where gather data on what residents / relatives / staff want and what works; and reflect on how to take forward and evaluate practice development
2. Better access to integrated health systems
  - a. GP practices engaged
  - b. Community services, e.g. district nurses
  - c. Training healthcare assistants (empower/skills)
  - d. New ways of working (educate support)
  - e. Shared notes / data (linked data)
  - f. More integrated = better chance of success, e.g. weekend outcomes
3. Flexibility within the intervention
  - a. Having a responsive intervention – care home input can mould the intervention to their context
4. Funding
  - a. Staffing levels and stability of workforce
  - b. Sufficient funding / time to do/engage
5. Leadership
  - a. Qualified
  - b. Facilitates leadership in others
  - c. Flexibility
  - d. Creativity
  - e. Space
  - f. Stability – leadership length in post / consistent
  - g. Clear vision
  - h. Common aim (purpose)
  - i. Level of influence (authority)
  - j. Alignment of Head Office with leader in care home
6. Incentive and commitment to health outcomes
  - a. Shared desire to get better health outcomes for residents through user, carer and provider involvement
  - b. System of user, carer, provider involvement to guide what is done and how to do it and reflect on learning
7. Relationships
  - a. Readiness to participate (engage)
  - b. Readiness to take forward change
  - c. Not just care homes but assess key stakeholders too for shared vision; understanding each other's context; value and respect (non-judgemental); in a dialogue already (meetings / forums / projects)

Ranking by importance	Participant 1 ranking by comment no.	P2 ranking	P3 ranking	P4 ranking	P5 ranking	P6 ranking
1	7	7	6	1	7	7
2	5	4	5	5	6	5
3	1	5	7	7	5	2
4	4	1	1	4	1	4
5	2	3	4	6	3	6
6	0	0	0	2	0	1
7	0	0	0	3	0	3

**Table 3**

1. Regular collection of routine data
2. Stability of care home staffing
3. Stability of care home – managers plus minimum tenure (3 months)
4. Commitment of care home staff for a specific length of time
5. Presence of formal and informal mechanisms / systems for care home manager to communicate with residents / relatives
6. Value and provide resources for training
7. Awareness / recognise need for change
8. Identification of benefits for care homes
9. Bed vacancy rate is high
10. Where care home is in its 'change journey' (leader, follower)
11. Ability of care home manager to act independently
12. How isolated the care home is / established links with universities/health care system

Ranking by importance 1-5	Participant 1 ranking by comment no.	P2 ranking	P3 ranking	P4 ranking
1	3	7	3	10
2	7	8	8	3
3	8	4	11	2
4	4	2	5	5
5	12	1	10	6

**Table 4**

1. Leadership characteristics
  - a. Engaged manager who explicitly embraces change
  - b. Personal gain for manager
  - c. Ability to delegate
2. Capacity of care home to participate
  - a. No other planned change in the works to impact on the same area/practice
  - b. History of participation
  - c. Resources available – staff time/willingness/skills
3. Is there a communication framework in place already for sharing information
  - a. Existing relationships
  - b. Ensuring staff are aware of changes and the value of it

4. Understanding current issues in the care home to develop shared goals going forward on a project
  - a. Knowledge of care home needs
  - b. Understanding of care home culture – values/beliefs
5. Champions in management and care roles
  - a. People who could be identified
  - b. Is there a structure through which the role could be given
  - c. Objectives to develop in the role
  - d. Engagement at different levels – keen to learn and empower staff
6. Experience of successful change in practice in previous x time (e.g. 12 months)
  - a. Any prior involvement in studies/projects – what was the outcome?
7. Identify the physical infrastructure in place to enable change (e.g. meeting room)
8. Previous involvement in research with partners
9. Formal training structure already in place or support for training to happen (including delivery – i.e. online – or manager willingness to release staff)

Comment no.	Participant 1 ranking	P2 ranking	P3 ranking
1	1	2	1
2	5	1	5
3	3	4	3
4	2	3	2
5	4	5	4
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0

## VANGUARD CARE HOME READINESS

### NOMINAL GROUP WORK

NOTTINGHAM, 9<sup>TH</sup> JANUARY 2017

#### Group A

1. Willingness to build relationships
  - a. Taking time out to meet with CCG
  - b. Responsive
2. Receptiveness of manager and senior staff within the care home to engage and lead the change **RANKED 5TH**
  - a. shared view of outcome / expectation
  - b. identify the need for the change that is required
3. Trust
  - a. Is the home open about its challenges?
  - b. Do they come to you with questions?
  - c. Do they want to work with you to change?
4. Leader / owner who is receptive to innovation and change



- a. Prepared to commit
- b. Understand purpose
- c. Want to achieve outcomes
- 5. Not having acute illness / infection e.g. norovirus
- 6. Street level motivation and engagement
- 7. Leadership – is the person who is leading the change responsive to it? Identifies the need? Can explain it to others? Has the skills to encourage, motivate and support others with it?
- 8. Have the leader and proprietor bought into seeking innovation and do they have a collaborative style with staff?
- 9. Organisational barriers – would the change impact on organisational structures?
- 10. Being inspected by CQC or improvements for monitoring
- 11. Organisational readiness – is there a culture of wanting change / welcoming change? Is there an appetite for it? **RANKED 4TH**
- 12. The home brings ideas to you about what they would like to achieve and how they will do it (staff readiness)
- 13. Readiness of staff – skill mix / competency / experience
- 14. Intervention fits with the home
  - a. Clear benefits that suit the culture / staffing levels
  - b. Does it fit? Is there time?
- 15. Previous involvement in research, e.g. ENRICH network

### **Group B**

- 6. MERGED WITH COMMENTS 12 AND 14 TO MAKE COMMENT 21
- 7. DELETED DUE TO DUPLICATION
- 8. Do they have and are willing to allocate the necessary resources to the project?
- 9. Stable, long term senior and middle ranking leadership / management team
- 10. CQC / local authority scoring (track record)
  - a. Identifying if the home is currently at a good baseline for care delivery. Looking at safe, well-led, responsive, effective and caring domains, demonstrating if the home is able to stretch and develop services
- 11. DELETED DUE TO DUPLICATION
- 12. Do they have the staff capacity for delivering the intervention? And the 'does it feel like work' stuff
- 13. Do they have the resources to implement this – staffing, time, knowledge, investment?
- 14. Does the care home have a settled, well established manager that has good relationships with their staff?
- 15. Track record of engagement and delivery of care home initiatives in the past
- 16. Engagement from proprietor and home manager (leaders of the home)
  - a. Shared vision to improve services / quality of care, not just profit **RANKED 3RD**
- 17. MERGED WITH COMMENTS 1 AND 14 TO MAKE COMMENT 21
- 18. Do or can the residents and their families want and like the intervention on offer?
- 19. MERGED WITH COMMENTS 1 AND 12 TO MAKE COMMENT 21
- 20. Are there established relationships between the commissioner and provider that will help the project be a success?

21. Demonstrably robust and effective systems, processes (including communications) enabling positive patient health and wellbeing outcomes. i.e. patient / resident centred focus
22. Engagement with care provider association – seeking to improve own services. Impartial feedback
23. Slack
  - a. Resources within care home
  - b. Tasks / innovations / changes already underway
  - c. Match between the two
24. Safeguarding / complaints
  - a. Reviewing recent issues in the home, is there a growing downward or upward trend?
  - b. Need to understand care home’s current position
  - c. Triangulation of evidence / available data
25. Capable and confident manager with the autonomy to make decisions (MERGING OF COMMENTS 4 AND 9) **RANKED 1ST**
26. Alignment of priorities and buy-in from relevant staff, depending on the intervention (MERGING OF COMMENTS 1, 12 AND 14) **RANKED 2ND**

### **Ranking**

Once comments had been clarified and consolidated within each of the two groups, they were shared between the groups. Each person was asked to consider all comments made across the two groups and invited to rank their top 5 priorities in order of importance (1-5). The top priority was given 5 votes, the second 4 votes, then 3, 2 and 1 respectively. Scores were calculated as follows:

	<b>A</b>	<b>B</b>
<b>1</b>	1	-
<b>2</b>	9	-
<b>3</b>	0	5
<b>4</b>	5	0
<b>5</b>	0	7
<b>6</b>	1	-
<b>7</b>	0	4
<b>8</b>	0	0
<b>9</b>	3	0
<b>10</b>	0	2
<b>11</b>	10	17
<b>12</b>	2	-
<b>13</b>	4	0
<b>14</b>	1	-
<b>15</b>	0	8
<b>16</b>	-	4
<b>17</b>	-	8
<b>18</b>	-	6
<b>19</b>	-	0
<b>20</b>	-	31
<b>21</b>	-	22