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Title: Care planning interventions for care home residents: A scoping review

Abstract:

Context: Previous reviews of care planning (CP) interventions in care homes focus on higher quality research methodologies and exclusively consider advanced care planning (ACP), thereby excluding many intervention-based studies that could inform current practice. CP is concerned with residents' current circumstances while ACP focuses on expressing preferences which relate to future care decisions.

Objectives: To identify, map, and summarise studies reporting CP interventions for older people in care homes.

Methods: Seven electronic databases were searched from 1 January 2012 until 1 January 2022. Studies of CP interventions, targeted at older people (>60 years) whose primary place of residence was a care home, were eligible for inclusion. Two reviewers independently screened the titles and abstracts of 3,778 articles. Following a full text review of 404 articles, data from 112 eligible articles were extracted using a predefined data extraction form.

Findings: Studies were conducted in 25 countries and the majority of studies took place in the USA, Australia, and the UK. Most interventions occurred within nursing homes (61%, 68/112). More than 90% of interventions (93%, 104/112) targeted staff, and training was the most common focus (80%, 83/104), although only one included training for ancillary staff (such as cleaners and caterers). Only a third of studies (35%, 39/112) involved family and friends, and 62% (69/112) described interventions to improve CP practices through multiple means.

Limitations: Only papers written in English were included and so potentially relevant studies may have been omitted.

Implications: Two groups of people – ancillary workers and family and friends – who could play a valuable role in CP, were often not included in CP interventions. These oversights should be addressed in future research.

Key words: Scoping Review, Care Home, Care Planning, Nursing Home, Older Adults, Advanced Care Planning

Introduction

Data from the Office for National Statistics shows that in the year ending the 28 February 2022, there were an estimated 360,000 care home residents in England (Barrett, 2022). According to the Care Quality Commission (CQC), the independent regulator of health and social care in England, residents were cared for in approximately 14,500 care homes in England, comprising nearly 10,500 residential care homes and 4,000 nursing homes (Donnelly, 2022). English care homes are legally required to develop a “clear care and/or treatment plan, which includes agreed goals” and make this document “available to all staff and others involved in providing the care” (Commission, 2022b). The CQC has defined care planning (CP) as a process “focused on the person's whole life, including their goals, skills, abilities and how they prefer to manage their health” (Commission, 2022a). CP should “empower [people] to make choices and have as much control and independence as possible”. (Commission, 2022a). CP can involve a range of stakeholders, from care home residents and their family and friends to health and social care professionals. CP should be an ongoing process which documents a person’s preferences and may involve the appointment of a substitute decision-maker (Batchelor et al., 2019). CP shares many characteristics associated with advanced care planning (ACP) which has been defined as “a process that supports adults at any age or stage of health in understanding and sharing their personal values, life goals and preferences regarding future medical care” (Sudore et al., 2017: 826). Although Sudore and colleagues describe three key components – personal values, life goals and medical care – ACP is often used to refer exclusively to discussions relating to future medical care, while care planning is concerned with a person’s present circumstances (De Vleminck et al., 2016; Weathers et al., 2016). For this reason, this paper refers to the broader category of CP, of which ACP is understood to be one subset, albeit one that has attracted considerable attention. This position is consistent with guidance issued by the UK’s National Health Service which recommends that ACP should be viewed as “part of the wider care planning process” (Programme, 2011).

ACP has been associated with benefits for residents, families and health care systems. Martin et al’s (2016) systematic review found that ACP was associated with reduced hospitalisation rates and a reduction in healthcare costs. A positive association has also been observed between ACP and residents’ quality of life as well as adherence to end of life wishes and treatment received

(Chan and Pang, 2010; Detering et al., 2010; Morrison et al., 2005; van Soest-Poortvliet et al., 2015). Family members have been described as playing a “powerful role ... in the development of plans” (Harrad-Hyde et al., 2022: 201). ACP studies have reported that family members have felt comforted by the knowledge that their relatives’ future care had been considered (Stone et al., 2013). Detering et al. (2010) found that ACP was associated with a reduction in levels of stress, anxiety, and depression among bereaved family members. Likewise, Oliver et al. (2021) found that involving family members in CP meetings had a beneficial effect on their depression scores.

Despite these substantial benefits, international evidence has shown that many care home residents do not have an ACP (Batchelor et al., 2019; Detering et al., 2010; In der Schmitt et al., 2021; Jennings et al., 2016; Garden et al., 2022). Batchelor et al. (2019) attributed the low prevalence of ACPs to a lack of knowledge and education on the part of care home staff, including uncertainty regarding the legal status of care plans. Mariani et al. (2017) and Spacey et al. (2020) have suggested that a lack of funding and resources have contributed to a paucity of ACP activity. This issue is likely to be compounded by high levels of staff turnover in the care home sector which mean that knowledge and skills are often not sustained (Spacey et al., 2020). Indeed, this problem is likely to be further exacerbated by limited staff time and family reluctance to be involved in ACP (Mariani et al., 2017; Weathers et al., 2016). The high prevalence of cognitive impairments among many care home residents has also been described as a barrier to CP taking place (Mariani et al., 2017; O’Sullivan et al., 2016). A study overseen by O’Sullivan et al. (2016), which involved three care homes in Southern Ireland, found that just 10% of residents had capacity to complete their own advance care directive.

While we have a good basis to consider barriers to ACP and, to a lesser extent, CP, much of the published literature has chosen to focus on ACP and on higher quality research methodologies at the expense of potentially informative intervention-based studies. Martin et al, (2016) for example, excluded more than 44 retrospective studies from their systematic review of ACP intervention. Similarly, Weathers et al (2016) excluded 33 studies on the basis that they were not randomised control trials (RCTs). In keeping with the scoping review methodology, this review has not excluded papers based on methodology. It is necessary to incorporate the full breadth of

available evidence due to variation in CP interventions making it difficult to identify the most effective interventions (Martin et al., 2016).

This review aims to identify, map, and summarise evidence reporting CP interventions for older people in care home settings. To achieve this, the paper has the following objectives:

- To identify CP interventions for older people that have been developed, evaluated, and implemented in care home settings.
- To identify the components and outcome measures associated with CP interventions for older people in care home settings.
- To identify the extent to which CP interventions were judged to have been a success.

Methods:

Protocol and registration

We conducted a scoping review using the framework and methods published by Peters et al. (2015). Our full study protocol is registered on the Open Science Framework (removed for peer review). Our findings are reported using the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping reviews (PRISMA-ScR) guideline (Tricco et al., 2018).

Search strategy

We searched the following electronic databases from 1 January 2012 until 1 January 2022: ASSIA, CINAHL, MEDLINE, Social Services Abstracts, Web of Science, PsycInfo, EMBASE. This period was selected in order to include all available evidence in the ten years prior to the publication of the “Universal Principles for Advance Care Planning” (Care, 2022b). The full literature search for EMBASE is available in Additional File 1. The results of the literature search were imported into Covidence which was used for screening by the review team. We supplemented the literature search by scanning references of included articles.

Eligibility criteria

Eligible papers were required to be written in English to ensure they could be reviewed by at least two people. Eligible papers included studies of ACP and CP interventions delivered in care home settings for older people (>60 years old). Care home residents may have required nursing

care and may have had a dementia diagnosis. No restrictions were applied on geographical, social, ethnic or cultural aspects. All study designs, including mixed methods, qualitative or quantitative methodologies, where there was a description of a CP intervention were eligible.

Selection of sources of evidence

Two reviewers independently screened all retrieved titles and abstracts (removed for peer review). All papers that both reviewers agreed should not be excluded were retained for further review. Two reviewers (removed for peer review) independently screened full texts, resolving disagreements by discussion or reference to a third author (removed for peer review).

Data charting process

The extraction framework underwent two sets of revisions. Prior to beginning extraction, the data extraction framework was discussed at monthly project meetings. Comments arising from these meetings, including from patient and public involvement members, were incorporated into a draft of the final extraction framework. Six reviewers (removed for peer review) independently applied the framework to the same two papers. The reviewers then met and discussed points of clarification and made some minor alterations to what became the final framework.

Once the final framework was agreed upon, and to maximise the consistency of the extraction process, data was initially extracted by two reviewers who then met to reconcile their answers. Once each extractor had reconciled their answers with a second reviewer, for at least one paper, data was subsequently extracted by a single person. We extracted and tabulated data on the following: title; year of publication; number of care homes involved in the study, name of care planning intervention; the mechanism(s) by which the intervention sought to change practice as it related to care planning; training fidelity; country in which intervention took place; study design; intervention setting; dementia status of residents; number of residents, staff and family members involved in study. A copy of the full extraction framework can be found in the study protocol.

Synthesis of results

The data was synthesized and cleaned within Microsoft Excel. The lead reviewer (removed for peer review) conducted an initial inductive qualitative synthesis of the open-ended responses.

The reviewer read through all the responses and inductively developed a series of suggested codes to which answers were allocated. A further two authors reviewed the suggested codes and, after consulting with the lead reviewer, agreed upon a final set of synthesized data, the results of which are discussed below.

Results:

A total of 3,778 titles and abstracts were screened and full-text records of 404 studies were assessed for eligibility. Data were extracted from a total of 112 included studies. The most common reason for exclusion of full text articles (n = 60) was that the study comprised a secondary review rather than primary research, see Figure 1 for more information.

Figure 1: PRISMA Diagram

Overview of included Care Planning Interventions

The included studies referred to different types of care plans. In 70 (63%) cases the intervention was described as relating to “advanced care planning”, in 33 (29%) instances the term “care planning” was used.

The 112 articles included in this review were conducted across 25 countries. A total of 25 studies (22%) were conducted in the United States of America, 23 (21%) in Australia, and 21 (19%) in the United Kingdom. There was a notable absence of literature from Africa and South America. Most interventions took place within nursing homes (n = 68, 61%), with 20 (18%) studies focusing on residential homes and five (4%) focusing on both nursing and residential homes. In 61% (n=43/70) of “advanced care planning” papers the setting was a nursing homes. Likewise, 61% (n=20/33) of “care planning” papers took place in a nursing home. The figures for residential homes were 14% (n=10/70) and 24% (n=8/33) for “advanced care planning” and “care planning” interventions, respectively.

Many studies either did not state whether residents had dementia (n = 26, 23%), or it was unclear whether residents had dementia (n = 28, 25%). Of the 58 (52%) studies that clearly stated residents’ dementia status, 27 (24%) studies related to care homes in which all residents had dementia and in a further 12 (11%) studies most residents had dementia. Only three (3%) studies related to care homes in which none of the residents had dementia.

Focus of intervention

A total of 68 (61%) papers recorded the number of residents involved in the intervention and, where appropriate, the control group(s). The mean number of residents referred to in the papers was 2,191, with a range of 3 to 81,315.

A total of 47 (42%) studies recorded the number of staff involved in the intervention and, where appropriate, the control group(s). The mean number of staff referred to in the papers was 133, with a range of 1 to 1,178. In addition, over a fifth of the papers (n = 23, 21%) referred to staff members' involvement in the intervention but did not provide information on exactly how many staff members took part.

A total of 26 (23%) studies recorded the number of family and friends who were involved in the intervention and, where appropriate, control group(s). The mean number of family and friends referred to in the papers was 119, with a range of 4 to 939. In the case of 42 (38%) papers, we can confidently say that friends and family members were not involved in the study. In a further 13 (12%) cases it was unclear how many family members and friends were involved in the study.

Intervention Components

The review identified five mechanisms by which interventions sought to change attitudes and behaviour towards CP. These are described in Table 1.

Table 1: Intervention components

Change mechanism	Example
1. Training, delivered to staff, family members, or residents (n = 88, 79%)	Participating nurses were offered two, two-hour, educational training sessions. The first educational session addressed legal and ethical issues relating to ACP. The second session consisted of communication training. (Wils et al., 2017)

2. Provision of information and care planning resources (n = 45, 40%)	A Conversation Starter Kit booklet was developed for residents (with capacity) and family and friends. The resource was designed to assist with the development of ACPs (Kaasalainen et al., 2021)
3. Mentoring arrangements and/or the provision of staff members dedicated to assist with care planning (n = 30, 27%)	The intervention involved a mentor who was responsible for reviewing resident care plans with residents, families, and staff (Moyle et al., 2016)
4. Changes in working practices (n = 43, 38%)	Multidisciplinary meetings were held and the ACP process for each resident was discussed (Gilissen et al., 2019)
5. Provision of video materials (n = 11, 10%)	Family decision makers were provided with a video decision aid about developing goals of care (Hanson et al., 2016)

In 77% (n=54/70) of “advanced care planning” papers the intervention included training, delivered to staff, family members, or residents. This figure rose to 79% (n=26/33) of “care planning” papers.

Although 83 (74%) studies described delivering training to staff, only 47 (42%) studies recorded the number of staff involved in the intervention and, where appropriate, the control group(s). This missing data limits our ability to compare the studies.

More than 60% of interventions (n = 69, 62%) involved multicomponent programmes. Table 2 details the relationship between the various change mechanisms. In 78% of cases, the provision of information and CP resources was accompanied by staff training. More than half of interventions (n=6/11) which involved videos also included a change in working practices.

Table 3 shows that most interventions (n = 104, 93%) were targeted at care home staff. In 83 (74%) cases staff took part in training as part of the intervention, compared to just seven (6%)

cases where family and friends were provided with training. Ancillary workers were provided with training in just one (1%) project. In 94% (n=66/70) of papers which referred to “advanced care planning” the intervention was targeted at staff, likewise, in 91% (n=30/33) of papers which referred to “care planning” the intervention was targeted at staff.

Table 2: Intervention Components, n = number of articles

Change mechanism	Training (n = 88)		Resources (n = 45)		Mentoring / Dedicated Staff (n = 30)		Working practices (n = 43)		Video (n = 11)	
	n	%	n	%	n	%	n	%	n	%
Training, delivered to staff, family members, or residents	-	-	35	78%	23	77%	29	68%	8	73%
Provision of information and care planning resources	35	40%	-	-	13	43%	15	35%	5	45%
Mentoring arrangements and/or the provision of staff members dedicated to assist with care planning	23	26%	13	29%	-	-	14	33%	0	0%
Changes in working practices	29	33%	15	33%	14	47%	-	-	6	55%
Provision of video materials	8	9%	5	11%	0	0%	6	14%	-	-

Table 3: Recipients of Intervention Components, n = number of articles

	Staff	Family and/or friends	Residents	Other/Unclear
Training	83	7	5	4
Resources	40	8	9	0
Mentoring/dedicated staff	30	0	1	0
Working practices	42	5	6	1
Video materials	4	6	5	1
Total	104	21	22	5

Primary Outcomes

All of the interventions sought to improve stakeholders' engagement with care planning. The studies often examined whether these improvements were associated with changes in related outcome measures. Table 4 describes the five groups of outcome measures identified in the review. Nearly half of all studies (n = 55, 49%) included an outcome measure related to the quality of care provided.

Table 4: Outcome measure

Outcome measure	Example
1. Quality of Care (n = 55, 49%)	The quality of care measured by a composite quality indicator (Elliot and Adams, 2012)
2. Decision making (n = 29, 26%)	The quality of communication and decision-making measured at 3 months (O'Sullivan et al., 2016)
3. End of Life (n = 29, 26%)	Participants' understanding of do-not-resuscitate (DNR) orders and palliative care; willingness to sign a DNR order and receive palliative care (Aasmul et al., 2018b)
4. Resource use (n = 25, 22%)	The rate of hospitalisations per 1,000 resident-days (Hanson et al., 2017)
5. Other (n = 14, 13%)	The effectiveness of multidisciplinary educational case conferences in end-of-life planning (Aasmul et al., 2018a)

Most studies (n = 78, 70%) collected data from residents, with a further 62 (55%) studies collecting data from health and social care professionals. Data from family members were collected in six (5%) papers. None of the papers included in this review collected data from ancillary workers, such as cleaners or catering staff.

Study Design

All study designs, including qualitative or quantitative methodologies were included in the review. Most studies (n = 68, 61%) used quantitative study designs and of this subset 38 (34%) comprised RCTs. Eleven (10%) studies used qualitative methods involving interviews and/or focus groups with a further 10 (9%) studies involving other types of qualitative research. Finally, 18 (16%) studies applied a mixed-methods approach.

Reviewers recorded whether the papers' authors judged the intervention to have positively influenced the study's primary outcomes. Given the variety of methodologies represented across the included papers, the evidence used to reach these judgements varied from statistical analyses of large data sets to focus group feedback. In 70 papers (63%), the intervention was thought to have had a positive impact on the studies' outcome measure(s). A further 19 (17%) papers found that the intervention partially influenced the study's primary outcomes in a positive way. In seven (6%) papers the intervention was not considered to have had a positive impact.

Table 5 shows that when broken down by study design, half of the RCT interventions were considered to have positively influenced the studies' outcomes, compared to 64% of interventions that involved focus groups or interviews and 72% of mixed methods studies. All seven of the papers which recorded that the intervention had not positively influenced the study's primary outcomes were quantitative, with six of these seven papers comprising RCTs.

Table 5: Study design and authors' assessment of impact of intervention

Did the intervention positively influence the studies' outcomes	RCT		Quant - Other		Mixed		Qual - Interview		Qual - Other		Other		Total
	n	%	n	%	n	%	n	%	n	%	n	%	n
Yes	15	50%	28	74%	13	72%	7	64%	4	40%	3	60%	70
Partially	6	20%	6	16%	4	22%	0	0%	3	30%	0	0%	19
No	6	20%	1	3%	0	0%	0	0%	0	0%	0	0%	7
Inconclusive	1	3%	1	3%	0	0%	1	9%	0	0%	0	0%	3
Not applicable	2	7%	2	5%	1	6%	3	27%	3	30%	2	40%	13
	30	100%	38	100%	18	100%	11	100%	10	100%	5	100%	112

Table 6 presents the relationship between the authors' assessments of the impact of the intervention and the interventions' components. We can see that three out of the 11 (27%) articles which involved video resources were not considered to have been successful. Alternatively, nearly three quarters of all the papers (73%) which involved the provision of additional staff and/or mentoring were judged to have been a success.

Table 7 presents the relationship between the authors' assessments of the impact of the intervention and the recipients of the intervention. In 63% of studies in which staff were the intervention recipients was the study judged to have been a success, this number rises to 67% in studies involving family members. Alternatively, just 55% of studies in which residents were among the interventions' recipients were considered to have been successful.

Table 6: Intervention components and authors' assessment of impact of intervention

Did the intervention positively influence the studies' outcomes?	Training		Resources		Change in working practice		Staff/Mentoring		Video	
	n	%	n	%	n	%	n	%	n	%
Yes	56	64%	30	67%	29	67%	22	73%	4	36%
Partially	12	14%	3	7%	9	21%	5	17%	4	36%
No	6	7%	3	7%	0	0%	0	0%	3	27%
Inconclusive	3	3%	1	2%	3	7%	0	0%	0	0%
Not applicable - i.e. study did not record primary outcomes	11	13%	8	18%	2	5%	3	10%	0	0%
Total	88	100%	45	100%	43	100%	30	100%	11	100%

Table 7: Intervention recipients and authors' assessment of impact of intervention

Did the intervention positively influence the studies' outcomes?	Staff		Residents		Family member		Other	
	n	%	n	%	n	%	n	%
Yes	66	63%	12	55%	14	67%	3	60%
Partially	16	15%	5	23%	5	24%	1	20%
No	6	6%	3	14%	1	5%	1	20%
Inconclusive	3	3%	1	5%	0	0%	0	0%
Not applicable - i.e. study did not record primary outcomes	13	13%	1	5%	1	5%	0	0%
	104	100%	22	100%	21	100%	5	100%

Discussion

The aim of this paper was to identify, map, and summarise evidence reporting CP interventions for older people in care home settings. The included studies were heterogeneous in terms of study design, intervention type and outcomes assessed. The decision not to exclude studies because of their methodology has made this review, to the best of the authors' knowledge, the most comprehensive synthesis of CP interventions. The studies referred to different types of care plans. In 70 (63%) cases the paper referred to "advanced care planning" compared to 33 (29%) studies which referred to "care planning". When comparing "advanced care planning" and "care planning" papers, we did not observe any significant differences in the studies' settings, the groups that were targeted or the interventions' components. These similarities may reflect the fact that the people involved in the development of care plans and advanced care plans and the skills required to conduct them are very similar. Most interventions took place within nursing homes (n = 68, 61%). The cognitively impaired status of many care home residents has been described as a barrier to CP (Mariani et al., 2017; O'Sullivan et al., 2016). However, only just over half of the studies (n = 58, 52%) referred to residents' dementia status.

As has been observed in previous reviews, studies often sought to improve CP practices through multiple means (Gilissen et al., 2019). Most interventions (n = 83, 74%) provided staff with training. Training offers a means of addressing a lack of knowledge and education on the part of care home staff, phenomena that have been identified as important barriers to ACP (Mariani et al., 2017; Spacey et al., 2020). Training of staff alone is unlikely to address some of the other barriers, such as high staff turnover, which have been associated with a low uptake in ACP (Spacey et al., 2020). When broken down by intervention component, the papers' authors were most likely to rate interventions that involved dedicated staff and/or mentoring as having positively influenced the study's primary outcomes. These inputs may have helped to mitigate against workforce and organisational factors that can prevent training translating into change in the workplace (Williams and Smith, 2017). Indeed, systematic reviews have shown that the majority of training interventions are not evidence based and it is often difficult to sustain change following training interventions (Blake et al., 2020; Fossey et al., 2014).

Digital care planning is becoming more prevalent. Researchers have shown that use of electronic care records is associated with improvements in residents' health and functioning, employee engagement, a reduction in the time taken to complete care plans, as well as improved communication between stakeholders (Brittain, 2020; Kim et al., 2021). One of the primary benefits of digital care plans is the ability to easily share their contents with relevant health and social care professionals (Ellis, 2022). Adaptations to existing digital tools have sought to enable people living with dementia to play a more active part in their care planning (Behrens et al., 2022). The COVID-19 pandemic further encouraged the adoption of digital care planning approaches (Burton et al., 2022). In England, the Department of Health and Social Care aims to have 80% of care homes using digital care records by March 2024 (2022a). With these developments in mind, it is striking that only 12 studies (11%) referred to digital care planning practices. The low number of studies referring to digital care planning may reflect barriers identified by previous researchers. Barriers to the uptake of digital care planning include the cost of digital systems, a lack of devices, limited internet capabilities as well as a lack of staff familiarity (Burton et al., 2022; Johnston et al., 2022a; Johnston et al., 2022b).

Seven (6%) interventions involved the training of family members. These programmes may help to address family members' reluctance to become involved in ACP. The limited number of studies which involved family members, however, suggests that this is a group that remain difficult to engage with. Indeed, an Australian study found that greater involvement of family members in care planning conversations had an associated administrative burden for care home staff (Towers et al., 2019). Research has shown that family members' limited involvement in decision making can be caused by many factors, including: a lack of staff to engage family members, the absence of space within care homes to conduct collaborative discussions as well as a lack of staff training (Mariani et al., 2017; Kong et al., 2022; Ke et al., 2015). Only five (4%) studies delivered training to residents. This low figure may reflect the fact that many care home residents are cognitively impaired and may be limited in their ability to engage in training initiatives. A recent review found that few trials included adults who lacked capacity, even among populations associated with cognitive impairments such as dementia (Shepherd et al., 2019). The exclusion of people who lack decision-making capacity from research contributes to a weaker evidence-base upon which to care for these populations (Shepherd et al., 2022).

Ancillary workers are often key to the provision of high-quality care (Ashurst, 2019; Ashurst, 2020). Ancillary workers were also overlooked by the interventions identified by this review. None of the included papers collected data from ancillary workers and only one (1%) intervention delivered training to this sector of the workforce. Training and support which is targeted at ancillary workers can help them to feel valued and important team members (Ashurst, 2019). Providing ancillary staff with more training may also mitigate against the high levels of staff turnover, among carers, which has been identified as a barrier to ACP. With appropriate training and opportunities ancillary staff could contribute to more holistic CP.

Unlike previous systematic reviews, which have exclusively focused on ACP, this review has considered CP interventions in a broader sense. Just under half of all the included papers ($n = 70$, 63%) related to ACP interventions. This left a further 33 (29%) cases in which the intervention related to CP. ACP interventions coexisted with other forms of CP. There is, therefore, a value to looking beyond exclusively ACP interventions in future systematic reviews.

All of the papers sought to improve stakeholders' engagement with care planning. Many papers examined whether improvements in care planning practices were associated with related outcomes. Nearly half of the interventions included an outcome measure concerning the quality of care that was provided. This finding is consistent with the existing literature which has noted a positive association between ACP and residents' quality of life (Chan and Pang, 2010; Detering et al., 2010; Morrison et al., 2005; van Soest-Poortvliet et al., 2015). Across all of the studies included in this review 63% concluded that the intervention had a positive impact on the study's primary outcome measure. This figure fell to 50% among RCT studies. Six out of seven studies that were not deemed to have been successful were RCTs. These findings may reflect the opportunity costs which arise from care home staffs' participation in research studies that evaluate novel interventions (Peryer et al., 2022). These opportunity costs may be greater for staff when a study design, such as an RCT, requires participants to follow numerous protocol steps in addition to their daily work, as opposed to a less intensive intervention study design. A compromise may need to be struck between the optimum research methodology and delivering real world care (Bird et al., 2011). Indeed, a lack of scientific evidence as to the efficacy of an intervention can coexist with staff and service users holding strong views about the benefits of an intervention (Bird et al., 2011). When broken down by recipients of the intervention, just 55% of

interventions which involved residents were judged to have positively influenced the studies' outcomes. This finding, which may reflect difficulties arising from the cognitively impaired status of many residents, suggests that more work is still needed to successfully involve care home residents in CP interventions.

One limitation of this review is that only papers written in English were included. This may have resulted in the omission of potentially relevant studies and could explain why none of the included studies related to African or South American countries. Additionally, the diversity of the papers included, both in terms of methodologies and focus (CP and ACP; staffing and residents; residential homes and nursing homes) made it difficult to synthesize the findings and draw clear conclusions.

Conclusions

Overall, although many interventions have been developed to improve the delivery of CP within care home settings, the papers included in this review often provided incomplete information on which to draw conclusions. Close to a quarter of the papers ($n = 23$, 21%) referred to staff members' involvement in the intervention but did not provide information on exactly how many staff members took part. Furthermore, nearly half of all the studies made no reference to residents' dementia status ($n = 54$, 48%). This is an important omission because the cognitively impaired status of many care home residents has been identified as a barrier to CP (Mariani et al., 2017; O'Sullivan et al., 2016). The absence of this information makes it difficult to recommend specific interventions to policy makers and practitioners due to resource and workforce implications being unclear. It is also unclear whether certain interventions will be suitable for care home residents with dementia. A clear reporting framework is needed to address these gaps in our understanding of CP interventions.

This review also found that two groups of people – ancillary workers and family and friends – who researchers have previously identified may have the potential to play a valuable role in CP are often not included in CP interventions (Samsi et al.). These oversights should be addressed in future work.

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