



The Effectiveness of Advance Care Planning (ACP) Training for Care Home Staff: An Updated Systematic Review

RESEARCH

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ABSTRACT

Context: Population ageing and projections that more people will die in care homes demand that care home staff are prepared for advance care planning (ACP). This is an update of a prior review, published in 2021, of ACP education interventions for healthcare professionals in care homes.

Objective: We sought to address the questions: (1) What ACP education interventions exist for care home staff? and (2) How effective are these interventions?

Method: The review adheres to PRISMA; PROSPERO (ID: CRD42022337865). Original research evaluating ACP education for care home staff, reporting any measurable outcome of effectiveness, was included. Extensive literature searches were performed from March 2018 to June 2022. The results were reported by narrative synthesis.

Findings: We identified 10 studies (310 care homes), from the UK, Belgium, Norway and Canada. Major sources of heterogeneity between studies include intervention design, target population and outcome measure. More recent interventions target the wider multi-disciplinary team. There is a trend towards the adoption of more resident/family and staff-related outcomes. There was insufficient evidence to draw conclusions about the effectiveness of ACP education interventions.

Limitations: Heterogeneity of the primary studies did not allow for meta-analysis.

Implications: There is still insufficient data to determine the effectiveness of ACP education interventions for care home staff. Future researchers should aim to agree on outcomes that are specific to ACP education interventions for care home staff and develop standardised, validated outcome measures. Study design should consider an intervention's 'theory of change' when considering outcomes.

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INTRODUCTION

Globally, the proportion of people aged 60 years and above is set to increase from 12% to 22% by 2050 (World Health Organisation, 2017). In the UK, those over 85 years old will account for 7% of the population by 2041 (Office for National Statistics, 2018), leading to more people living with high levels of dependency (Kingston, Comas-Herrera & Jagger, 2018). Thus, care homes are predicted to be the most common place of death in England and Wales by 2040 (Bone et al., 2018).

UK 'care homes' offer a spectrum of support options, including accommodation, social activities and personal care, and 'nursing homes' offer additional nursing care (Age UK, 2022). Terminology differs globally; in this review, the terms 'care home', 'nursing home' and 'long-term care' will be synonymous. Because people are entering care homes later in their frailty trajectory (British Geriatric Society, 2021), a higher proportion of residents require assistance with most activities of daily living (Kelley & Morrison, 2015), and a higher proportion (up to 75% in the UK) have dementia (British Geriatric Society, 2021). Up to 56% of residents die within a year of admission (Kinley et al., 2014a), so care homes have become 'the de facto hospice' (Johnston et al., 2022:p.48). Thus, care home staff need to be competent in having advance care planning (ACP) discussions with residents and families.

ACP 'enables individuals to define goals and preferences for future medical treatment and care, to discuss these goals and preferences with family and health-care providers, and to record and review these preferences if appropriate' (Rietjens et al., 2017:p.e546). ACP improves communication and documentation of end-of-life choices, the likelihood of dying in one's preferred place of care, and saves healthcare costs (Jimenez et al., 2018). ACP interventions in care homes reduce hospitalisations by 9%–26%, results in 29%–40% more people dying in the care home and a 13%–29% increase in alignment between residents' wishes and actual experiences (Martin et al., 2016).

Most older people who live with frailty are willing to have ACP discussions (Mignani et al., 2017; Sharp et al., 2013) but they do not happen frequently enough in the care home setting (Mignani et al., 2017). Not all care home staff have the appropriate knowledge of basic end-of-life care management (Smets et al., 2018), and staff feel unsupported in managing palliative care issues (Macgregor et al., 2021). This lack of knowledge and self-efficacy (Gilissen et al., 2020) results in staff not having ACP discussions (Spacey et al., 2018). Qualitative research has shown that care home staff are supportive of the ACP process in principle but feel underprepared for these discussions (Vellani et al., 2022). Education of care home staff is therefore essential to improve staff knowledge and self-efficacy in ACP.

Specifically, in relation to ACP education interventions in care homes, Gleeson, Noble and Mann (2021) found that only six studies met their inclusion criteria, and they were heterogeneous in size, method and quality, resulting in insufficient evidence of intervention effectiveness. Since the publication of that review (searched June 2018), new, high-quality evidence is available, triggering this review update.

AIMS

Our questions are: (1) What anticipatory care planning education/training interventions exist for care home staff? and (2) How effective are these interventions? In view of the diverse measures of effectiveness adopted in the field, 'effectiveness' can relate to any measurable outcome of effectiveness adopted by the studies, including resident/family/staff and health service related outcome measures.

METHODS

SEARCH STRATEGY

The review is reported according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Page et al., 2021), (PROSPERO registration number CRD42022337865). The previous systematic review (Gleeson, Noble & Mann, 2021) searched from inception to June 2018. Their search strategy was replicated with modifications to subject headings as appropriate in relation to updates, from March 2018 to June 2022. The search was conducted on 14th June 2022 in Ovid Medline (R) All, Embase, PsycINFO via Ovid, Cochrane Central Register of Controlled Trials (CENTRAL), CINAHL and ERIC via EBSCO. Supplementary searches were conducted on 20th June 2022. See Supplementary File 1 for all search strategies.

Population, intervention, comparison, outcomes, study design (PICOS): Inclusion and exclusion criteria

- *Population:* Any staff working within a care home. This is amended from the original search and protocol, which specified 'health care professionals' as the population (Gleeson, Noble & Mann, 2021), to reflect the multi-disciplinary nature of care home teams.
- *Intervention:* ACP education or training for care home staff, where ACP training is the overarching focus of the intervention, and ACP interventions are for care home staff (not patients or families) and for use within care homes (not hospital or hospice settings). We excluded ACP education interventions focusing on a specific disease (e.g., cardiac disease) other than

dementia (because of the large proportion of care home residents living with dementia).

- *Comparison*: No intervention/usual care or alternative intervention or comparison within groups in before and after studies.
- *Outcomes*: All measurable quantitative or qualitative outcomes of effectiveness (e.g., health system/resource-related, patient/relative-related and staff-related).
- *Study design*: Studies in English language with full text available via University databases. Original research studies with quantitative, qualitative or mixed-methods designs were included. Studies had to have a measurable outcome of 'effectiveness' (see above).

STUDY SELECTION

One author (VBF) searched the databases, websites and journals. EndNote Library was used to batch the exported studies. De-duplication was conducted using the Systematic Review Accelerator De-duplicator tool (Clark et al., 2020), with subsequent manual de-duplication of any remaining duplicates. Title, abstract and full-text screening were conducted in Covidence, by VBF and AG, who independently selected studies fulfilling inclusion criteria. Any disagreements were resolved by discussion between the two reviewers (see PRISMA flow diagram, Supplementary File 2).

DATA EXTRACTION

To pilot data extraction, VBF extracted data for the original studies which was checked with AG. VBF then extracted data for the remaining studies independently. The extraction form from the original review (Gleeson, Noble & Mann, 2021) was used to extract the following: study design, aim, setting, participants, inclusion/exclusion criteria, intervention design, allocation method, control, sample size, outcome measures, results and ethical approval.

RISK OF BIAS ASSESSMENT

VBF assessed study quality using the Specialist Unit for Review Evidence Checklist (SURE, 2018; Table 1). This was then checked by AG and any disagreements resolved by discussion. The SURE (2018) checklists were chosen as they are the updated versions of the tools used in the original review, and they offer a range of tools for systematic risk of bias assessment.

SYNTHESIS METHOD

Due to the diverse nature of the interventions and outcomes of the studies included in the original review (Gleeson, Noble & Mann, 2021), it was anticipated that the updated results would also not be suitable for meta-analysis, therefore, the plan a priori was for a narrative synthesis. Narrative synthesis allows for studies that

are heterogeneous in their method and intervention to be considered in relation to their effectiveness, and it can produce findings that are accessible for policy and practice (Popay et al., 2006).

RESULTS

We identified five new studies that met inclusion criteria, making a total of 10 studies, recruiting staff from 310 care homes. One study (O'Brien et al., 2016) from the original review was excluded, as upon further consideration, the intervention focus was not mainly on ACP education. The increase in the number of higher-quality studies that met inclusion criteria led to a post hoc decision to exclude new studies of low quality (four low-quality studies were excluded). Thus, all new studies in this review are of moderate to high quality. At the time of the original review, there was less evidence available, thus one low-quality study was included to provide a more comprehensive review. As suggested by Popay et al. (2006), uncritical inclusion of low-quality studies threatens the robustness of the synthesis and studies of equal quality should be given equal weight in the narrative synthesis. To achieve this and ensure internal consistency, the study of low quality by Ampe et al. (2017) is given less weight in the narrative synthesis.

Table 2 provides the study characteristics of the 10 primary studies included in this review.

NARRATIVE SYNTHESIS

'Complex interventions' may have multiple component parts (e.g., Aasmul et al., 2018; Pivodic et al., 2022), target multiple different participants (e.g., Aasmul et al., 2018; Ampe et al., 2017; Cousins et al., 2022; Goossens et al., 2020; Pivodic et al., 2022; Sævareid et al., 2019) and require a high level of skill for delivery and uptake (Skivington et al., 2021). Systematic reviews of complex interventions are often associated with heterogeneity between primary studies (Popay et al., 2006). Narrative synthesis is suited to the evaluation of the effectiveness of such heterogeneous interventions and can produce findings that are accessible for policy and practice (Popay et al., 2006). Popay et al. (2006) provide a framework for narrative syntheses that focus on the effectiveness of interventions. The major elements of which, considered in this section, are 'developing a preliminary synthesis of findings of included studies' and 'exploring relationships in the data'. The remaining elements of the framework are considered in the discussion section and include 'developing a theory of change' and 'assessing the robustness of the data' (see Section Strengths and Limitations).

STUDY AND METHOD	STRENGTH	REASONING
Clifford et al. (2007)	Moderate	<ul style="list-style-type: none"> ✓ Large sample (n = 79 care homes) ✓ Researchers analysed differences in characteristics between the groups who did and did not complete the surveys • No control • 54.7% response rate at final audit
Hockley et al. (2010) Kinley et al. (2014b)	Moderate	<ul style="list-style-type: none"> • Small sample (n = 7 care homes) • No control
	Moderate to high	<ul style="list-style-type: none"> ✓ Large sample size (n = 38 care homes) ✓ Considered contamination between groups and used the cluster RCT design to overcome this ✓ Groups 1 and 2 were randomised electronically by an external party ✓ Data were extracted by two researchers independently, making this process robust • Could not randomise group 3 who acted as an observational group, which would still be open to confounding factors
Cousins et al. (2022)	High	<ul style="list-style-type: none"> ✓ Guided by theoretical propositions ✓ Attrition rate good ✓ Provides rich qualitative data • Convenience sampling • Small sample (n = 8 care homes)
Ampe et al. (2017)	Low	<ul style="list-style-type: none"> ✓ Moderate sample (n = 18 care homes) • Allocation to intervention and control groups was not random but determined by pre-intervention 'ACP audit', in order to identify those care homes with the greatest scope for improvement from the intervention. Such a systematic difference between intervention and control groups threatens the internal validity of this study
Goossens et al. (2020)	High	<ul style="list-style-type: none"> ✓ Groups were randomly allocated before any data was collected and baseline characteristics of participants in the control and intervention groups were similar ✓ Large sample (n = 65 care homes) • Recruitment method could introduce selection bias as care homes decided which wards to include in the study
Pivodic et al. (2022)	High	<ul style="list-style-type: none"> ✓ Moderate sample size (n = 14 care homes) ✓ Computer-generated randomisation of groups to control or intervention • 50% of respondents completed the post-intervention survey which may produce unreliable results, especially as there is not an analysis of the non-responders
Aasmul et al. (2018)	High	<ul style="list-style-type: none"> ✓ Large sample (n = 67 homes) and covers three Norwegian counties ✓ Homes were randomised to control or intervention groups, but this was a constrained process to allow groups to have similar characteristics • The multi-component nature of the intervention makes it difficult to know which elements are effective
Sævareid et al. (2019)	Moderate to high	<ul style="list-style-type: none"> ✓ Randomised at the whole ward rather than individual level aimed to avoid contamination between groups ✓ Pair matched control and intervention groups based on national data ✓ Selection bias was minimised by adopting an 'opt out' model • Small sample (n = 8 care homes) • First author not blinded to group allocation • Validity of questionnaire used to extract data from case notes is not clear
Molloy et al. (2000)	Moderate to high	<ul style="list-style-type: none"> ✓ Pair matched care homes based on characteristics ✓ Randomly allocated groups, however, no information was given on how the randomisation process worked • Participating care homes were selected to include those with less resident choices documented. This may limit generalisability • Small sample (n = 6 homes)

Table 1 Risk of Bias Assessment for Primary Studies (✓ = Strength • = Weakness).

Initially, a descriptive paragraph was written, summarising each study. The summarised data were then tabulated (Table 2) to visualise the study characteristics. This 'preliminary synthesis' (Popay et al., 2006:p.13) demonstrated substantial heterogeneity between the primary studies. A systematic approach to identifying potential patterns within and between primary studies is

'ideas webbing', which allows visualisation of relationships in the data (Popay, 2006:p.20). This approach was adopted here to help recognise and group the major sources of heterogeneity requiring scrutiny, which Popay et al. (2006) suggest may include intervention design, target population and outcomes (Popay et al., 2006; Figure 1). The potential impact of this heterogeneity is analysed below.

STUDY, DESIGN AND QUALITY	POPULATION AND SAMPLE SIZE	LOCATION	INTERVENTION	OUTCOME MEASURE	RESULTS
<p>Clifford et al. (2007) Before and after (surveys conducted pre- and post-intervention) Moderate quality</p>	79 care homes	UK	Amended version of the Gold Standard Framework in care homes (GSFCH; local facilitator supporting four workshops, delivered over a 9-month period)	Quantity of ACPs Quantity of hospital admissions Place of death	<p>Increase in homes that routinely undertake ACP (51% pre-intervention, 77% post-intervention, $p = 0.008$) and that discuss CPR status with the resident (23% pre-intervention, 65% post-intervention, $p = 0.001$), GP (42% pre-intervention, 71% post-intervention, $p = 0.004$), family (38% pre-intervention, 81% post-intervention, $p = 0.001$) and staff (29% pre-intervention, 74% post-intervention, $p = 0.001$).</p> <p>No significant increase in discussion of preferred place of care with the resident (81% pre-intervention, 87% post-intervention, $p = 0.508$), GP (89% pre-intervention, 84% post-intervention, $p = 0.774$), family (90% pre-intervention, 98% post-intervention, $p = 0.219$) or staff (87% pre-intervention, 87% post-intervention).</p> <p>An after-death analysis ($n = 44$ homes, 220 cases) found fewer crisis hospital admissions (62% had no crisis admissions pre-intervention, 73.7% had no crisis admissions post-intervention, $p = 0.001$), a significant increase in residents dying in the care home (80.9% pre-intervention, 88.5% post-intervention, $p = 0.000$), and increase in ACPs in place (37.6% pre-intervention, 63% post-intervention, $p = 0.001$)</p>
<p>Hockley et al. (2010) Before and after (reviewed 228 case notes of residents those who died either pre- or post-intervention) Moderate quality</p>	7 care homes	UK	Dual programme of GSFCH and the modified Liverpool Care Pathway (LCP) implemented over 18 months, with 'high facilitation'	Quantity of DNAR, ACP, LCP Inappropriate hospital admissions/days and hospital deaths Staff attitudes regarding palliative care	<p>Within 6 months of the intervention, all homes had set up a GSFCH register</p> <p>Post-intervention, the number of case notes with do not attempt resuscitation (DNAR) documentation increased significantly (15% pre-intervention, 72% post-intervention, $p = <0.001$) as did documentation of ACP (4% pre-intervention, 53% post-intervention, $p = <0.001$) and LCP (3% pre-intervention, 30% post-intervention, $p = <0.001$). The number of days deemed inappropriately spent in hospital in the last weeks of life reduced from 82% to 44% and, deaths in hospital reduced from 15% to 8%</p>

(Contd.)

STUDY, DESIGN AND QUALITY	POPULATION AND SAMPLE SIZE	LOCATION	INTERVENTION	OUTCOME MEASURE	RESULTS
<p>Kinley et al. (2014b) Cluster RCT (from case note review) Moderate to high quality</p>	38 care homes	UK	<p>Different implementation strategies for GSFC</p> <p>Group 1 (n = 12 homes) received 'high facilitation' of a 'train the trainer approach', comprised of 4 days training for selected co-ordinators along with facilitator supportive visits. Facilitators provided the training and visited the care homes regularly. Group 2 (n = 12 homes) received additional monthly, 3-h 'action learning' classes, which taught leadership skills required to implement GSFC. Group 3 acted as an observational group and received their usual local level of facilitation</p>	<p>Place of death</p> <p>Quantity of ACPs, CPR decisions.</p> <p>Qualitative data collected regarding barriers to intervention</p>	<p>No significant difference in the number of residents dying in the nursing home between groups 1 and 2 (75% post-intervention in group 1, 78% post-intervention in group 2, $p = 0.299$).</p> <p>There were also no significant differences in ACP quantity (73% post-intervention in group 1, 75% post-intervention in group 2, $p = 0.847$) or quantity of CPR decisions (65% post-intervention in group 1, 53% post-intervention in group 2, $p = 0.323$).</p> <p>However, importantly, the group with 'high facilitation and action learning' completed programme accreditation more often (83%) than those with high facilitation alone (27%) or those with usual local level facilitation (7%)</p>
<p>Cousins et al. (2022) Qualitative design (involved post-intervention semi-structured interviews of staff members which were thematically analysed, and a narrative synthesis of each case was created. A cross-case analysis was conducted, and themes were identified during this process). High quality</p>	8 care homes (designed for a wide range of staff)	UK	<p>Website for staff and family educating about ACP in COVID-19</p> <p>It took 2 h to complete and was designed with different units and learning objectives</p>	<p>Staff perception of impact on knowledge and practice/confidence</p>	<p>Enhanced knowledge and skills relating to ACP, and attitudes reflecting preparedness, confidence and enthusiasm towards having ACP conversations</p>
<p>Ampe et al. (2017) Before and after (staff views on policy were measured using a validated questionnaire 'ACP audit'). The extent to which residents and families were involved in ACP discussions was measured by analysing before and after intervention audio recordings of ACP conversations). Low quality</p>	18 care homes (multiple disciplines of staff working in care homes)	Belgium	<p>Focus on shared decision-making (SDM) during ACP communication with residents and families. Delivered over 4 weeks and comprised two workshops (lasting 4 h) and a homework task. An external teacher provided the training which is delivered to small groups</p>	<p>Staff views of criteria relating to ACP policy and extent to which residents/families involved in ACP discussion</p>	<p>Post-intervention 'ACP audit' questionnaire scores had significantly increased in the intervention group (score pre-intervention = 26.6, score post-intervention = 32.56, $p = 0.013$) but not in the control group (score pre-intervention = 39.56, score post-intervention = 37.67, $p = 0.086$).</p> <p>There was no significant increase in the level of resident/family involvement in ACP discussions in the intervention group (41.32 = score pre-intervention, 38.82 = score post-intervention, $p = 0.973$)</p>

(Contd.)

STUDY, DESIGN AND QUALITY	POPULATION AND SAMPLE SIZE	LOCATION	INTERVENTION	OUTCOME MEASURE	RESULTS
<p>Goossens et al. (2020) Cluster RCT (assessed the level of resident and family involvement in ACP using audio-recorded conversations at pre-test, 3 months, and 6 months post-intervention). Good quality</p>	<p>65 care homes (multiple disciplines of nursing home staff were included)</p>	<p>Belgium</p>	<p>Theory of ACP and SDM, role-play and a homework task to practise ACP discussions. External trainers delivered the training</p>	<p>Staff views on criteria related to ACP policy. Extent to which residents/families involved in ACP discussion</p>	<p>Significant increase in involvement in residents/families in ACP discussions in the intervention group compared to control both at 3 months (intervention mean score = 53.49, control mean score = 24.98, $p = 0.000$) and at 6 months (intervention mean score = 56, control mean score = 22.27, $p = 0.000$). Significant improvement between groups in staff perceived competence in ACP/shared decision-making at 3 and 6 months, however, staff did not perceive the frequency of SDM in ACP to have increased at either 3 or 6 months</p>
<p>Pivodic et al. (2022) Cluster RCT (to assess staff knowledge and self-efficacy. A survey was created, internally validated and completed before and after the intervention) High quality</p>	<p>14 care homes</p>	<p>Belgium</p>	<p>ACP + is a multi-component intervention 'Train the trainer' approach Staff of varying roles and levels are included and training tailored to roles. 8 months duration Other component parts included coaching, audit, supportive material and multi-disciplinary team meetings. They took a 'pragmatic approach' in adapting parts of the intervention as needed throughout the process</p>	<p>Staff knowledge of ACP Staff self-efficacy regarding ACP</p>	<p>No significant difference in staff knowledge post-intervention between the control and intervention groups (post-intervention group score = 0.55, post-intervention control score = 0.53, $p = 0.339$). There was a small but significant increase in self-efficacy between groups (post-intervention score = 6.23, control score = 5.89, $p = 0.003$, Cohen's $d = 0.3$)</p>

(Contd.)

STUDY, DESIGN AND QUALITY	POPULATION AND SAMPLE SIZE	LOCATION	INTERVENTION	OUTCOME MEASURE	RESULTS
<p>Aasmul et al. (2018)</p> <p>Cluster RCT (control and intervention group in the study – both groups documented the communication taking place in relation to the residents. A separate questionnaire was completed by nursing staff and family members about their perception of any change in communication quality).</p> <p>Distress levels of the staff (in relation to patient symptoms) were also measured at different time points. These were assessed before the intervention, at 4 and 9 months (post-intervention).</p> <p>High quality</p>	67 care homes	Norway	<p>Multi-component intervention which included communication around ACP. Communication, Systematic assessment and treatment of pain, Medication review, Occupational therapy, Safety (COSMOS).</p> <p>4 months</p> <p>'Train the trainer approach', with 'ambassadors' from the care homes supported by the researchers.</p> <p>Care home staff took part in 2 days of teaching involving lectures and role play. The ambassadors were taught about the definitions of ACP, and communication skills relating to initiation of ACP and involvement of residents and families in the conversations.</p> <p>Other components of the intervention included staff having regular multi-disciplinary meetings and conversations with families</p>	<p>Staff perceptions re changes in communication</p> <p>Families perceptions re changes in communication</p> <p>Staff distress level</p> <p>Number of shared discussions</p> <p>Number of family contacts</p>	<p>Significant intervention effect on shared communication with the primary nurse (intervention effect = 3.9, $p = <0.01$) and contact with family in the last month of life (intervention effect = 6.5, $p = <0.05$). However, none of the significant effects were sustained at 9 months. Post-intervention, nurses reported that they perceived an improvement in communication. Families also reported improved communication (a significant difference compared to the control group, $p = 0.04$). There was a significant reduction in staff distress at 4 months (intervention effect = -1.8, $p = <0.05$) but this was not sustained at 9 months</p>
<p>Sævareid et al. (2019)</p> <p>Cluster RCT (the electronic medical records of residents, which were compared before and after the intervention).</p> <p>Moderate to high quality</p>	8 care homes	Norway	<p>12-month ACP intervention.</p> <p>The intervention group formed 'project teams' consisting of the multidisciplinary ward team.</p> <p>Train the trainer approach</p> <p>They participated in 2 days of education seminars (including presentations and role-play), received a guide to ACP conversations and further learning materials including a quick reference/flash guide for ACP</p>	<p>Quantity of documented resident participation in end-of-life discussion</p> <p>Quantity of documented resident preferences</p>	<p>Significant ($p = <0.001$) increase in resident involvement in ACP/end-of-life discussions in the intervention group (13% pre-intervention, 36.8% post-intervention) compared with the control group (15.6% pre-intervention, 10.7% post-intervention)</p>
<p>Molloy et al. (2000)</p> <p>RCT (satisfaction measured with questionnaires at baseline and 6, 12 and 18 months post-intervention)</p>	6 care homes	Canada	<p>'Let Me Decide'; a project to implement ACP in care homes, which included an education intervention for staff about advance directives. The education adopted a train the trainer approach and consisted of 2-days of training to become facilitators of the programme</p>	<p>Resident and family satisfaction with (1) the health service they received and (2) their role in decision-making</p> <p>Hospital attendances and hospital days</p>	<p>No significant difference between resident and family satisfaction between intervention and control groups.</p> <p>They also compared health service use in both groups and found a significantly reduced number of hospital attendances (intervention group = 143, control group = 290, $p = 0.001$) and less days spent in hospital (intervention group = 1378 days, control group = 3551 days, $p = 0.01$) in the intervention group</p>

Table 2 Study Characteristics.

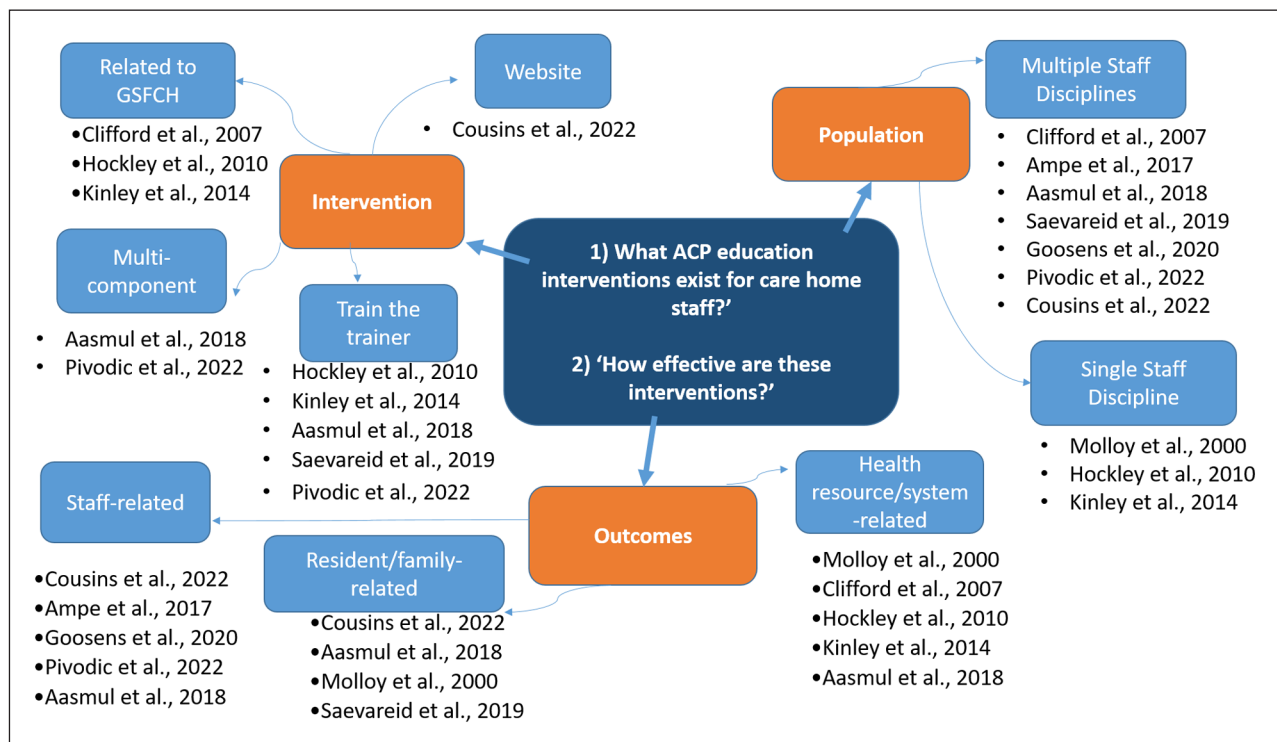


Figure 1 Ideas Webbing.

VARIABILITY IN INTERVENTION (Figure 1)

- Multi-component versus single-component interventions: Two of the interventions are multi-component (e.g., Aasmul et al., 2018; Pivodic et al., 2022). Pivodic et al. (2022) suggested that outcomes may be more difficult to target and achieve and complex to interpret when an intervention has multiple component parts. This may explain Pivodic et al.'s relatively neutral results, however, Aasmul et al. (2018) found significant intervention effects, despite their multi-component design. It may be that the difference here is related to the different outcome measures adopted by the studies; Aasmul et al. (2018) adopted staff-related, resident/family-related and health resource related outcomes whereas Pivodic et al. (2022) considered only staff-related outcomes. They also had different follow-up periods which may be relevant as Aasmul et al.'s intervention effect was not sustained at 9-month follow-up.
- Flexible interventions: It allows the intervention to be tailored to the individual care home as they are rolled out. This approach is taken by Pivodic et al. (2022), who made changes to the number of meetings held, roles of staff, timings for education sessions, etc., during the intervention. Flexible interventions can also be considered complex, as decisions need to be made about which components of the intervention are flexible and which are fixed. Importantly, Pivodic et al. (2022) agreed on a list of flexible and fixed elements of the intervention at the beginning of the

process, which may be important for generalisability to other settings.

- Train the trainer interventions: Five of the studies adopted a 'train the trainer' approach, which could in theory improve the sustainability of the intervention impact, as the care home staff continue to cascade knowledge (NHS Health Education England, 2017), however, follow-up of these interventions is needed to better understand this. Further, this approach assumes that staff feel competent and have the time and resources to share their learning with others (NHS Health Education England, 2017). This adds complexity to the intervention as the staff must have the expertise to both learn and teach new skills (Skivington et al., 2021). It may be useful to explore staff views on this element of the interventions with future qualitative research.
- GSFCH: Three of the UK-based studies taken from the original review focused on the GSFCH (Clifford et al., 2007; Hockley et al., 2010; Kinley et al., 2014b). Reflecting the restrictions imposed by the COVID-19 pandemic, the new UK study (Cousins et al., 2022), adopted a website intervention.

Figure 1 helps to visualise the elements that add complexity to the interventions, demonstrating clearly that ACP education interventions are complex in nature.

VARIABILITY IN POPULATION (Figure 1)

Figure 1 shows that over time, the studies generally targeted the broader multi-disciplinary team. Earlier studies targeted nursing home managers (Hockley et

al., 2010; Kinley et al., 2014b) or nurses (Molloy et al., 2000), though Clifford et al. (2007) targeted care home managers, nurses and carers. The more recent studies target the broader multi-disciplinary care home team, involving a range of staff disciplines (Aasmul et al., 2018; Ampe et al., 2017; Cousins et al., 2022; Goossens et al., 2020; Pivodic et al., 2022; Sævareid et al., 2019). This reflects the need for all resident- and family-facing staff to have familiarity with the ACP process (Goossens et al., 2020). Sævareid et al. (2019) trained whole wards within the care homes which they argue improves internal validity by reducing contamination of control wards and reduces participant selection bias. Further, Cousins et al. (2022) included family members alongside staff as participants in their educational intervention.

Pivodic et al. (2022) delivered tailored training to different staff disciplines and allocated them specific roles in the roll out of their education intervention. This approach may more closely meet the training needs of the staff members, however, it is important to consider how this may influence the results. Pivodic et al. (2022) mention that their results are grouped rather than considered separately for different staff disciplines, which may have influenced their outcomes. It may be more relevant to consider results at the staff discipline level (in relation to their specific role) rather than to group results, as this would better reflect the knowledge or self-efficacy required by the different staff disciplines.

The original review highlighted the challenge that high staff turnover presents to education interventions in the care home setting. In relation to the new studies, Goossens et al. (2020) cite this as the major reason for their loss of participants to follow-up. Pivodic et al. (2022) do not mention staff turnover, however, one of their exclusion criteria was major 'staff reorganisation' which may have limited the impact of this. Further, staff turnover is not mentioned as a specific concern by Cousins et al. (2022), Aasmul et al. (2018) or Sævareid et al. (2019). Interestingly, an ACP intervention study by Baron, Hodgson and Walshe (2015) found that turnover of care home managers was a major issue during their study. This is particularly concerning as many studies mention the importance of involving nursing home management in the intervention (Aasmul et al., 2018; Ampe et al., 2017; Goossens et al., 2020; Hockley et al., 2010; Kinley et al., 2014b) in order to ensure time is allocated for the training, and the culture of the home is receptive to change.

VARIABILITY IN OUTCOMES (Figure 1)

Ideas webbing allowed us to categorise a large number of different outcome measures into resident/family-related, staff-related and health system/resource-related constructs.

Considering that all of the studies in the review update adopted more than one outcome measure, four studies

included resident/family-related outcomes, five studies included staff-related outcomes and five studies included health resource/system-related outcomes. The original review found that the most commonly adopted outcome measures were ACP documentation and healthcare outcomes. These are less commonly adopted as an outcome measures in the new studies, with only Sævareid et al. (2019) measuring the quantity of patients who participated in ACP discussions and the quantity of documented patient care preferences and Aasmul et al. (2018) measuring number of shared discussions. The focus now appears to be more on resident/family-related measures including the extent to which residents/families are involved in ACP discussions (Goossens et al., 2020), family perceptions of changes in practice (Aasmul et al., 2018) and staff-related measures including staff perception of the impact of the intervention on changes in practice (Aasmul et al., 2018) and their knowledge/confidence (Cousins et al., 2022; Pivodic et al., 2022).

In summary, ACP education interventions are complex interventions. As synthesised above, this is reflected in the heterogeneity of the primary studies in relation to their intervention design, target population and outcome measures.

DISCUSSION

KEY FINDINGS

To the best of our knowledge, this is the most up-to-date systematic review of ACP education interventions for care home staff. The quality of the primary studies in the field has improved since the original review. This review update adds four high-quality and one moderate-to-high-quality study to the five studies from the original review, making a total of ten studies (310 care homes). The key findings include that interventions are heterogeneous in their design, including multi- and single-component, flexible and train the trainer designs. Over time, the interventions are targeting the more diverse multi-disciplinary team. Outcome measures remain diverse, however, more recent studies have focused on more staff- and resident/family-related outcome measures. In keeping with the conclusion of the original review, the need to standardise outcome measures in the field remains urgent.

An international Delphi study (Rietjens et al., 2017:p. e548) provides agreement and consensus on which outcome measure constructs should be adopted when evaluating ACP. Their rigorous technique, which included the opinions of over 100 experts, involved patient representatives, and a meta-review of the literature, resulted in 14 constructs being recommended. These include many of the outcome measures adopted in the primary studies here, including 'knowledge of ACP', 'self-efficacy to engage in ACP', 'documentation of goals and preferences' and 'use of healthcare'. Of the

recommended constructs, 12/14 received very strong agreement and 10/14 received very strong consensus. However, the 14 recommended outcome constructs are diverse and reflect the diversity of those chosen by the primary studies here. Further, there remains a lack of standardised, validated measurement tools to measure many of these constructs (Rietjens et al., 2017; Sudore et al., 2018).

What constitutes positive impact of an ACP education intervention is unclear partly due to the voluntary nature of ACP (Pivodic et al., 2022). It is not compulsory to complete an ACP, and as such, for a minority of people, not completing an ACP is their choice, and arguably a measure of success. It is therefore too simplistic to assume that a higher quantity of ACPs (the most common outcome measure adopted in the original review) is equal to positive impact. Similarly, documentation of ACP is not equivalent to the evidence of its being used effectively in decision-making (Flo et al., 2016). Another commonly adopted outcome measure is the number of residents who died in the care home (e.g., Clifford et al., 2007; Kinley et al., 2014b). It is not clear if this is a positive or negative outcome, unless this is measured in the context of the residents preferred place of death. Clifford et al. (2007) found that the intervention was associated with more residents dying in the care home, but not with increased discussion of preferred place of death. Arguably, patient preferences are more important to understand in order to provide person-centred care, a sentiment reflected in the recommendation from the original review to focus on patient and family-derived outcomes. The importance of understanding patient preferences is also highlighted by a Delphi consensus and organising framework for outcome measures for ACP (Sudore et al., 2018:p.245), which found that 'care consistent with goals' was the most important outcome construct for evaluating ACP. It may, therefore, be positive that the more recent studies have focused on more staff and resident/family-related outcome measures.

When researching complex interventions, the Medical Research Council (Skivington et al., 2021) suggests that understanding the impact mechanism (or 'theory of change') as well as the outcome is important. The 'theory of change' can explain how an intervention might have an impact and can be developed further in light of systematic review findings (Popay, 2006:p.12). Pivodic et al. (2022) explicitly explored their 'theory of change' and conducted a literature review and stakeholder engagement to inform their theory that care home staff must have adequate self-efficacy (confidence in their ACP-related abilities) and knowledge regarding ACP, in order to make improvements in the ACP process in care homes. This theory also underpins the studies by Sævareid et al. (2019) and Cousins et al. (2022), who believe that increased knowledge/

competence in relation to ACP would improve its uptake. Aasmul et al. (2018) consider that if care home staff do not feel competent in managing complex care home residents, they may experience subsequent distress. They hypothesise that ACP education will therefore relieve staff distress. They base this theory on the results of a study demonstrating that care home nursing aids experienced reduced caregiver burden, compared to a control group, when they were trained in communication skills (Sprangers, Dijkstra & Romijn-Luijten, 2015). Goossens et al. (2020) argue that communication skills without self-efficacy are probably insufficient for positive change, because the lack of self-efficacy regarding ACP is a barrier to ACP in care homes (Harrison Denning, Sampson & De Vries, 2019). Self-efficacy in the context of these primary studies can be considered as confidence in one's ability to partake in the ACP process. It is commonly discussed and measured in the newer primary studies but does not appear as a focus of the studies in the original review. From the above, it appears that it is important to consider 'the theory of change' that underpins the intervention impact and that a common 'theory of change' is that both subjective (self-efficacy) and objective (knowledge) changes are needed to be impactful.

There is no standardised approach to measuring self-efficacy in relation to ACP as an outcome. Pivodic et al. (2022) developed a new scale to measure self-efficacy. This involved asking staff to rate their confidence in their ability in relation to 12 questions. Goossens et al. (2020) also asked staff to rank their competence in having shared decision-making discussions. Cousins et al. (2022) qualitatively analysed the effectiveness of their intervention with semi-structured interviews and found that one of the themes was increased confidence in having ACP discussions. This lack of a standardised measure limits the comparison of the results.

Of the studies which consider staff self-efficacy-related outcome measures, Goossens et al. (2020) demonstrated increased perceived competence in shared decision-making in the intervention group, Cousins et al. (2022) demonstrated increased staff and family confidence for ACP and Pivodic et al. (2022) demonstrated increased staff self-efficacy regarding ACP. Of note, the results of these studies in relation to self-efficacy all indicate positive change in relation to the interventions. However, Goossens et al. (2020) found that their intervention significantly increased staff's perceived competence in shared decision-making, but did not influence staff's perceived use of shared decision-making and Pivodic et al. (2022) found that their intervention improved staff self-efficacy but not engagement in ACP. These results suggest that self-efficacy alone may not be sufficient for positive behaviour change.

WHAT THIS REVIEW ADDS TO THE CURRENT STATE OF KNOWLEDGE

Our review adds the latest evidence of which outcome measures (staff-related, resident/family-related and health resource/system related) are in use in relation to ACP education interventions in care homes. We have observed a trend in outcome measures adopted by the primary studies over time, with more recent studies focusing on more staff and resident/family-related outcome measures which may be a more holistic approach. Further, we have found that considering ACP education intervention's 'theory of change' is important when considering outcome measures. We have analysed 'self-efficacy' as an outcome and observed that both subjective (self-efficacy) and objective (knowledge) changes may be needed in order to achieve positive behaviour change relating to ACP practice.

STRENGTHS AND LIMITATIONS

The review is strengthened by its detailed protocol, strict adherence to the PRISMA 2020 guidance, and use of Popay et al.'s framework for narrative synthesis. A search of multiple databases, journals and websites was conducted in an attempt to access all relevant literature. Two authors independently screened studies for inclusion. Systematic assessment of the methodological quality of the primary studies using the Specialist Unit for Review Evidence Guideline (SURE, 2018) ensured robust quality assessment. The review update is strengthened by its exclusive addition of studies that are of moderate to high quality. Equal weight is given to studies of similar quality (Popay et al., 2006), with the study of low quality from the original review given less weight in the narrative synthesis.

A limitation is that it was not possible to conduct a meta-analysis of the data. However, Popay et al.'s framework and the 'ideas webbing' process adopted for narrative synthesis ensure a rigorous and structured process. Further, the different countries and contexts in which the interventions took place limit generalisability out with their countries of origin and the review is limited as it includes only studies in English language, from high-income countries. However, the global search for studies aimed to enhance the generalisability of the results by having a geographical spread of primary studies. Another potential limitation is that there were only 4 years between the searches for the first review and this update; nevertheless, we almost doubled the number of included studies.

IMPLICATIONS FOR FUTURE RESEARCH AND CLINICAL PRACTICE

Intervention design

- If adopting a multi-component design, consider which outcomes may relate to the different

component parts and the impact of having multiple components on the results.

- If adopting a flexible intervention design (where elements of the intervention are able to change during the intervention process), consider listing flexible and fixed elements of the intervention a priori in the study protocol. This may aid subsequent replication of the intervention and generalisability of the results to other groups.
- If adopting a 'train the trainer' approach, consider the resources and skills required for the staff to learn and then subsequently teach the material. Gain insight into how care home staff feel about cascading knowledge.

Target population

- Consider involving the wider care home team in the education intervention. This has been cited as important in several of the primary studies and is becoming more common.
- Involve care home managers. This is cited by many of the primary studies as being key for the successful implementation of interventions.

Outcome measures

- Heterogeneity of outcome measures remains a challenge to the field. Consider updating the Delphi process (Rietjens et al., 2017) in light of the systematically collected evidence provided here, with a view to agreeing outcomes that are specific to ACP education interventions for care home staff.
- Resident/family-related outcome measures (more commonly adopted in the newer studies) might better represent patient preference and be more relevant than health resource outcomes (e.g., documentation of ACP/place of death).
- Intervention studies should consider their 'theory of change' to aid decisions about which outcome measures to adopt. From the included primary studies, a possible, common 'theory of change' is that both subjective (self-efficacy) and objective (knowledge) changes may be needed in order to achieve positive behaviour change relating to ACP practice.
- Develop standardised, validated tools to measure outcome measures.

CONCLUSION

This is a rapidly evolving field of research with a further five studies identified in 4 years compared with six studies identified up to 2018. ACP education interventions are heterogeneous and complex in their design, target populations and outcomes. Adopted outcome measures

are still diverse. However, it appears that resident/family- and staff-related outcome measures are becoming more popular. The Medical Research Council recommends that complex interventions may require consideration of the interventions' 'theory of change'. Considering the interventions' 'theories of change', it may be that both staff self-efficacy and knowledge in relation to ACP are important outcomes to consider. Future research could consider updating the Delphi process in light of the systematically collected evidence provided here, with a view to agreeing on the outcomes that are specific to ACP education interventions for care home staff and developing standardised, validated measures for these outcomes.

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COMPETING INTERESTS


The authors have no competing interests to declare.

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