

# The effectiveness of communication-skills training interventions in end-of-life noncancer care in acute hospital-based services: A systematic review

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## ABSTRACT

*Objective:* A systematic review was conducted in order to explore the effectiveness of communication-skills training interventions in end-of-life care with noncancer acute-based healthcare staff.

*Method:* Articles were included if they (1) focused on communication-skills training in end-of-life/palliative care for noncancer acute-based staff and (2) reported an outcome related to behavior change with regard to communication. Sixteen online databases were searched, which resulted in 4,038 potential articles. Screening of titles left 393 articles that met the inclusion criteria. Abstracts ( $n = 346$ ) and full-text articles ( $n = 47$ ) were reviewed, leaving 10 papers that met the criteria for our review. All articles explored the effect of communication-skills training on aspects of staff behavior; one study measured the effect on self-efficacy, another explored the impact on knowledge and competence, and another measured comfort levels in discussing the end of life with patients/families. Seven studies measured a number of outcomes, including confidence, attitude, preparedness, stress, and communication skills.

*Results:* Few studies have focused on end-of-life communication-skills training in noncancer acute-based services. Those that do have report positive effects on staff behavior with regard to communication about the end of life with patients and families. The studies varied in terms of the population studied and the health services involved, and they scored only moderately or weakly on quality. It is a challenge to draw a definite conclusion about the effectiveness of training interventions in end-of-life communication because of this. However, the findings from our review demonstrate the potential effectiveness of a range of training interventions with healthcare professionals on confidence, attitude, self-efficacy, and communication skills.

*Significance of results:* Further research is needed to fully explore the effectiveness of existing training interventions in this population, and evidence using objective measures is particularly needed. Ideally, randomized controlled trials or studies using control groups and longer follow-ups are needed to test the effectiveness of interventions.

**KEYWORDS:** Communication skills, End of life, Palliative care, Acute services, Intervention

## INTRODUCTION

End-of-life (EoL) care is support for people who are nearing the end of life that helps them to live as well

as they can until they die, and to die with dignity (National Health Service Choices, 2012). In England, approximately half a million people die every year, many following a period of chronic illness. Most of these deaths occur in hospital (58%), at home (18%), and in care homes (17%), with the remaining 4% in hospices and 3% elsewhere (Department of Health, 2008). While some experience

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high-quality care, many are not treated with respect and dignity, experience unnecessary pain, and do not die in the place of their choice (Department of Health, 2008). There is evidence to suggest that the acute hospital setting exacerbates the poor experiences that many dying patients receive, as the culture of the acute sector is focused on prevention and cure, investigations, and invasive procedures, with some treatments being explored at the expense of patient comfort (Ellershaw & Ward, 2003). Research also suggests that healthcare professionals can find it challenging to “diagnose dying,” receive insufficient training to provide EoL care and initiate EoL discussions with patients and families, and can themselves feel helpless when faced with the complex demands involved in the delivery of high-quality EoL care (Ellershaw & Ward, 2003; Hewison et al., 2014).

In order to try to improve communication about EoL between patients and healthcare professionals and to ensure that healthcare professionals feel adequately trained to discuss EoL issues with patients and families, the National Health Service (NHS) End-of-Life Care Strategy (Department of Health, 2008) was developed. The strategy addresses some of the issues faced by healthcare staff planning and delivering EoL care and promotes the extension of communication models (developed and well established within cancer care) to other life-limiting conditions and illnesses (Barnes et al., 2012).

Within the literature, one review that focused on existing interventions of patient–professional communication developed for life-limiting conditions (including cancer care) found that the evidence is limited, but it highlighted key features that support communication and enhanced patient understanding, and promoted discussion of active involvement in decision making (Barnes et al., 2012). The authors highlighted a clear need for further research and rigorous evaluation of communication-skills interventions. The authors also argued that effective communication skills in healthcare staff should be a priority for both policy and research.

There has been no recent review focused on noncancer services and patients, and with evidence that highlights the gaps in effective communication between staff and patients about EoL care in acute hospitals (e.g., Hewison et al., 2014), it is timely to focus on communication skills training in noncancer acute services. Our review therefore seeks to establish, through the available literature, the effectiveness of communication-skills training in noncancer EoL care in acute hospital-based services.

## METHOD

### Description of Searches

A systematic search was conducted during March and April of 2014. Sixteen online databases were searched, including CINAHL, the Cochrane Database, PsycInfo, PsychArticles, PubMed, Medline, DARE, CENTRAL, ASSIA and ProQuest Nursing, the ProQuest Dissertation and Theses Database, Web of Science with Conference Proceedings, the Conference Papers Index, COPAC, and SIGLE (Open Grey).

Three online journals were also searched using keywords: *Palliative & Supportive Care*, *The Journal of Palliative Care*, and *Patient Education and Counseling*. Searches were also carried out using Google Scholar and the reference lists of relevant articles.

### Criteria and Search Strategy

The search keywords were chosen to cover terms for communication intervention/training, end of life, and acute setting. The following keywords were used: (“communicat\*”) AND (“train\*” OR “educat\*” OR “program\*” OR “intervention\*” OR “teach\*” OR “module\*” OR “workshop\*”) AND (“end of life\*” OR “terminal\*” OR “palliat\*” OR “dying” OR “death”) AND (“evaluat\*” OR “assess\*” OR “outcome\*” OR “measure\*” OR “effect\*” OR “change\*” OR “result\*”) AND (“hospital\*” OR “acute\*” OR “healthcare service\*” OR “secondary care”). If there was a large number of studies identified, the advanced search option was used to select “search in title and abstract.” One of the database searches (Medline) generated over 6,000 hits, so the “search in title and abstract” option was used, which resulted in approximately 1,600 potentially relevant articles.

### Inclusion and Exclusion Criteria

Inclusion and exclusion criteria were applied to all articles. Articles were included if they investigated staff behavior change with regard to communication and/or interaction with EoL/palliative care patients and/or families in an acute setting as a result of communication-skills training. Articles were excluded if they did not meet the inclusion criteria, were not written in English, or could be classified as a review/advice/descriptive article.

The article retrieval process is demonstrated using a PRISMA flow diagram in Figure 1. The searches generated 4,038 potentially relevant articles. After duplicates were removed, article titles were screened, resulting in 393 candidates. The abstracts of these articles were screened, resulting in 346 articles being excluded as they did not meet the criteria. If an

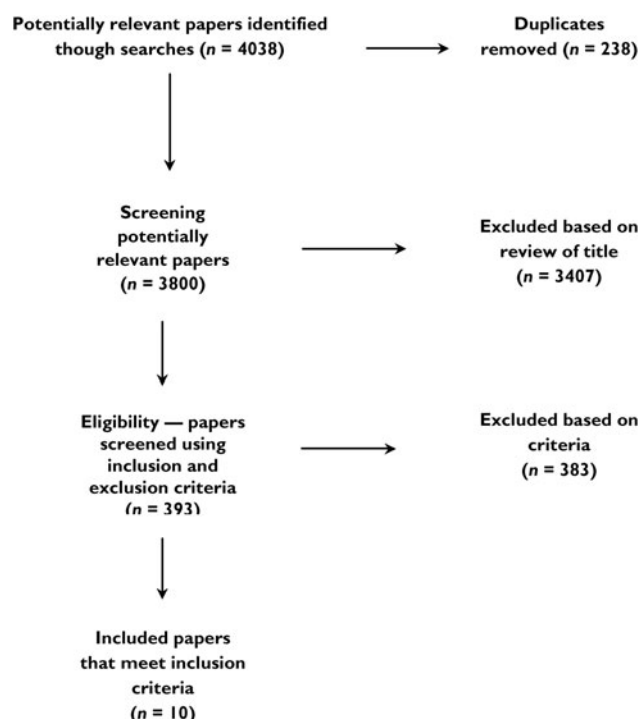


Fig. 1. Search strategy using PRISMA (Moher et al., 2009).

article abstract lacked detail, the full paper was accessed and reviewed. Full papers were accessed and reviewed for 47 articles by both the main author and an independent reviewer, who reached 100% agreement. This process resulted in 10 articles that fulfilled the inclusion criteria.

### Assessment of Quality

The quality of the included papers was assessed using the McMaster Quality Assessment Tool for Quantitative Studies (Thomas et al., 2004). This instrument was applied to all 10 included papers, as every paper contained quantitative data. It is composed of six quality ratings, starting with selection bias, design, blinding, data collection methods, withdrawal, and dropouts. The use of weak (1), moderate (2), and strong (3) codes was applied to each of the six quality ratings. The main author and independent reviewer both checked the quality of the included studies and reached 100% agreement.

## RESULTS

Ten articles were identified that met the inclusion criteria for our review. Two of the study authors explored the measures used in each study in depth to see if it was possible to conduct a metaanalysis, or a sub-metaanalysis. Even though some studies measured the same construct, the employed measures differed greatly, and measures and outcomes were

not comparable. Outcomes were not able to be combined in order to perform a metaanalysis, even one based on a set of substudies. After reviewing and discussing the measures, the study authors agreed that a sub-metaanalysis was not feasible. The findings of our review are presented and discussed below.

### Participants

A brief summary of included study characteristics is presented in Table 1. All 10 studies used healthcare professionals for participants. Three studies used registered nurses (Betcher, 2010; Krimshtein et al., 2011; Zapka et al., 2006). One (Bristowe et al., 2014) used a mixture of nurses, healthcare assistants, and consultants. The remaining six used medical trainees: one utilized nephrology fellows in their first, second, and third years of training (Schell et al., 2013); another study used geriatric and palliative care fellows (Kelley et al., 2012); another used junior doctors (Clayton et al., 2012); another used third-year internal medicine residents (Kerai & Wheeler, 2013); and two used internal medicine residents from different years of training (Mulder et al., 2009; Smith et al., 2013).

Seven studies were conducted in the United States (Betcher, 2010; Kelley et al., 2012; Kerai & Wheeler, 2013; Krimshtein et al., 2011; Schell et al., 2013; Smith et al., 2013; Zapka et al., 2006), one in the Netherlands (Mulder et al., 2009), one in Australia (Clayton et al., 2012), and one in the United Kingdom (Bristowe et al., 2014).

Only four studies reported the sex of participants (Clayton et al., 2012; Mulder et al., 2009; Schell et al., 2013; Smith et al., 2013). All four of these reported a greater proportion of female participants (>50%). For the remaining studies, the sex of participants was unable to be determined. Only one study reported the ethnicity of participants (Schell et al., 2013), with the majority (36%) listed as East Indian/Pakistani, 23% African American, 18% Asian/Pacific Islander, 14% white, and 9% other. Only four of the studies reported participant age (Clayton et al., 2012; Kelley et al., 2012; Mulder et al., 2009; Smith et al., 2013), with a mean age range from 29.1 to 30.3 years.

Some of the studies included in the demographic data the number of years staff had trained for, previous communication/palliative care skills training, and the number of patients with life-limiting illnesses who had been cared for by the participants. Five studies reported how many of the participants were in either their first, second, third, or beyond year of training (for medical trainees) (Bristowe et al., 2014; Clayton et al., 2012; Kelley et al., 2012; Kerai & Wheeler, 2013; Schell et al., 2013). For these studies, the majority of participants were in their first

**Table 1.** Study characteristics of included studies

Study	Population	Sample Size (n = )	Design	Outcome Measures	Intervention	Quality Rating
Betcher (2010), US	Inpatient nurses from one hospital	8 (no dropouts)	Cohort pre- and post-intervention with no control group (no follow-up)	Self-efficacy	One session including didactic lecture, role-play, simulation, and discussion (face-to-face intervention)	Weak
Bristowe et al. (2014), UK	Nurses, healthcare assistants, and consultants from two hospital sites	16 (no dropouts)	Cohort pre- and post-intervention with no control group (3-month follow-up)	Confidence Acceptability of the training	One full-day session followed by two half-day follow-up sessions; didactic style format, including role-play and feedback (face-to-face intervention)	Weak
Clayton et al. (2012), Australia	Junior doctors from one hospital site (male and female)	22 Pre-intervention = 22 Intervention = 20 Pre- and post-Intervention = 21	Cohort pre- and post-intervention with no control group (follow-up)	Communication skills Confidence Attitudes Stress and burnout Course satisfaction	Three one-hour sessions (face to face) and follow-up (telephone) over a 4-week period; included audiovisual take-home learning materials; didactic intervention including simulation	Moderate
Kelley et al. (2012), US	Medicine fellows from one hospital site (male and female)	16 (no dropouts)	Cohort pre- and post-intervention with no control group (2-month follow-up)	Preparedness Skills practice (2 months post-intervention) Learner satisfaction	Two-day retreat (face to face) away from hospital setting, including didactic teaching and skills practice, and future skills practice commitment	Weak
Kerai & Wheeler (2013), US	Internal medicine residents from one hospital site	Questionnaire = 30 Intervention = 9 Comparison = 6	Cohort post-intervention with a comparison group (no follow-up)	Comfort levels Utilization of skills taught Skills found most and least useful	Two sessions, including brief literature review exercise, role-play, and group discussions, and group exercises (face-to-face intervention)	Weak
Krimshtein et al. (2011), US	Inpatient nurses from five hospital sites	Pre-intervention = 74 Intervention = 99 Post-intervention = 74	Cohort pre- and post-intervention with no control group (no follow-up)	Confidence Communication skills Course feedback	Six one-hour sessions at each site (2 sessions per hospital) involving didactic teaching and role-playing (face-to-face intervention)	Moderate
Mulder et al. (2009), Netherlands	Internal medicine residents from two hospital sites (male and female)	Pre-intervention Knowledge test = 46 Knowledge test and questionnaire = 33; Questionnaire = 55 Post-intervention Knowledge test and questionnaire = 22 Questionnaire = 37 Knowledge test = 37 Knowledge test 1 and Knowledge test 2 = 27	Cohort pre- and post-intervention with no control group (2-month follow-up)	Competence Knowledge	Weekly 2-hour meetings based on a patient case (face-to-face intervention with some pre-training work at home) that ran for eight education meetings	Weak

Schell et al. (2013), US	Training fellows from two hospital sites (male and female)	22 (no dropouts)	Cohort pre- and post-intervention with no control group (no follow-up)	Preparedness Learner satisfaction	Two sessions including didactic teaching, simulation, and setting skills practice goals (face-to-face intervention)	Weak
Smith et al. (2013), US	Internal medicine residents from three hospital sites (male and female)	Pre-intervention = 110 Intervention = 88 Post-intervention = 88	Cohort pre- and post-intervention with no control group (no follow-up)	Self-Efficacy Attitudes and comfort	Two one-hour lunch conference sessions and six one-hour morning reports (face-to-face intervention); included didactic teaching and role-play, peer consultation, and group discussions	Moderate
Zapka et al. (2006), US	Inpatient nurses from one hospital site	Pre-intervention = 57 Intervention = 61 Post-intervention = 37	Cohort pre- and post-intervention with no control group (no follow-up)	Skill preparation Attitudes Experiences related to most recent death Ratings of the seminar	One-hour educational seminar including group discussion around a case study (face-to-face intervention)	Moderate

year (ranging from 38 to 100%). One study (Zapka et al., 2006), which used nurses as participants, reported the number of years in clinical practice, with the majority of participants in their first year (34%), closely followed by those who had been in practice for 11 years or more (28%).

Only three studies reported whether participants had previously participated in any formal communication-skills training (Clayton et al., 2012; Kerai & Wheeler, 2013; Schell et al., 2013). In one of these studies (Kerai & Wheeler, 2013), participants in the intervention group reported being taught communication skills in EoL care an average of five times, whereas participants in the comparison group had been taught an average of two times. In another of the studies (Schell et al., 2013), participants had reported receiving structured training on how to discuss starting renal dialysis or withdrawal (36 and 38%, respectively). In one of the studies (Clayton et al., 2012), the majority of participants reported no previous formal communication-skills training in EoL care (21 of 22 participants).

Two studies reported the number of participants who had previously cared for patients who had died (Clayton et al., 2012; Zapka et al., 2006). In one of these, the majority of participants had cared for 20+ patients during their last days of life and had also discussed no-cardiopulmonary-resuscitation orders with up to 10 patients (Clayton et al., 2012). In the other study, the majority of participants reported caring for one patient who had died in the previous six months (pre-intervention), and at post-intervention the majority reported caring for three or more patients who had died in the past six months (Zapka et al., 2006).

### Study Design

The total sample size for each of the studies ranged from 8 to 110 at baseline. Four studies had relatively small sample sizes (<30; Betcher, 2010; Bristowe et al., 2014; Clayton et al., 2012; Kelley et al., 2012), and the remaining six studies had moderate sample sizes (30–200; Kerai & Wheeler, 2013; Krimshtein et al., 2011; Mulder et al., 2009; Schell et al., 2013; Smith et al., 2013; Zapka et al., 2006). It is not clear whether any of the studies were adequately planned to detect differences, as no prior estimate for sample size was described.

Nine studies used a pre- and post-intervention design with no randomization or control group (Betcher, 2010; Bristowe et al., 2014; Clayton et al., 2012; Kelley et al., 2012; Krimshtein et al., 2011; Mulder et al., 2009; Schell et al., 2013; Smith et al., 2013; Zapka et al., 2006). One of them (Kerai & Wheeler, 2013) made use of a comparison group;

however, that study did not have a pre- and post-intervention design, as the investigators only collected data after an intervention.

### Intervention Characteristics

Two studies developed and incorporated an intervention as part of existing training or a curriculum. Smith et al. (2013) piloted training to be part of the existing curriculum for internal medicine trainees. The authors sought to assess the feasibility and impact of a novel curriculum in EoL education being taught to all internal medicine trainees across three sites. The intervention consisted of two hour-long teaching sessions, along with six hour-long morning reports, which were integrated into scheduled teaching sessions. Sessions were led by one of the study authors and included didactic presentations followed by group participation and role-play. Topics covered included a review of the evidence for EoL communication and a framework for conflict resolution to be used to guide discussions. Participants were encouraged to explore challenging patient interactions and discuss as a group their responses and emotional reactions. Morning reports involved discussions of real-life patient cases, and trainees were encouraged to address the emotions evoked in a real-life setting with their peers.

Mulder et al. (2009) developed a problem-based intervention, using the results of their pre-intervention questionnaire and a literature review, which was incorporated into existing training. The course involved a weekly two-hour meeting based on a patient case where problems were discussed with a professional working in the field of palliative care. Participants were supplied with questions and literature references one week prior to the meeting, and in every session different aspects of EoL care or palliative care were raised.

Two studies used simulated patients/family members as part of the training. Betcher (2010) focused on one cohort of nursing staff at one site and developed an educational session aimed at improving how nurses perceived themselves as more caring with palliative care patients and their families. The intervention included a 45-minute didactic lecture on communication techniques, role-play, simulation, and discussion. Simulated conversations between patients/families and pairs of nurses were videotaped and took place in unoccupied patient rooms. The parts of the simulated patients/families were acted by students from a collaborating university who were provided with scenarios one month prior in order to prepare. Simulated scenarios were developed by the study author and were intentionally general to enable students to use their own experience and knowledge in develop-

ing the scenarios further. The recorded interactions were watched one at a time to allow “debriefing” and were discussed within the group. As part of the debriefing, the simulated patient/families also attended and provided feedback to the nurses.

Clayton et al. (2012) developed a training program about EoL care that included simulated patient/caregiver scenarios that were developed by a multidisciplinary team to ensure relevance to discussions around EoL and the overall goals of the intervention. The simulated intervention took part over two individual sessions. At the start of sessions, participants set learning goals with the assistance of a facilitator and interacted with the simulated patient/caregiver. Participants were encouraged to self-appraise their communication and were provided with feedback based on the objectives set at the start.

Nine studies delivered the intervention in a healthcare setting, and the remaining study was a two-day retreat for participants away from the healthcare environment (Kelley et al., 2012). All 10 studies were based on training interventions that were delivered face to face, with two studies including pre-intervention material to be studied at home (Clayton et al., 2012; Mulder et al., 2009). Eight studies utilized didactic-style teaching incorporating role-play and group discussions (Betcher, 2010; Bristowe et al., 2014; Clayton et al., 2012; Kelley et al., 2012; Kerai & Wheeler, 2013; Krimshstein et al., 2011; Schell et al., 2013; Smith et al., 2013). Two studies involved training focused on real-life patient cases and took the form of a meeting or seminar (Mulder et al., 2009; Zapka et al., 2006).

### Outcome Measures

Two studies measured participants' self-efficacy. Betcher (2010) looked at the effect of the training on self-efficacy and used the Caring Efficacy Scale (developed by Coates, 1996). Smith et al. (2013) measured self-efficacy by developing a questionnaire based on the Self-Efficacy Scale in Palliative Care (Mason & Ellershaw, 2004) and the Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). That study also measured attitude (comfort with topics related to EoL care, and behaviors during family meetings to discuss EoL care).

Three studies measured perceived preparedness (Kelley et al., 2012; Schell et al., 2013; Zapka et al., 2006). Each used a Likert-type scale to measure preparedness; however, measure development and its validity and reliability were not described in any of the studies. Three studies measured perceived confidence (Bristowe et al., 2014; Clayton et al., 2012; Krimshstein et al., 2011), and each study adapted existing measures to develop a confidence measure.

Two of them (Bristowe et al., 2014; Clayton et al., 2012) adapted measures from existing questionnaires that had been used in oncology research (Fallowfield et al., 2001; Lenzi et al., 2005), whereas Krimshtein et al. (2011) adapted the measure from an existing tool focused on intensive care clinicians' communication skills (Arnold et al., 2010). Two studies measured comfort with discussing EoL issues/topics (Kerai & Wheeler, 2013; Smith et al., 2013), and both used Likert-type scales (5- and 7-point, respectively). One study (Smith et al., 2013) reported that all of the measures used were developed according to expert opinion, societal guidelines, and a literature review for EoL communication (Buckley et al., 2009; Curtis et al., 2002; Lautrette et al., 2006; 2007; McDonagh et al., 2004; National Institutes of Health, 2004; White et al., 2007). However, the other study did not report the development, reliability, or validity of the measure (Kerai & Wheeler, 2013).

Two studies measured communication skills. Clayton et al. (2012) measured communication skills pre- and post-intervention via the use of videotaped consultations about EoL with standardized caregivers of terminally ill patients. The recorded consultations were transcribed and coded by a blinded coder (blind to participant identity and timepoint) using a specially developed manual. The coder rated the presence or absence of 21 specific skills and rated the strength of 3 global behaviors on a 4-point scale. Clayton et al. (2012) was also the only study to measure stress and burnout, and employed the 22-item Maslach Burnout Inventory (as used by Ramirez et al., 1996). Krimshtein et al. (2011) measured communication skills pre- and post-intervention by asking participants to rate their skills using a 5-point scale on 10 tasks related to communication between clinicians and families of patients. In addition, this measure also asked participants how frequently in practice they were confronted with questions from patients or family members about care that they felt unable to answer or felt uncomfortable answering.

One study measured perceived competence and knowledge at two different timepoints. Mulder et al. (2009) administered a pre-intervention questionnaire developed with a psychologist and derived from existing reported questionnaires (Blank, 1995; Goldberg et al., 1987; Herzler et al., 2000; Ury et al., 2000). This measure incorporated 18 questions about competence that started with a situation followed by four questions. It was first administered to participants in 2001, and again in 2008. The questionnaire was sent in 2008 to determine whether the level of perceived competence in internal medicine residents had changed since 2001. The pre-intervention knowledge test was designed to measure participants' knowledge about palliative care. The test was devel-

oped from each teacher who had participated in the course preparing multiple-choice questions and comprised 39 questions. The post-intervention competence measure was the same as the pre-intervention measure, but with additional questions to evaluate the training. The post-intervention knowledge test asked the same 39 questions but in an alternate sequence.

Two studies measured attitude. One (Clayton et al., 2012) measured attitude toward the psychosocial aspects of care using a 20-item questionnaire adapted from existing measures (Ashworth et al., 1984; Jenkins & Fallowfield, 2002). The other (Zapka et al., 2006) measured attitude toward EoL care and used a 22-item measure (adapted from Block & Billings, 2001) at pre-intervention, and a 23-item measure at post-intervention (the additional item was added in view of discussions that took place during the intervention seminars).

All studies collected data on learner satisfaction. Only one (Clayton et al., 2012) provided details on the development of a satisfaction scale that had been adapted from previous studies (Back et al., 2003; Butow et al., 2008). All studies collected participants' views on and experiences with training either using both qualitative feedback and quantitative data, or just qualitative feedback alone.

## Quality Assessments

Table 2 provides an overview of the quality ratings for each study. Overall quality was rated as moderate for four studies (Clayton et al., 2012; Krimshtein et al., 2011; Smith et al., 2013; Zapka et al., 2006) and weak for six others (Betcher, 2010; Bristowe et al., 2014; Kelley et al., 2012; Kerai & Wheeler, 2013; Mulder et al., 2009; Schell et al., 2013). Quality indicators for blinding were rated as poor for the majority (80%) of studies, with only two being rated as moderate (Clayton et al., 2012; Zapka et al., 2006). The quality indicator for selection bias produced a range of ratings, with three studies rated as strong (Clayton et al., 2012; Kelley et al., 2012; Mulder et al., 2009), five as moderate (Bristowe et al., 2014; Kerai & Wheeler, 2013; Krimshtein et al., 2011; Schell et al., 2013; Smith et al., 2013), and one as weak (Betcher, 2010).

## Analysis

All studies were of a quantitative nature and conducted statistical analyses on data. Five studies did not report what statistical analyses were conducted (Betcher, 2010; Bristowe et al., 2014; Kelley et al., 2012; Kerai & Wheeler, 2013; Schell et al., 2013). The remaining studies conducted a mixture of repeated-measures analyses such as paired *t* tests

**Table 2.** *Quality characteristics of included studies*

Study	Selection Bias	Study Design	Confounders	Blinding	Data Collection Methods	Withdrawals/ Dropouts	Outcome Rating
Betcher (2010)	3	2	3	3	2	3	3
Bristowe et al. (2014)	2	2	2	3	3	2	3
Clayton et al. (2012)	1	2	2	2	1	1	2
Kelley et al. (2012)	1	2	2	3	3	2	3
Kerai & Wheeler (2013)	2	2	3	3	3	3	3
Krimshstein et al. (2011)	2	2	2	3	2	2	2
Mulder et al. (2009)	1	2	3	3	3	2	3
Schell et al. (2013)	2	2	3	3	3	3	3
Smith et al. (2013)	2	2	1	3	3	1	2
Zapka et al. (2006)	2	2	1	2	1	1	2

Quality rating scores: 1 = strong, 2 = moderate, 3 = weak.

(Mulder et al., 2009; Smith et al., 2013) and a random effects repeated-measures regression model (Zapka et al., 2006). One study also conducted correlations (Mulder et al., 2009) using Pearson's or Spearman's rank, and one conducted nonparametric analyses (Clayton et al., 2012) using the Wilcoxon signed-rank test for ordinal items and the McNemar test for dichotomous items. Krimshstein et al. (2011) reported conducting a chi-square test on their data.

## FINDINGS AND LIMITATIONS OF STUDIES

### Effect on Self-Efficacy

Betcher (2010) showed an increase in average scores by 11% at post-intervention. The largest increase between pre- and post-intervention scores was the ability to be self-confident and relate to patients (increased by 37% post-intervention), and the smallest increases were in the use of creative ways to express caring to patients (18%), to use what is learned to provide more individualized care (18%), and to have confidence in the ability to express a sense of caring to patients (18%). Another study (Smith et al., 2013) found at post-intervention that participants were more likely to report feeling confident to answer patient and family questions about death (78%) compared to pre-intervention (65%), and to also respond when families became emotional during a family

meeting (91%) compared to pre-intervention (73%). Paired-response data were available for 38 of the participants and showed an improvement in self-efficacy scores at post-intervention ( $p = 0.03$ ).

### Effect on Confidence

Clayton et al. (2012) found overall confidence significantly increased from a baseline mean of 42.1 to 56.1 ( $p < 0.01$ ). Two other studies that measured confidence also reported an increase from baseline to post-intervention; however, these findings were not significant for one study (Bristowe et al., 2014;  $p = 0.56$ ). For the other study (Krimshstein et al., 2011), only post-intervention scores were reported, even though pre- and post-intervention data were collected. The significance values could therefore not be calculated.

### Effect on Comfort

Kerai and Wheeler (2013) assessed participants' comfort with discussing EoL issues and found a small but nonsignificant difference in average scores between the intervention and comparison groups (data not reported by authors). Smith et al. (2013) also measured participant comfort and found that the majority of participants at both pre- and post-intervention were comfortable with specific EoL care topics; however, this number was greater in



the post-intervention group (91 and 95%, respectively). Post-intervention participants were less likely to report doing most of the talking during a family meeting to discuss EoL care (20%) compared to pre-intervention (33%). Paired-response data were available for 38 of the participants and demonstrated that post-intervention participants showed significant improvement in comfort with discussion of code status ( $p = 0.002$ ) and advanced care planning ( $p = 0.04$ ), as well as significant improvement in confidence to deal with unexpected events during a family meeting ( $p = 0.0006$ ) and in responding to patient and family questions about death ( $p = 0.02$ ).

### Effect on Communication Skills

Clayton et al. (2012) found significant improvements on all three global items and for 7 of the 21 specific skills (global  $p < 0.002$ ; specific  $p < 0.05$ ). Krimshstein et al. (2011) found an increase from 41% at baseline to 73.7% post-intervention ( $p < 0.01$ ) with regard to participants rating themselves as “good or excellent” on each of the core communication-skills tasks.

### Effect on Preparedness

Kelley et al. (2012) reported a significant improvement in participants’ overall self-rated preparedness ( $p < 0.001$ ). Zapka et al. (2006) reported a significant improvement in overall self-assessed skill preparation ( $p < 0.0001$ ). Schell et al. (2013) also reported a significant increase in perceived preparedness for all communication challenges ( $p < 0.01$ ).

### Effect on Knowledge and Competence

Only one study measured intervention effects on participant knowledge and perceived competence in EoL communication (Mulder et al., 2009). At post-intervention, perceived competence increased ( $p < 0.01$ ), along with an increase in knowledge ( $p < 0.01$ ); however, no significant correlation was found between change in knowledge and change in perceived competence ( $r = -0.28$ ,  $p = 0.16$ ). Their study also reported similar pre- and post-intervention results from the 2008 cohort.

### Effect on Attitude

Clayton et al. (2012) measured attitude toward the psychosocial aspects of care and found that mean scores significantly improved from baseline following the intervention ( $p = 0.031$ ). Zapka et al. (2006) measured the impact of the intervention on participant attitude toward EoL care and found small but nonsignificant increases in the mean value on all 23 items (e.g., item 1,  $p = 0.816$ ).

### Effect on Stress and Burnout

The only study that measured intervention effect on stress and burnout was Clayton et al. (2012). They found a significant improvement in terms of mean score following training ( $p = 0.043$ ); however, there was no significant difference on the individual items of emotional exhaustion ( $p = 0.115$ ) and depersonalization ( $p = 0.48$ ).

### Effect of Skills Practice

Kelley et al. (2012) measured skills practice two months post-intervention and found that participants reported frequent practice of communication skills with patients and families (avoiding jargon, expressing empathy, exploring with open-ended questions, and asking family members what the patient would have wanted). Kerai and Wheeler (2013) also reported that 55% of participants in the intervention group reported using at least one communication technique they had been taught after the intervention. Clayton et al. (2012) reported that two weeks post-intervention 86% of participants reported that they had implemented skills taught during the intervention with patients/caregivers.

### Learner Satisfaction

All studies included measures (quantitative and qualitative) to collect data on participants’ satisfaction and perceptions of the training interventions. One study (Mulder et al., 2009) reported inclusion of questions in the post-intervention questionnaire to evaluate the training; however, no results for this were reported in that paper. All studies that presented results highlighted how participants valued communication-skills training and would recommend it to colleagues. Only three studies provided information on the measures employed (Clayton et al., 2012; Kelley et al., 2012; Schell et al., 2013). All studies provided some quotations or comments from participants that highlighted the usefulness and value of the training; however, for the majority of studies, the data presented were brief.

## DISCUSSION

Our review aimed to identify and evaluate existing research related to the effectiveness of EoL communication-skills training interventions in non-cancer acute-based care. A total of 10 papers were identified as meeting the review criteria and illustrated a range of communication-skills training interventions targeted at a range of healthcare professionals working in acute-based hospital services and interacting with EoL or palliative care patients.

Intervention effectiveness varied among the studies, and it can be difficult to compare studies directly with one another due to the different target populations, sample size, and content of training, as well as design and measures used. All of the studies reported improved scores on outcome measures post-intervention, suggesting that communication-skills training is effective. However, the extent of the effectiveness of training varies and can also depend on what construct of behavior the training is targeting.

For those studies that explored the effect of training on self-efficacy (Betcher, 2010; Smith et al., 2013), the latter provides the more robust evidence along with a higher overall quality rating and a larger sample size. This study also reported a statistically significant improvement in self-efficacy scores post-intervention. These findings offer some evidence that communication-skills training can have a beneficial effect on the self-efficacy of healthcare staff.

There is evidence to suggest that training also has an effect on confidence; however, of the three studies that measured confidence, only one reported a significant increase in confidence post-intervention (Clayton et al., 2012). The other two did report an increase in post-intervention confidence scores, but the findings were not significant (Bristowe et al., 2014; Krimshtein et al., 2011). These findings suggest that communication-skills training does have some effect on participants' confidence; however, effectiveness can be varied, and we can therefore not conclusively argue that training will significantly improve health professionals' confidence in communicating about EoL issues with patients and families.

The effect of training on participant comfort in having EoL discussions is less clear. Of the two studies that measured comfort, Smith et al. (2013) provided the most robust evidence and had a better overall quality score. The study reported a significant improvement in participant comfort levels on several EoL topics. The other study (Kerai & Wheeler, 2013) provided limited evidence and reported a non-significant finding; therefore, we cannot definitively say that communication-skills training has an effect on the comfort of healthcare staff with EoL discussions, but it may be beneficial for participants.

The studies also provide evidence that communication-skills training can improve how prepared healthcare professionals feel for having EoL conversations with patients, families, and colleagues. Of the three studies that reported significant findings, only two provided more convincing data due to higher quality with regard to selection bias and attrition rates (Kelley et al., 2012; Zapka et al., 2006).

The evidence that training is effective for improving competence and knowledge in EoL care is limited.

The one study that measured participant competence and knowledge (Mulder et al., 2009) reported significant findings; however, this study did not provide robust evidence due to overall poor quality. It is thus not conclusive that communication-skills training improves self-assessed competence among healthcare staff in having EoL discussions or that training improves knowledge of EoL care issues.

Our findings also demonstrate that training can have an effect on communication skills in practice. However, the evidence presented is not robust, with only one of three studies reporting a significant improvement in communication skills post-intervention (Clayton et al., 2012). Thus, it cannot be conclusively argued that training improves the practice of communication skills among healthcare staff.

There is also evidence to suggest that communication-skills training may have some benefit with regard to healthcare professional stress and burnout, with one study reporting significant results post-intervention (Clayton et al., 2012). However, this study had several limitations. It can therefore not be conclusively argued that training will be beneficial for healthcare staff on differing aspects of stress and burnout related to providing EoL care.

The above findings do offer some evidence that training may be beneficial in improving self-assessed confidence, self-efficacy, competence, and communication skills in practice. However, it cannot be stated definitively that communication-skills training interventions are effective for healthcare staff when communicating about EoL care issues with patients and families.

The general strengths of the studies include a comparison of pre- and post-intervention measures and the use of efficient and easily implemented training sessions. However, the limitations in the design of all the studies in the review are evident, which impacts on subsequent reporting of results. None of the studies used a randomized controlled design, and all but one lacked the use of control or comparison groups. The design of the studies could introduce bias into the samples used and contribute to the limitations of each study. Many of the studies also lacked details about the measures used, including reporting on the reliability and validity of measures, which raises further questions about the reliability of their results. The lack of details about study measures also resulted in the authors of the current review not being able to conduct a metaanalysis.

The setting in which many of the studies were conducted may also influence their results. The majority were conducted in a healthcare setting, meaning that colleagues and staff within the organizations may have known that participants took part in the interventions. In some studies, participants were

identified by team leaders/service managers to attend, which may have resulted in the presence of demand characteristics. A further limitation with the studies was a lack of follow-up, so that the long-term effects of the training interventions are not known. Only two studies reported asking participants about the communication skills they had used in practice post-intervention. None of the studies used objective measures, as all measures were subjective self-assessed instruments. The studies also focused on different populations, with the majority using medical trainees, whereas some utilized registered healthcare staff. This makes it even more challenging to compare the results with the interventions. Participants who were early on in their training may have naturally felt less confident and less able to converse with patients and their families about EoL care, compared to those with more years of experience and who had also previously cared for EoL patients.

Nine studies reported participant satisfaction with the training interventions or participant feedback with regard to the training. The majority of these studies did not report sufficient data on participant satisfaction, and some did not report the measures or methods used to collect data from participants. Despite this, the studies reported positive feedback from participants about training content, format, and feasibility.

## IMPLICATIONS

It is evident from our review that further high-quality studies are needed. They need to include reliable and valid measures and employ more robust methods, such as randomized controlled studies, to test the effectiveness of training interventions. They need to conduct a priori power analysis in order to justify sample size and also to report results more thoroughly. There is also a lack of robust qualitative research in this area, which could be useful in further understanding the effectiveness of training interventions for different healthcare professionals, as well as for patients and their families. The findings from our review could be employed to guide the development and implementation of EoL communication-skills training in the future. Those interventions that resulted in significant improvements could form the basis for such training. Those developing and implementing training could also look at interventions that have been relatively cost-effective to deliver, as well as interventions that have been easily implemented and incorporated into existing training structures.

## CONCLUSION

The studies reviewed herein demonstrate a range of communication-skills training interventions in EoL

care, with a range of healthcare professionals. The results suggest that training interventions are effective with regard to the outcomes measured; however, due to different outcome measures and interventions, the results are not comparable, and a consensus on the effectiveness of communication-skills training could not be reached. Further robust studies are required to determine the effectiveness of EoL communication-skills training in noncancer acute-based services, along with long-term follow-ups and objective measures to determine the impact of training on skills in practice with patients and their families.

## DECLARATION OF INTERESTS

The authors state that they have no conflicts of interest to declare.

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