Improving health care and palliative care for advanced and serious illness: closing the quality gap - revisiting the state of the science


CRD summary
This review found that the evidence was strongest (moderate strength) in interventions targeting continuity on patient satisfaction, targeting pain using patient-centred interventions, and targeting communication and decision making on health care use in intensive care units. The authors highlighted many deficiencies found in the literature. The review was generally well conducted and the conclusions appear likely to be reliable.

Authors' objectives
To evaluate the effectiveness of health care and palliative care interventions and quality improvement models to improve outcomes for patients with advanced and serious illness.

Searching
MEDLINE, CINAHL, PsycINFO, The Cochrane Library and DARE were searched from 2000 to 2011. Additional studies were sought from reference lists of eligible articles and relevant reviews, as well as from technical experts.

Study selection
Studies that evaluated health care and palliative care interventions, including quality improvement interventions (such as patient education and self-management, and provider audit and feedback) were eligible for inclusion. Eligible patients were those who were seriously ill (definitions provided in the review) or had advanced disease, including those in studies on paediatric and geriatric populations. All conditions were included. Both inpatient and outpatient, as well as interventions in inpatient or outpatient hospice or palliative care programs were eligible. Retrospective and uncontrolled studies were excluded.

Any timing of follow-up, including interviews after the patient's death with families/caregivers were considered. All relevant outcomes related to patients and the families/caregivers of these patients were considered.

Interventions, patient characteristics and outcomes varied widely across the included studies. Most interventions were compared with usual care.

Two reviewers independently selected the studies, with disagreements resolved by discussion or with a third reviewer.

Assessment of study quality
The quality of the evidence was assessed according to AHRQ guidelines, including the Cochrane risk-of-bias and GRADE tools. The strength of the evidence that palliative care interventions were more effective than control was classed as either insufficient, low, moderate or high for each outcome.

The authors did not state how many reviewers were involved in quality assessment.

Data extraction
Interventions and outcomes were categorised based on an analytic framework. Interventions were classed according to the following target areas: continuity, coordination of care, and transitions; pain; distress; communication and decision making; multiple and other targets.

Data were extracted by one reviewer and checked by at least one other reviewer. Disagreements were resolved through discussion and consensus.

Methods of synthesis
Results were reported in a narrative synthesis. The included studies were divided based on whether they evaluated palliative care interventions or quality improvement models. The percentage of studies with a significant improvement in outcomes in the intervention group compared with control was calculated for each of the target areas.
Results of the review

Ninety studies were included in the review, with sample sizes that ranged from 32 to 2,891 participants (although most included less than 200 participants). Both randomised and non-randomised studies were identified. The quality of individual studies ranged from low to high; the overall strength of the evidence ranged from insufficient to moderate.

Healthcare and palliative interventions

Of the 23 studies examining continuity, coordination of care, and transitions, 33% of studies that evaluated quality of life, 67% that evaluated patient satisfaction, and 31% that evaluated health care utilisation (admissions and length of stay) showed a statistically significant improvement with the intervention compared with control. The strength of evidence was moderate for improvement in patient and family satisfaction, and low for improvement in patient quality of life, symptoms, and health care utilisation.

Of the 21 studies targeting pain, nearly all focused on patient education and self-management; 48% found a statistically significant improvement with the intervention. The strength of evidence was moderate for improvement in pain and low for improvement in quality of life.

Of the seven studies investigating patient distress, two showed a significant improvement with the intervention. The strength of the evidence was low for improvement in distress and depression.

Of the 20 studies on communication and decision-making, 22% of studies addressing patient or family satisfaction, and 73% addressing health care utilisation found a statistically significant improvement. Two studies within hospice programs were included; both showed a statistically significant improvement in at least one outcome; of the nine studies in nursing homes, 78% demonstrated a significant improvement with the intervention. The strength of evidence was moderate for improvement in health care and low for improvement in satisfaction.

Seven out of nine interventions to improve care in the nursing home setting showed an improvement in at least one outcome. The strength of evidence for interventions in hospice and nursing home settings for patient symptoms and health care utilisation was low.

Quality improvement models

For studies examining continuity of care, studies including patient-centred quality improvement (such as education and self-management) had the strongest evidence of effectiveness on satisfaction and quality of life (six out of nine studies). Of 10 studies of provider-focused interventions (such as education, reminders, facilitated relay of clinical data to provider), three showed a significant improvement in quality of life or satisfaction favouring the intervention. Of 16 studies, 31% found a statistically significant improvement in health care utilisation.

Of the studies targeting pain, four of the six studies that used an educational video followed by printed materials found statistically significant improvement in pain scores, compared with one of the three studies that used either print material alone or video material alone. Six of the seven studies targeting distress used patient education and self-management; only one of these six studies reported a statistically significant improvement with the intervention. Of the five studies addressing multiple targets and focusing on facilitated relay of clinical data to providers, only one reported a statistically significant improvement in either quality of life or satisfaction.

In consultative and integrative interventions, for the target of communication and decision making, six out of eight consultative interventions showed a statistically significant improvement with the intervention, compared with four out of eight of integrative interventions. No additional evidence about integrative and consultative models was found.

Authors' conclusions

Although many deficiencies in the literature were seen, the authors found that the evidence was strongest (moderate strength of evidence) in interventions targeting continuity for patient satisfaction; targeting pain using patient-centred interventions; and targeting communication and decision making for health care use in the intensive care unit setting.

CRD commentary

The review questions and selection criteria were broad but clear. Several bibliographic databases were searched.
Although date restrictions were applied, a rationale for this was provided (the authors stated that the nature of both quality improvement and palliative care practice had changed substantially since the year 2000). Attempts were made to minimise reviewer error and bias during study selection and data extraction. It was unclear whether similar steps were made for the assessment of study quality.

A large number of studies were included. The quality of the studies varied; the strength of the evidence ranged from insufficient to low for each of the outcomes assessed. Given the very diverse range of interventions, patients and outcomes, the choice of a narrative synthesis appeared appropriate. The results were structured according to a transparent process. Most studies did not report effect sizes or confidence intervals. In their conclusions, the authors highlighted the many deficiencies found in the literature.

The review was generally well conducted and the conclusions appear likely to be reliable.

**Implications of the review for practice and research**

**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that future research needed to include techniques for improving recruitment and retention to ensure adequate sample size, better development and description of interventions, and further development and standardisation of outcome measures and tools. They also stated that studies that evaluated the impact of policy changes on patient outcomes were needed, and that more coordinated initiatives across multiple settings and providers, and following patient populations over longer periods of time, were required to improve palliative care.

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**Bibliographic details**


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- Methods for improving the quality of palliative care delivery: a systematic review

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.