Featured Article

Evaluating the Impact of the End-of-Life Nursing Consortium Curricula

A Systematic Review of Assessments and Outcomes

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The End-of-Life Nursing Education Consortium (ELNEC) curricula prepare nurses to provide high-quality, evidence-based palliative care to patients with serious illness and their families. The original ELNEC program has been adapted to include nursing subspecialties and online learning modules, reaching nurses and students worldwide. This systematic literature review described the outcomes of nursing knowledge, attitudes, practice changes, and patient outcomes in studies that used ELNEC as a primary intervention. A comprehensive search was focused on literature documenting completion of ELNEC trainings and associated outcomes for nurses, nursing faculty, and nursing students. The analysis included 28 articles spanning the ELNEC curricular categories, reflecting diverse aims, designs, and data collection methods. The findings revealed significant enhancements in knowledge of palliative care among nursing students and nurses, as well as a notable positive shift in attitudes toward caring for seriously ill and dying patients. The ELNEC modules can be utilized by nurses in academic and clinical settings, across lifespan stages, to develop the knowledge, skills, and attitudes necessary to deliver primary palliative care to the growing population of seriously ill individuals globally. However, findings also indicate a need for studies that apply rigorous methods using valid and reliable assessment instruments aligned with nursing competencies.

KEY WORDS
competency-based education, palliative nurse education, primary palliative care nursing

The End-of-Life Nursing Education Consortium (ELNEC) has been educating and preparing nurses to provide high-quality, evidence-based palliative care (PC) since 2000.[1] With an aging population and the increase of individuals living with serious illnesses, nurses and other healthcare professionals need evidence-based standardized education to provide quality serious illness and end-of-life (EOL) care. Across population and practice settings, nurses will care for patients with serious illnesses and, thus, all nurses require knowledge, skills, and confidence in providing primary PC nursing.

BACKGROUND

A major milestone in advancing EOL nursing was the creation of the ELNEC, developed through a partnership between the American Association of Colleges of Nursing and the City of Hope Medical Center.[2] The ELNEC project began with a core curriculum designed to address gaps in nursing education related to EOL and PC[1] and has expanded in content and reach, providing education across diverse settings and specialties to at least 55,000 nurses worldwide.[2] ELNEC curricula encompass core areas such as pain and symptom management, communication, cultural sensitivity, ethical legal issues, and grief and bereavement and have been revised and expanded to address nursing specialty areas of pediatrics, geriatrics, oncology, veterans, advanced practice nursing, and nursing

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education at the undergraduate/new graduate and advanced practice levels. ELNEC is widely regarded as the gold standard for primary PC nursing education and aligns well with the American Association of Colleges of Nursing's directive to incorporate PC into competency-based nursing education.[3]

Despite widespread adoption of ELNEC, a comprehensive understanding of its impacts on nursing practice, nursing education, and patient outcomes remains underexplored, and no recent systematic reviews of literature quantifying or describing outcomes of ELNEC training have been published. Given that ELNEC has been educating nurses in PC for 25 years, a summary of the outcomes of ELNEC programs can provide direction for ensuring competency in primary PC nursing. Therefore, the purpose of this systematic review is to critically evaluate the influence of ELNEC on clinical and academic nursing practice. Specifically, this review describes nursing knowledge, attitudes, practice changes, and patient outcomes regarding the delivery of palliative and EOL care as reported in ELNEC intervention studies. A summary of ELNEC's impact to date can guide improvements to the trainings and inform outcome measurement, thereby enhancing its influence on nursing practice and education.

METHODS

Search Strategy

An academic librarian (M.H.) searched for evidence sources in MEDLINE/PubMed, Cumulative Index to Nursing and Allied Health Literature Complete, Web of Science Core Collection, Cochrane Library, ProQuest Central, ProQuest Dissertations, and Theses Global databases (fully documented in Supplemental Material 1, https://links.lww.com/JHPN/A119). Keywords and controlled vocabulary terms represented 3 distinct aspects of the query: (1) ELNEC and relevant variants, (2) curriculum and equivalent synonyms, and (3) assessment of outcomes and equivalent synonyms. No limits or filters were applied to the search.

Included literature met the following criteria: (1) documented that individuals completed at least one ELNEC training module from any of the ELNEC curricula, (2) the training utilized ELNEC's online platform or was provided by a trainer who had completed one of the ELNEC trainer courses, (3) provided outcomes related to an ELNEC intervention, (4) was presented as a complete manuscript, and (5) was written in English. The literature was excluded if (1) the intervention was not an accredited ELNEC training and (2) the intervention included additional components beyond ELNEC (eg, simulation) without presenting ELNEC-specific outcomes.

Review Procedures

The search results were imported into Covidence,[4] and this tool was used for deduplicating the result sets and for managing the review process. Two reviewers were required for title and abstract screening (C.S.D. and D.C.P.) and for full-text review (T.J., T.L.G., or O.E.). Conflicts were resolved by the lead author (O.E.). All authors conducted data extraction from publications, while 2 authors (T.J. and O.E.) validated data extraction accuracy. The systematic search strategy was supplemented with hand searching (M.H.) of reference lists of articles selected for inclusion, which were screened in the manner described.

Preferred Reporting Items for Systematic Reviews and Meta-Analyses and PROSPERO

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses checklist guided data collection and reporting.[5] A total of 431 references (430 studies) were screened; after removing duplicates, abstracts and titles of 216 studies were screened. This resulted in 96 studies for which full-text was reviewed, with 28 of them selected for inclusion and data extraction (see Supplemental Figure 2, https://links.lww.com/JHPN/A119). This review protocol's registration number on the PROSPERO International Prospective Register of Systematic Reviews is CRD42025636044.

RESULTS

The final sample of 28 articles represented a range of study aims (eg, curricula or program evaluation, knowledge gains, and attitude shifts) and designs (eg, experimental and qualitative); multiple instruments and surveys used to collect data[6]; various academic (eg, prelicensure and graduate) and clinical settings (eg, oncology inpatient and long-term care); and ELNEC curricula adapted to increase their relevance to cultures outside the United States. Given the diversity of study characteristics, in this article, the results are organized by ELNEC curriculum type, with outcomes in the categories of knowledge and attitudes, and for 2 studies that reported practice changes or patient outcomes related to ELNEC trainings, those outcomes are reported. Knowledge outcomes are reported according to actual knowledge or perceived knowledge. Actual knowledge represents the objective and verifiable information a person has acquired through learning, often assessed through tests, quizzes, and other standardized measures. Perceived knowledge represents an individual's internal assessment of their understanding, expertise, or familiarity with a subject.[7] The type of knowledge measured was determined by the instruments reported in studies. For example, actual knowledge was evaluated with instruments[6] designed to assess acquired knowledge.[8–19] Perceived knowledge was evaluated with instruments that specifically asked participants to report on how much they thought they knew before and after the intervention.[20–26] Attitudes are considered to represent study participants' feelings, with common measures including death anxiety, confidence, or competency in delivering PC. All tools that were used to measure reported outcomes are included in Supplemental Table 3,

https://links.lww.com/JHPN/A120, which also provides details for all studies included in this review.

ELNEC-Core

Twenty articles reported outcomes for ELNEC-Core interventions ("Core") representing 3 levels of evidence: a single randomized control trial (RCT),[27] 9 quasi-experimental studies,[11,19,21,23,26,28–31] 7 correlational studies,[8–10,17,18,20,25] and 1 descriptive study.[22] Seven studies were conducted in academic settings for prelicensure[10,18,22,28,29,31] and graduate nursing,[9] students, and faculty.[17] Fourteen studies were conducted with nurses practicing or teaching in clinical settings (not specified, hospital nurses, medical oncology, and emergency).[8,11,12,14,18–21,23,25–28,30]

Knowledge Outcomes

Five studies assessed actual knowledge gains for practicing nurses based on Core interventions.[8,11,12,14,19] Using a quasi-experimental design, a 6-week intervention study for inpatient, home health, and long-term care nurses resulted in statistically significant gains when comparing pre- and posttest knowledge score means (t = −7.498, P = .000).[19] Bodine et al[8] measured knowledge scores for emergency nurses who completed either a 3-day Core training or the training plus a simulation and reported significant EOL knowledge gains in both groups for the topics of nursing management at EOL, pain management, symptom management, grief-loss, and preparation and care for time of death (P < .05). Kim et al[14] studied the knowledge outcomes of an ELNEC-Core training session conducted by ELNEC trainers from the United States, with translation of language and educational materials. Nurse participants in the 2-day training were 87% clinicians and 19% educators, with 44% of the sample having a certification in PC. However, all nurse participants demonstrated a statistically significant increase in knowledge (P = .000).[14] For 108 nurses in India who completed a 3-day ELNEC-Core curriculum presented in English, significant actual knowledge gains occurred (P = .0001).[11] Sustained knowledge improvement was seen in Gupta et al's[12] 18-month follow-up study (P = .0001), with additional sustained statistically significant improvement in the subdomain of pain management (P = .005) and statistically significant declines in psychosocial knowledge (P = .68).

Six studies of perceived knowledge gains involved practicing nurses.[20,21,23,25–27] A descriptive study reported statistically significant knowledge gains for medical oncology nurses who completed only the Core communication module; gains were reported for patient- and family-centered communication (P < .01) and cultural and ethical values (P < .01).[25] A quasi-experimental study analyzed perceived knowledge scores for Magnet hospital nurses, reporting increased overall mean knowledge scores for participants after completing an 8-hour ELNEC workshop (P < .0001).[23] A quasi-experimental study with 2 nonrandomized groups, Core or no-Core, reported statistically significant perceived knowledge gains for both groups, according to nurse self-reported visual analog scale scores, which increased significantly from preintervention and were sustained at 12 months (P < .05).[21] A different quasi-experimental study of 38 hospital nurses found statistically significant differences between a pre-Core intervention and no-Core control group at posttest (P = .004) and at 12 months (P = .006) for perceived knowledge of EOL care. Adeyemi et al[20] surveyed 2176 nurses from 33 emergency departments on the ELNEC-Core objectives after completing the curriculum. Outcomes included perceived improvements in knowledge of symptom management (91%), pain management barriers (90%), and signs and symptoms of EOL (90%).[20]

In academia, results for actual knowledge gains differed. In a study of nursing faculty participating in a 4-day Core program, scores increased, but not significantly, after the intervention (P = .14).[17] For junior and senior baccalaureate nursing students, however, after a 2-day Core course, there were significant knowledge gains in PC philosophy, symptom management, and grief (P < .05).[10] Orr et al[18] evaluated actual knowledge scores for a combined sample of senior nursing students and nurses who chose to complete either an in-person or a synchronous internet Core workshop, reporting significant changes in pre- and posttest means for both groups (P = .0001), with no significant differences based on workshop mode (P = .3146).

Perceived knowledge gains were reported in 2 studies of nursing students. Ellis et al[9] found that 44 nurse practitioner students who completed a 1-hour communication module and an advanced care planning simulation had significantly higher mean perceived knowledge scores from pre- to posttest (r = 0.444, P = .000). Also, younger students had higher posttest knowledge scores than older students (r = −0.44, P = .008), and students with more nursing experience (r = −0.375, P = .017) and emergency experience were more likely to have lower posttest knowledge scores (r = −0.329, P = .029).[9] A descriptive methods study assessed perceived knowledge gains for 37 senior baccalaureate nursing students. Li et al[22] reported that after the Core intervention, survey and open-ended data collected demonstrated perceived knowledge gains for 100% of students.

Attitudes Outcomes

Eleven Core studies examined attitude outcomes focused on self-confidence in providing PC, comfort providing EOL care, obligations related to providing PC, death fear and anxiety, moral distress, and competency.[9,11,17,19,21,26–31] Six of the studies had samples of practicing nurses[9,19,21,26,28,30] and 3 studies involved nursing students or faculty.[17,29,31]

In Ellis et al's[9] nurse practitioner intervention study reported earlier, the majority of participants reported average or above average ratings for self-confidence in advance care communication (95% confidence interval, 29.64–31.46). A study of 100 acute care nurses who completed a 6-hour Core communication training demonstrated greater comfort in providing EOL

care, resulting in more positive attitudes for nurses with greater than 5 years of experience ($P < .0$) and significant improvements overall in communication comfort scores ($P < .01$).[28] Kim et al[14] conducted a quasi-experimental study of nurses who had completed the Core training and found no significant changes in scores for death anxiety, death acceptance, death avoidance, or fear of death over time.[21] In Whitehead et al's 2-group study of 38 nurses, those in a Core intervention group had improved death anxiety mean scores after the intervention compared with no-Core; however, there were no statistically significant differences between the groups.[26] O'Shea and Mager[19] assessed nurses' fear of death and caring for dying people, with a statistically significant improvement from pre-Core to post-Core for nurses working in acute, long-term, and home care. Mullen[30] used a pretest and posttest design to evaluate moral distress for intensive care unit nurses, resulting in significantly less moral distress ($P = .002$) after participating in the ELNEC-Core curriculum. For Gupta et al[11] study, Indian nurses had improved attitudes related to fear of and caring for patients who were dying ($P = .0001$). In Gupta et al's[12] follow-up analysis of the previous Core curriculum in India, there was a significant increase in nurses' fear of death and dying ($P = .0001$). However, qualitative data indicated sustained positive changes for care at EOL, such as "finding caring for dying patients worthwhile," "being comfortable talking about death with patients," and "the importance of continuing care for the dying patient's family."[12] In a longitudinal RCT, nurses received either an online Core training or online Core supplemented by a 3-hour face-to-face session on communication, pain, and symptom management.[27] Both groups had statistically significant improvements in perceived competency for managing symptoms and communicating ($P < .05$), indicating that the online delivery mode was effective.[27] Also, according to the 3-month postintervention study, 72% of nurses reported having made PC practice changes, with those in the supplemented training group having significantly higher rates of reported practice change ($P = .01$).[27]

Attitudes were also assessed in the academic setting. Associate degree nursing students who participated in a Core workshop had significantly more positive attitudes toward providing EOL care ($P = .01$).[29] Baccalaureate students experienced the integration of Core modules into foundations, medical surgical nursing, pediatrics, and community health courses; attitudinal scores indicated significant improvements in EOL care attitudes about family involvement in care, appropriate use of opioids, and caring for families during and after death, when tested at the end of the senior year ($P < .05$).[31] For undergraduate nursing faculty at a private college who participated in a Core training comprised of 8 2-hour-long Core modules over 4 days, there were no significant changes in EOL attitude scores from pre- to postintervention.[17]

ELNEC-Geriatric

The 3 studies of the ELNEC-Geriatric ("Geriatric") curriculum were conducted with clinical staff and assessed actual knowledge, attitudes, and patient-related outcomes.[15,16,32] Kunte et al[16] applied a descriptive methodology to assess actual knowledge scores among nurses and nursing assistants within long-term care facilities before and after Geriatric training. Results showed that 36% of nurses' and 67% of nursing assistants' scores improved following the training.[16] Furthermore, patient health records showed a 2.2% increase in advance directive creation and a 43.8% decrease in hospital admissions after the implementation of the curriculum.[16] Mitchell[32] used a quasi-experimental study design to evaluate changes in nurses' and aides' attitudes toward dying patients and their families after completing the Geriatric curriculum; of the 22 health professionals participating, 81% reported previous experience caring for seriously ill patients, and postintervention scores demonstrated a statistically significant improvement in all attitudes in EOL care ($P = .002$). A descriptive study of 128 South Korean nurses who completed 2 days of ELNEC-Geriatric training, translated into Korean, resulted in actual knowledge gains that were statistically significant ($P = .014$).[15]

ELNEC-Graduate

Two studies used a descriptive methodology to examine changes in the attitudes of graduate nursing students who completed the ELNEC-Graduate ("Graduate") curriculum in an academic setting.[33,34] By comparing pre- and post-ELNEC-Graduate education Student Perception of Palliative Care Competency Survey scores, Jizba et al[33,34] measured students perceived competency. Analysis of paired-samples *t* tests in both studies revealed statistically significant increases in survey scores for students' perception of primary PC competencies following the ELNEC course.[33,34]

ELNEC-Japan Critical Care

An RCT was carried out in Japan to assess the impact on confidence to teach PC in the critical care setting. Advisors from ELNEC and ELNEC-Japan collaborated with Kyoto University to adapt the ELNEC-Critical Care course for Japanese nurses.[35] The primary outcome measured was perceived confidence, with statistically significant increases for those in the ELNEC-Critical Care intervention group compared with nurses with no ELNEC intervention ($P < .001$).[35]

ELNEC-Undergraduate

Two studies addressed the fully online ELNEC-Undergraduate curriculum ("Undergraduate"), evaluating actual and perceived knowledge and attitudes.[13,24] Mazanec et al[24] used a descriptive correlational design with a researcher-developed questionnaire to assess perceived knowledge in a cohort of 55 new graduate nurse residents who had completed the undergraduate curriculum at a comprehensive cancer center. Pre- and posttest mean scores demonstrated statistically significant ($P = .0001$) improvements in perceived knowledge about hospice and PC, serious illness communication, pain and symptom management, final hours, and grief and bereavement and

significant increases in comfort and confidence providing PC to patients.[24] Harwell and Lippe[13] applied a quasi-experimental design to evaluate primary PC actual knowledge outcomes for associate degree nurses who had completed the undergraduate curriculum.[13] Paired sample mean scores demonstrated statistically significant knowledge increases from pretest to posttest ($P = .0001$).[13]

DISCUSSION

This systematic literature review provides insights into changes in nursing knowledge and attitudes regarding palliative and EOL care. This review confirms that structured PC education significantly enhances actual and perceived nursing knowledge following targeted ELNEC curricular interventions. Studies that illustrated substantial improvements in nursing knowledge scores after completing an ELNEC curriculum demonstrated how ELNEC may improve nurses' competence in providing high-quality patient care in palliative contexts.[8–19] Gains in communication skills and understanding of cultural and ethical values, as highlighted by Nelson,[25] are vital for conducting EOL discussions to meet the diverse and unique needs of patients and families. The findings of Glover et al[10] and Harwell and Lippe[13] among prelicensure nursing students emphasized the importance of integrating PC education early in nursing curricula. Importantly, ELNEC programs adapted to meet the needs of nurses globally, as seen in studies conducted in Korea[14] and India,[11,12] showcase their adaptability across cultural contexts, successfully improving actual knowledge in diverse settings. As demonstrated by Gupta et al,[12] the retention of knowledge over time emphasizes the need for ongoing education to sustain the benefits gained from initial training.

Furthermore, in many studies, there were reported changes in attitudes of training participants, some at the level of statistical significance. Five studies used the validated Frommelt Attitudes Toward Care of the Dying scale instrument to evaluate attitudes about dying, based on the Geriatric[32] and Core trainings for clinical nurses;[11,12,28] nursing faculty;[17] and prelicensure students,[29,31] each demonstrating significantly more positive attitudes after the trainings. However, the one study analyzing 18-month retention for Frommelt Attitudes Toward Care of the Dying scale items found that only attitudes about the importance of providing EOL care, comfort with talking about death, and including the family in EOL care were retained at significant levels,[12] illustrating a need for refresher or sustained ELNEC training to have long-term effects on nurses. Kurz et al[21] used the Revised Death Anxiety Scale and Concerns about Dying Instrument to measure death anxiety and attitudes with no significant changes for prelicensure students, although the analysis was underpowered due to high attrition. Other instruments used to assess nurse attitudes about caring for the dying, the Thanatophobia Scale[19] and the Moral Distress Survey, demonstrated improved attitudes post-ELNEC.[30] Importantly, a wide range of instruments, some of which have not been validated, were used to assess a range of attitudes, indicating a need for further research into how attitudinal impacts of ELNEC curricula would best be measured.

Implications for Clinical Practice

The findings from this review highlight the importance of clinical nurses engaging in structured training programs, such as the ELNEC curricula, to enhance their knowledge and attitudes about palliative and EOL care. Participating in ELNEC training programs has been shown to significantly boost nurses' confidence in critical areas, including pain management[20,31] and communication with patients and their families.[25,27,28] Additionally, positive shifts in attitudes toward EOL care can foster more compassionate and effective nursing practices. While gaining knowledge and improving attitudes do not automatically ensure competency in a clinical setting, participating in an ELNEC training course that aligns with specific clinical roles can equip all nursing professionals with the knowledge and mindset necessary to provide high-quality care. Importantly, 2 studies went beyond the impact on ELNEC training participants' knowledge and attitudes, demonstrating that nurses incorporated content into practice within 3 months after the training[27] and that nursing home advance directives documentation and hospital transfers were both reduced.[16]

This systematic review has several important limitations. First, it did not examine how participant demographics might influence the reported outcomes, limiting the findings' relevance for different populations receiving ELNEC training. Additionally, there is a risk of publication bias, as studies with significant results are more likely to be published. To address this, a thorough search was conducted, including unpublished manuscripts like doctoral dissertations, and a careful review of the reference lists of included articles. Also, articles not written in English were excluded, which introduces some language bias, although only one article was affected. Also excluded were studies where ELNEC training was combined with other interventions, such as simulations or mentorship, when the reported outcome did not isolate the specific effects of ELNEC training. Finally, some ELNEC studies provided only descriptive results (eg, curriculum evaluations), used unvalidated instruments, or had small sample sizes. As a result, these studies may not accurately predict the knowledge or attitudes that participants might develop through ELNEC training. Studies focused on ELNEC program evaluations provide important information on user experiences for large numbers of trainees and, although not included in this article, provide important data that educators and researchers alike should consider in advancing PC nursing education. These limitations highlight the need for further research to gain a deeper understanding of the effects of ELNEC training across different groups and settings.

CONCLUSIONS

The ELNEC training has had tremendous growth over the last 25 years, providing nurses, nursing students, and others with evidence-based primary PC content to strengthen their knowledge and improve their attitudes toward caring for patients and families facing serious illness or at the end of life. To enhance the evidence base, future research should adopt more rigorous study designs, develop and utilize valid and reliable assessment instruments aligned with nursing competencies, and assess long-term and practice-based outcomes. Ultimately, this review affirms the promise of ELNEC curricula in enhancing nursing education and clinical practice but highlights the need for a deeper inquiry into how and under what conditions ELNEC trainings are most effective. Colleges and schools of nursing, as well as healthcare systems, can benefit from understanding not only whether ELNEC works but also what adaptations are needed to sustain ELNEC impact.

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