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Development and Outcomes of a Provider-Driven, Online Continuing Education Program on Integrative Palliative Care: Randomized Controlled Trial

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Abstract

Background: Integrative therapies are increasingly in demand for both symptom management and quality of life in palliative care (PC) populations. Multidisciplinary PC professionals need continuing education/continuing medical education (CE/CME) to keep current on the evidence-informed use of integrative therapies in PC planning.
Objectives: (1) Elicit input from multidisciplinary PC providers on needs for CE/CME content on integrative care, and indicators of implementation for use in impact assessment. (2) Produce an online CE/CME program responsive to provider input. (3) Assess program impact on PC providers in a randomized controlled trial.
Methods: Focus groups with 47 multidisciplinary PC personnel assessed needs for CE/CME content and identified practice-related behaviors indicating implementation of integrative care. Qualitative analysis then informed development a 9-hour CE/CME program, and identified candidate items for an outcome measure (Integrative Practice Assessment) to assess impact. Validation testing followed with 63 new subjects. A randomized, waitlist-controlled trial then assessed program impact on (1) confidence understanding evidence-informed use of integrative therapies in PC, and (2) implementation of practice behaviors that promote integrative care.
Results: 213 subjects were randomized and 170 provided follow-up data on program impact. Subjects' confidence (10-point scale) understanding safety considerations increased from 5.4 to 8.7; recommending modalities, from 4.2 to 8.3; and explaining modalities, from 4.8 to 8.5. Direct actions promoting integrative care in the last 10 patient encounters increased (12.2 to 17.9). Indirect actions taken in the work setting increased in the past month to advocate integrative therapies (from 5.7 to 9.1), and to promote organizational change (from 10.9 to 18.2). (All outcomes $P < .001$).
Conclusion: This provider-driven CE/CME program led to significant positive changes in practitioners' self-efficacy and implementation of integrative care practices in PC settings. The results indicate that CE/CME can have measurable impacts that benefit providers and may potentially impact patients, families and the culture of care.

Keywords
cancer, chronic pain, education, health services research, integrative medicine, whole person care

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Introduction

Complementary therapies are increasingly in demand in palliative care (PC) settings. While conventional medicine excels in emergency and acute care, complementary therapies are increasingly being integrated into efforts for symptom management and quality of life (QoL) in hospital, hospice and nursing home environments.[1-5] The term "complementary" denotes a cooperative or collaborative relationship between conventional and unconventional modalities, and when such integration takes place, the terms "complementary" and "integrative" are commonly used interchangeably. Hospices have been early adaptors of such therapies with surveys in various states showing between 60-90% of hospices offering these modalities.[6-12] Most comprehensive cancer centers have integrative oncology services providing supportive and palliative care.[13-16]

Abundant evidence has documented wide-ranging impacts of some complementary therapies on QoL in PC patients. For example, massage is effective for a wide spectrum of both somatic and behavioral symptoms, from pain to anxiety.[17-21] Aromatherapy helps with agitation, anxiety and sleep.[22-25] Acupuncture is used to reduce pain, anxiety, nausea, GI motility and constipation.[26-28] Movement approaches are adapted for PC patients with prescriptive exercise to improve activity tolerance, and maintain function and quality of life.[29-32] Expressive arts approaches like music are used to reduce death anxiety, agitation and wakefulness and improve breathing in the dying.[33-36] Mind-body and contemplative approaches are used to help address death anxiety, spiritual crises, and life review, as well as reduce overall distress.[37-39] Biofield therapies are used to decrease anxiety, pain, nausea and fatigue in cancer patients and agitation in dementia.[40-42] Such approaches may also reduce dependency on pharmacological agents, including where substance misuse is of concern.[43,44] Some approaches can be delivered safely by family caregivers with proper instruction, extending the reach of PC into the home.[45-47]

Importance of Safety Considerations

Safety is an important consideration in use of complementary therapies. For example, uninformed massage can cause dangerous arterial flow back-pressure in heart failure, or chronic lymphedema in lymph node-treated cancer patients; those with bone metastases and low platelet count are also vulnerable to inappropriate pressure.[48,49] Acupuncture is contraindicated in certain bleeding disorders.[50] In aromatherapy certain essential oils can dangerously potentiate the anticoagulant effect of warfarin.[51] Contraindications for other modalities—not always obvious—may include mental, physical or energetic status as well as patient or family religious beliefs.

Just as physicians must know a new drug's indications, contraindications, side effects and dosing before they can safely adopt it into practice, PC providers must be informed about such issues with integrative care.

Role of Continuing Professional Education

Systematic reviews indicate that continuing education/continuing medical education (CE/CME) has positive impact on patient health outcomes.[52-57] Of the three major ways practitioners absorb new practice information—diffusion of innovation, social learning, and CE/CME offerings—the latter are most amenable to systematic delivery. Online CE/CME has been shown to be at least equivalent to face-to-face learning[58-60] and to surpass it when well-designed learning components are in place.[61-63] Thus, evidence of increased practitioner implementation of integrative approaches may serve as a surrogate endpoint consistent with improved patient outcomes.

The Institute of Medicine (IOM)—an independent, nonprofit and nongovernmental organization (the health arm of the National Academy of Sciences) that is widely respected by academics and health policy makers—has urged "a national strategic vision for workforce planning… that encompasses conventional and licensed CAM (complementary and alternative medicine) providers",[64] adding that "all health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice…"[65] Importantly, the IOM vision is inclusive of integrative therapy providers as members of the health care workforce who should be included in planning for patient-centered and evidence-based care. Today's interprofessional "palliative care team" includes the core disciplines of medicine, nursing, social work, chaplaincy, pharmacy and other specialists (including integrative care providers)[66]—disciplines that require continuing education to maintain their credentials.

The overwhelming majority of online CE/CME in PC centers around conventional medical management. Leading CE/CME providers offer content on complementary therapies that is either not PC-specific or lacks the topical breadth, interprofessional focus, and learning goals pertinent to the needs of the PC workforce for the practical understanding to apply integrative approaches in their settings.

Study Objectives

This paper reports the results of a US National Cancer Institute-sponsored project to develop and evaluate a comprehensive, interprofessional, provider-driven CE/CME offering on the evidence-based application of integrative therapies to the unique issues and contexts of palliative care. The objectives were to (1) elicit input from multidisciplinary palliative care providers on their perceived needs for CE/CME content on integrative care, and their recommendations for meaningful outcomes that should be the focus of outcome assessment; (2) produce an online CE/CME program that responds to the provider input received; and (3) assess impact of the program on providers and their practice behavior in a randomized controlled trial.

Methods

The investigators for this project have backgrounds teaching in academic professional education (WC, LK, SM), developing service delivery programs using integrative therapies in PC (WC, LK, SM), clinical practice with integrative therapies in PC (WC, SM), and related research in National Institutes of Health and Veterans Health Administration-sponsored projects (WC, LK, SM, RS). They developed the core content of the proposed CE/CME program based on review of the literature and as well as their direct experience in service development and delivery. The expert discussants featured in the program were selected based on their records of academic, research, or professional leadership in their topic areas (see Acknowledgments).

For this project the investigators formed a collaboration with the National Hospice and Palliative Care Organization (NHCPO), the largest interprofessional organization in the US serving this practice audience.[67] This facilitated recruitment from the NHPCO membership for the needs assessment and later the randomized controlled trial. NHPCO also provided accreditation of the CE/CME program for multiple disciplines. Prospective participants for all project activities completed an online consenting and application process. Institutional review board oversight and approval for this project were provided by New England IRB.

Eliciting Provider Input

The investigators conducted eight online videoconference focus group meetings (90 minutes each) with a convenience sample of 47 multidisciplinary palliative care personnel (9 physicians, 5 RNs, 3 nurse practitioners, 2 physician assistants, 9 social workers, 8 pharmacists, 7 chaplains, and 4 others). The first six meetings focused on (1) identifying obstacles, challenges and facilitators of integrative care; (2) identifying behaviors that represent an integrative approach to care (for use in instrument development); and (3) identifying content considered important for a CE/CME course on integrative approaches in palliative care. Groups 7 and 8 focused on identifying practitioner behaviors that could be used as indicators of implementation of integrative care in development of a new instrument, the Integrative Practice Assessment, to assess impact of the CE/CME program in the randomized trial.

The focus groups were recorded and transcribed for qualitative analysis using standard qualitative methods, with coding of native concepts into an NVivo code structure and continuous refinement with each focus group discussion, concluding with analyses of themes and relationships. Special attention was given to changes and refinements of native concepts through each group within and across the groups for each of the focus questions.[68]

Identifying Program Content. Focus group participants were given preparatory materials assembled by the investigators including an outline of possible course content for discussion. The modalities proposed for coverage were selected based on prevalence of their use in PC as reported in the literature.[69-71] Proposed content topics were also based on common questions and concerns observed both in the literature and in the investigators' work experience in PC.

Participants generally endorsed the suggested list of modalities to cover and the proposed topics for course content. They emphasized interest in content that addressed the challenges and obstacles to use of integrative care in their own work settings--specifically scientific validation, theory and practice methods, appropriate use, safety, contraindications, and alternatives for specific clinical situations. They expressed a need to understand the methods and procedures of modalities sufficiently to aid patients' understanding when recommending integrative therapies.

Guidelines for using the modalities with common symptoms were seen as important, as were qualifications of providers, other information resources, cost and payment considerations. Regarding course design, participants offered suggestions regarding time duration of modules, depth of focus for a single module, and types of learning materials and methods. Participants were mindful of the limited time they have for CE/CME amid the other demands of their practices. They noted the value of experiencing the modalities themselves, as well as being able to communicate effectively with patients about them. They also reflected on the need to continue developing knowledge and skills afterward, and advocated for inclusion of information on ways to reinforce learning.

Identifying Learning Outcomes. In terms of assessing impact of the CE/CME program, participants identified practitioner confidence (self-efficacy) in three areas as important to their ability to recommend integrative therapies: (1) understanding safety considerations, (2) understanding evidence pertaining to particular symptoms or conditions, and (3) confidence in their ability to explain or talk about the modality with clients, patients, family members and colleagues. Thus, ratings of change in these three variables were determined to be part of outcome assessment.

Participants also identified 31 specific practice-related behaviors that would indicate implementing integrative care in their setting. These were to be used to develop the Integrative Practice Assessment (IPA) instrument as an outcome measure.

Development of the IPA. The 31 behaviors identified were made into survey items for a draft version of the IPA for validation testing. A new sample of multidisciplinary palliative care personnel was recruited to complete this initial draft of the IPA. This sample consisted of 63 subjects (13 physicians, 12 nurse practitioners, 10 RNs, 12 social workers, 12 chaplains, 4 others). Applicants were selected for representation of their disciplines as well as their overall ratings of their “Confidence” in response to the screening question, “How confident are you in providing evidence-informed recommendations on use of integrative therapies in palliative care?” Subjects were selected to represent an even distribution of all levels of self-rated confidence (1 to 10), to test the hypothesis that this global rating would be associated with one’s responses on the IPA.

The 31 items on the draft instrument asked the respondents to estimate the number of times they performed each action during a recall period. After cleaning the data, the initial dataset for the 31 items was analyzed using factor analysis to group the items into factors using eigenvalues, a scree plot, and elimination of factors with Heywood cases.

Three factors emerged comprising items with moderate to strong factor loading, while several additional items had weak associations with one or more factors. Items with weak factor loadings and low Kaiser-Meyer-Olkin (KMO) measures are candidates for future elimination after more validation studies in our efforts to reduce the number of items. Based on the present analysis we identified 25 items grouped into three factors provisionally defined as follows:

1. Direct Care actions with a patient or family in the process of delivering care (7 items);
2. Advocacy actions on behalf of specific patients or families outside the context of Direct Care (5 items); and
3. Organizational Culture Change actions taken with peers, colleagues, or administrators to promote integrative care in an organization or system context (13 items).

The hypothesis that one’s global rating of Confidence would be associated with their responses on the IPA was confirmed with all three factors, with factor 1 (Direct Care), the most pertinent for the hypothesis, having the strongest association. (See the final version of the IPA used in the attached Supplemental file).

CE/CME Program Development

Informed by the qualitative focus group data, the investigators formulated a 9-course program of online content delivered using a learning management system (LearnDash). Each course takes approximately an hour to complete, and features a combination of narrated slide content developed by the investigators (WC, LK), supplemented by video interview commentary from a faculty of nationally-recognized experts in the topics presented. These faculty are listed in Acknowledgments, with their initials shown after each course below.

The first course, Introduction to Integrative Palliative Care (DH, CH), provides a cross-cultural perspective on the evolution of “whole-person care” and “integrative care” in the US and abroad.

Courses 2 through 8 focus on evidence-informed use of the seven most common modalities used in integrative palliative care: Acupuncture (GD), Aromatherapy (SK), Biofield Therapies (HB), Expressive Arts Therapies (PDL), Massage and Touch Interventions (GM), Mind-Body and Contemplative Therapies (LM), and Movement-Based Therapies (DZ). For each modality course a common structure of content is provided as shown in Table 1. A grading system of confidence ratings for the modality’s use with specific symptoms is provided based on quality of evidence.[72]

The ninth course, Transforming the Culture of Care (CHC, CH), addresses strategies of organizational culture change to embrace integrative care, how integrative therapies enhance the patient experience and satisfaction, payment and funding models, caregiver education, community resources and academic partnerships.

All courses were structured to meet CE/CME accreditation requirements (granted by NHPCO) with 1 credit each for multidisciplinary health care professionals.

Randomized Controlled Trial

Recruitment. Subjects were recruited by newsletter publicity from NHPCO to their membership of 40,000 multidisciplinary practitioners. Applicants followed a link to the project website for a description of the study and access to an online consent and application. Personnel eligible to participate included physician, physician assistant, nurse practitioner, registered nurse, licensed practical nurse, social worker, psychologist, counselor, pharmacist, chaplain, administrator, and others identifying as palliative care professionals. The application collected data on demographics, discipline, work role, and estimated percent time working in palliative care.

Subject Selection and Randomization. Selection criteria included the applicant attesting that they work at least half time in a palliative care setting. Applicants were selected to represent diversity of disciplines as well as gender and race/ethnicity. Block randomization to group assignment was applied within discipline categories. Upon completion of baseline testing (T1), all subjects followed their assigned condition.

Experimental Condition. Experimental subjects were given immediate access to the 9-hour CE/CME program on the project website to be completed at their own pace within a maximum of 30 days. First follow-up data collection (T2) took place 30 days after their completion of the intervention program, to allow time for integration of the content into their practice to be reflected in their follow-up data. Second follow-up (T3) was 30 days after T2.

Control condition. Waitlist controls were assigned to no intervention for 30 days post-baseline testing (T1), and then completed their first follow-up (T2). They were then given access to the CE/CME program to be completed at their own pace within 30 days. This was followed by the 30 day

Table 1. Content of Courses 2-8 (Modalities).

- Theory and mechanisms of action
- Common uses in palliative care populations
- Indications and contraindications
- Safety precautions
- Logistical and practical needs for delivery
- Cost and payment strategies
- Credentialing of providers
- Evidence for symptoms seen in palliative care
- Evidence tables summarizing key studies with common symptoms seen in palliative care
- Grading system of confidence ratings for the use with specific symptoms
- Common questions and myths about the modality
- How to communicate about the modality with patients, family members and colleagues
- External resource links to more detailed information and key studies

post-intervention period to allow time for integration of the content into their practice to be reflected in their follow-up data (T3).

Data Collection. Survey data (T1, T2, T3) were collected via the project's Qualtrics portal. Subjects received email prompts with links to complete data collection.

Outcome Measures. The survey data comprised two sections. The first section captured three Likert-scaled confidence ratings (safety, evidence, and communicating about the modality) for each of the 7 modalities covered in the program (21 items total). The second section consisted of the Integrative Practice Assessment to record reported frequency of behaviors performed in the recall period for each of the three factors indicating implementation of integrative care: direct care actions with patients/clients, advocacy actions, and organizational culture change actions (25 items total).

CE/CME Credit. All subjects who completed the intervention program received 9 CE/CME credits for their discipline provided by NHPCO.

Statistical Analysis. Data were analyzed within each group by the one-sample Wilcoxon rank sum test, for each pairwise contrast corresponding to assessment times. For each of these times, data for the experimental and control groups were compared by the two-sample *t* test. Bonferroni corrections were made as needed using the Holm-Šídák method.

Results

Sample

A total of 263 applications were received, 213 were randomized, and 170 completed at least one follow-up to allow their inclusion in the analysis of the randomized group comparison outcomes (Figure 1. CONSORT Flow Diagram).

As seen in Table 2, the sample was predominantly female and white. The predominant discipline represented was nursing, followed by social work, medicine, chaplaincy, counseling, and pharmacy, with various other specialty roles represented. Most participants identified as direct care providers, while 6 identified as administrators exclusively.

Outcomes

Table 3 presents the comparison of the two groups from baseline to first follow-up—which for controls was 30 days post baseline, and for experimentals was 30 days post completion of the program to allow time for implementation of what was learned. Highly significant improvements were seen in experimental subjects for both the confidence items and the three behavior categories (factors) on the IPA, indicating increased use of practice behaviors associated with implementation of integrative care.

For experimental subjects we also compared first follow-up (30 days post, T2) and second follow-up (60 days post, T3) scores and found no statistically significant differences, suggesting that intervention impact was sustained at least two months after completion of the program.

Table 3 also shows the program impact data for the combined sample of experimental and waitlist controls who completed the program (N = 151), comparing baseline scores to 30-day post-program completion scores. For this larger sample, the data are consistent with those shown for experimental subjects in Table 3, reinforcing the impact of the program on both confidence and the behavioral variables captured by the IPA.

Item Comparisons

T test comparisons of change in individual items shed further light on learning impact. For the "Confidence in Understanding Modalities" items, the largest change across all 7 modalities was for "Explaining the modality to others." And in contrasting all modalities, the largest gains for all confidence items occurred with aromatherapy, suggesting this was the least familiar modality for subjects.

On the IPA, in the category of "Direct actions in last 10 patient encounters", the item with greatest change was "Give a patient or family member info about cost and payment for integrative therapies." In the category "Advocacy actions in the last month", the item with greatest change was "Deliver a form of integrative therapy to a co-worker or administrator in your organization." And in the category "Organizational change actions in the last month", the item with greatest change was "Verbally refer a health care provider in your organization to a website or other info resource on integrative therapies." In comparing all three action categories, the one with the largest overall increases in actions taken was "Organizational change actions."

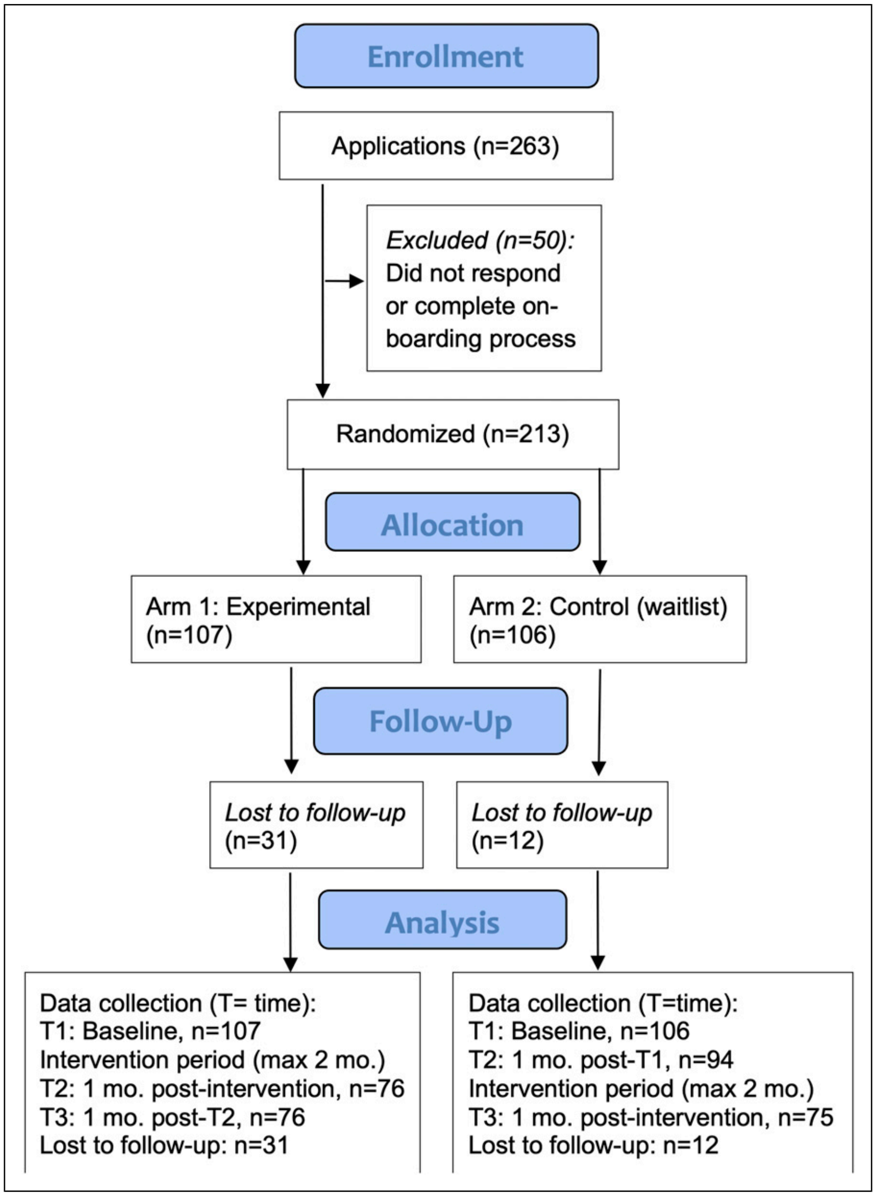

Figure 1. CONSORT flow diagram.

We note that magnitude of change in individual items can be taken to reflect floor and ceiling effects, suggesting the program exposed and addressed relative deficits in some areas.

Relevance and Satisfaction Ratings

On completion of the program, all completers of the intervention (N = 151) were asked to provide ratings of the relevance of the program and their satisfaction with it on a 5 point scale. Mean (SD) ratings of relevance were as follows: for symptom management in palliative care, 4.6 (.81); for care planning, 4.0 (1.1); and for improving services overall, 4.5 (.77). Ratings of satisfaction were as follows: overall content, 4.5 (.72); methods used to deliver the content, 4.3 (.96); and the time invested for what was gained, 4.3 (.92). Finally completers rated their “likelihood to recommend the program to a colleague” at 4.4 (.87).

Discussion

Summary

For the comparison of experimental and waitlist control subjects’ scores from baseline to follow-up, highly significant differences were found on all outcomes. When the post-intervention outcome data of waitlist controls were combined with those of the experimental subjects, the outcomes were also highly significant: the full sample of 151 completers had an average 78% increase across their provider

Table 2. Demographics and Disciplines.

Gender	N (%)	Discipline[a]	N (%)	"Other" Discipline
Female	149 (87.6)	Nursing	86 (50.6)	Nurse practitioner 7, massage therapist 7, admin 3, physical therapist 2, bereavement 2; 1 each of acupuncture, child life spec., volunteer coordinator, music therapist, mind/body therapist, integrative health, physician assistant, unspecified
Male	21 (12.4)	Social work	32 (18.8)	
Race/ethnicity[a]	N (%)	Medicine	29 (17.1)	
White	146 (85.9)	Chaplain	10 (5.9)	
Asian	13 (7.6)	Counseling	6 (3.5)	
Hispanic	7 (4.1)	Pharmacy	3 (1.8)	
Black	5 (2.9)	"Other"	29 (17.1)	
American Indian	4 (2.4)	Current Work Role	N (%)	
Age	$\overline{X}$ (SD)	Direct care provider	164 (96.5)	
Years	45.6 (10.8)	Indirect (admin)	6 (3.5)	

[a] Some subjects reported multiple race/ethnicity or multiple discipline categories.

Table 3. Change From Baseline to Follow-Up for (1) Controls vs Experimentals, and (2) All Subjects Who Completed the Program.[a]

	Controls		Experimentals			All Completers Combined		
	N	Mean (SD)	N	Mean (SD)	*P* <	N	Mean (SD)	*P* <
Confidence in understanding modalities: mean change in ratings per each of the 7 modalities, rated on a 1 to 10 scale[b]								
Understanding its safety considerations	94	Pre: 5.5 (2.3) Post: 5.6 (2.2) Diff: 0.1 (1.6)	76	Pre: 5.0 (2.1) Post: 8.4 (1.2) Diff: 3.4 (1.9)	<.001	151	Pre: 5.4 (2.1) Post: 8.7 (1.3) Diff: 3.3 (1.9)	<.001
Recommending the modality for care	94	Pre: 4.4 (2.4) Post: 4.6 (2.4) Diff: 0.2 (1.7)	76	Pre: 3.7 (2.1) Post: 7.9 (1.4) Diff: 4.2 (2.0)	<.001	151	Pre: 4.2 (2.3) Post: 8.2 (1.5) Diff: 4.0 (2.0)	<.001
Explaining the modality to others	94	Pre: 5.0 (2.4) Post: 5.3 (2.4) Diff: 0.2 (1.5)	76	Pre: 4.1 (2.2) Post: 8.3 (1.1) Diff: 4.2 (1.8)	<.001	151	Pre: 4.8 (2.3) Post: 8.5 (1.3) Diff: 3.7 (1.9)	<.001
Integrative practice behaviors: mean change in number of actions per category on the IPA[b]								
Direct actions in last 10 patient encounters[c]	82	Pre: 11.4 (14.9) Post: 12.4 (14.5) Diff: 1.0 (14.7)	72	Pre: 11.8 (11.7) Post: 16.9 (16.9) Diff: 5.1 (14.4)	0.027	145	Pre: 12.2 (13.6) Post: 17.9 (17.2) Diff: 5.6 (14.8)	<.001
Advocacy actions in last month	94	Pre: 5.8 (6.7) Post: 6.2 (7.0) Diff: 0.4 (5.0)	76	Pre: 5.0 (6.2) Post: 8.5 (10.5) Diff: 3.5 (8.8)	0.017	151	Pre: 5.7 (6.9) Post: 9.1 (9.6) Diff: 3.4 (7.5)	<.001
Organizational change actions in last month	94	Pre: 11.7 (12.9) Post: 11.7 (13.3) Diff: 0.0 (7.1)	76	Pre: 9.7 (13.8) Post: 16.0 (19.5) Diff: 6.3 (16.7)	<.001	151	Pre: 10.9 (13.8) Post: 18.2 (19.3) Diff: 7.3 (15.8)	<.001

[a] Pre in all comparisons refers to baseline (T1). Post for "Controls" is 30 days post-baseline; post for "Experimentals" and for "All Completers Combined" is 30 days post-program completion (T2 for Experimentals, T3 for Controls).
[b] Wilcoxon-Mann-Whitney test.
[c] Subjects who do not provide direct care omitted these items on the IPA.

confidence (self-efficacy) ratings, and an average 58% increase in use of integrative practice behaviors as reported on the IPA.

Limitations

This study provides limited data on the longevity of intervention effects, in that the combined sample of 151 subjects completing the program provides outcome data only 30 days post intervention. While the experimental subjects provided an additional 30 day follow-up, which showed no significant decline of impact, it is unknown whether the intervention impacts seen, while promising, would be sustained, reduced, or increase beyond the follow-up period studied. Also, no data were collected on patient outcomes as a result of this intervention, so it is unknown to what degree the outcomes seen may translate into concrete outcomes of service delivery.

We note that the demographics of the sample roughly reflect the PC workforce, being predominantly female, white, and representing the nursing profession, with less representation of social work, medicine, chaplaincy and other disciplines.[73,74] We did not analyze subgroups within the sample for possible differential impacts, though this is a topic for further exploration.

Conclusions

Demand for palliative care services continues to grow along with the aging population and the epidemiology of chronic and life-limiting illness. The imperative to incorporate non-pharmacological therapies for both symptom management and quality of life is now a major concern of palliative care organizations, driven not only by Joint Commission guidelines but also by demand from patients and families. These forces call for increased active engagement by multidisciplinary care professionals in the inclusion of integrative therapies in care planning.

This study found that a provider-driven CE/CME program led to outcomes that providers deemed of value in changing both their perceived self-efficacy and practice behaviors that support implementation of integrative care in the palliative care setting. We know of no prior studies addressing these outcomes with CE/CME in this topic area. The results indicate that CE/CME can have measurable impacts that benefit providers and may potentially impact patients, families and the organization. Future research is encouraged to explore direct links between improved provider confidence, increased provider integrative care behaviors, and patient outcomes.

Given the value of the outcomes shown for contributing to the culture of palliative care, the program is now being disseminated in two formats. The traditional CE/CME credit version is offered through the National Hospice and Palliative Care Organization (NHPCO) online education platform. In addition, a non-credit streaming version is available on the Integrative Palliative Care Institute website. Finally, we are in the process of developing a consumer education version for patients and family members.

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Declaration of Conflicting Interests

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Supplemental Material

Supplemental material for this article is available online.

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