Care Management by Oncology Nurses To Address Palliative Care Needs: A Pilot Trial To Assess Feasibility, Acceptability, and Perceived Effectiveness of the CONNECT Intervention

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Abstract

Background: Specialty palliative care is not accessible for many patients with advanced cancer. There is a need to find alternative palliative care strategies in oncology clinics.

Objective: The objective of the study was to assess the feasibility, acceptability, and perceived effectiveness of an oncology nurse-led care management approach to improve primary palliative care.

Methods: The study design was a single-arm pilot trial of the Care Management by Oncology Nurses (CONNECT) intervention, in which registered oncology nurses receive specialized training and work closely with oncologists to (1) address symptom needs; (2) engage patients and caregivers in advance care planning; (3) provide emotional support; and (4) coordinate care. The subjects were 23 patients with advanced cancer, 19 caregivers, and 5 oncologists from a community oncology clinic in western Pennsylvania. Feasibility was assessed through enrollment rates, outcome assessment rates, and visit checklists. Patients, caregivers, and oncologists completed three-month assessments of acceptability and perceived effectiveness.

Results: The consent-to-approach rate was 86% and enrolled-to-consent rate, 77%. CONNECT was implemented according to protocol for all participants. No participants withdrew after enrollment. Four patients died during the study; three-month outcome assessments were completed with all remaining participants (83%). Patients and caregivers reported high satisfaction with CONNECT and perceived the intervention as helpful in addressing symptoms (85%), coping (91%), and planning for the future (82%). Oncologists unanimously agreed that CONNECT improved the quality of care provided for patients with advanced cancer.

Conclusion: An oncology nurse-led care management intervention is feasible, acceptable, and was perceived to be effective for improving provision of primary palliative care. A randomized trial of CONNECT is warranted.

Introduction

PATIENTS WITH ADVANCED CANCER experience steep declines in quality of life^{1–4} and receive inappropriate, aggressive treatment near the end of life.^{5–7} Their caregivers suffer high rates of burden and psychological distress.^{8–10} Key deficiencies in standard oncology care—including inadequate symptom assessment and management,^{11,12}

emotional support,¹³ engagement in advance care planning,^{14,15} and coordination of services¹⁶—contribute to patient and caregiver morbidity.

Comanagement by a specialty-trained palliative care team improves quality of life and mood, while decreasing use of aggressive end-of-life care.^{17–23} In response to accumulating research, professional guidelines now recommend earlier consideration of combined standard oncology care and

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palliative care for patients with advanced cancer and/or high symptom burdens.^{24–27} However, broad dissemination of specialty palliative care may not be feasible or the most cost-effective solution in all care settings. Most palliative care services in cancer centers are focused on inpatient care: 41% of National Cancer Institute (NCI) cancer centers and 78% of non-NCI cancer centers do not have outpatient palliative care clinics.²⁸ Workforce shortages make it impossible for palliative care clinicians to care for more than a small fraction of patients with palliative care needs.²⁹ Even when available, many patients and oncologists are reluctant to utilize specialty palliative care services—either because of practical concerns (e.g., additional travel time or costs), or because they equate palliative care with death and dying.^{30–35} Furthermore, without better coordination, cancer care provided by multiple clinicians across settings can lead to treatment and communication errors.³⁶

In light of these constraints, interventions that address deficient palliative care processes *within* oncology clinics are needed, while preserving use of specialty palliative care for patients with the greatest needs. Care management approaches have been used successfully in primary care settings to help patients and their support systems manage illness and related psychosocial problems more effectively and to reduce the need for specialty medical services.^{37–40} These strategies—when employed by a trained nurse in close communication with physicians—have proven feasible, acceptable, and effective for improving care of complex patients, such as older adults with depression.^{41,42} The delivery of palliative care for patients with advanced cancer involves similar challenges to provision of mental health care for older adults, and care management strategies may be adapted to reflect palliative care principles.^{43,44} However, to date, care management strategies have not been widely employed or rigorously evaluated to improve primary palliative care in oncology practices.

We therefore developed, refined, and pilot-tested a Care Management by Oncology Nurses intervention called CONNECT to improve the provision of primary palliative care in oncology practices by addressing deficient care processes—symptom assessment, emotional support, advance care planning, and care coordination. Our goal in this study was to assess feasibility, acceptability, and perceived effectiveness of the CONNECT model.

Methods

Study setting, participants, and enrollment

We conducted a single-site, single-arm pilot study at a community oncology clinic affiliated with a network of cancer centers serving more than 30,000 patients annually in western Pennsylvania. The clinic includes four oncologists, one nurse practitioner, and seven registered nurses. Specialty outpatient palliative care services are not available on site; the closest palliative care clinic is 4.5 miles away.

Participants were enrolled between January and April 2014. Oncology clinic staff identified adult patients with upcoming appointments who met the following criteria: (1) metastatic solid tumors and (2) the oncologist “would not be surprised” if the patient died or was admitted to the ICU in the next year. The validated “would not be surprised” question was chosen because it is a simple and effective

method for identifying patients at high risk of dying in one year (hazard ratio 7.8 for patients with cancer).⁴⁵ Additional eligibility criteria included (1) Eastern Cooperative Oncology Group (ECOG) performance status of 0 (asymptomatic), 1 (symptomatic but fully ambulatory), or 2 (symptomatic and in bed <50% of the day); (2) planning to receive ongoing care from a participating oncologist; and (3) willing to be seen at least monthly. We excluded patients with hematologic malignancies, because this population faces unique barriers to palliative care provision.⁴⁶ We also excluded patients who were unable to read and respond to questions in English, unable to complete the baseline interview, and/or did not have decision making capacity, as determined by their oncologist.

Patients received a one-page study information sheet at the time of their appointment and were asked if they would be willing to hear more about the study. Patients who consented to participate were asked to identify a caregiver—defined as an adult family member or friend who was most likely to accompany them to visits or to help with their care should they need it. We excluded caregivers who were unable to read and respond to questions in English or unable to complete the baseline interview. Oncologist participants were all physicians and nurse practitioners at the intervention site.

Participants provided written informed consent for all study procedures, including audiorecording of study visits. Patients and caregivers received \$20 upon completion of the three-month interview. Oncologists were not compensated. The study was approved by the institutional review board of the University of Pittsburgh.

The intervention

CONNECT is a care management intervention that facilitates provision of primary palliative care—based on national clinical practice guidelines^{25,26,44}—within existing oncology clinic structures. CONNECT is conceptually based on Wagner’s chronic care model, which views key practice changes as necessary to create and support productive interactions between patients, caregivers, and clinicians.^{37–40} Practice changes occur within a health care organization operating in a community with resources and policies that influence the type of care delivered. Table 1 describes how CONNECT addresses each of the recommended practice changes in the Chronic Care Model.

CONNECT is led by an existing oncology clinic nurse, selected based on the following criteria: (1) strong working relationships with clinic providers and staff, (2) an interest in learning new skills, (3) a commitment to supportive oncology care, and (4) Oncology Nursing Society (ONS) certification preferred. Study staff provide an introductory training for clinic oncologists to describe the CONNECT nurse’s role and associated practice-level changes. The CONNECT nurse receives full administrative support and adjusted patient assignments.

CONNECT is deployed through a series of nurse-led encounters occurring before or after regularly scheduled oncology clinic visits and occurring at least monthly for three months (see Table 2). If oncology clinic visits do not occur at least monthly during this time frame, additional CONNECT visits are scheduled either in person or via telephone (if a patient is no longer able to come in to the clinic).

Working closely with patients’ oncologists, the CONNECT nurse performs four primary palliative care roles:^{26,47} (1) addressing patient symptom needs, (2) engaging patients

TABLE 1. KEY PRACTICE CHANGES IN WAGNER'S CHRONIC CARE MODEL TARGETED BY THE CONNECT INTERVENTION

<i>Key practice change</i>	<i>How this is addressed in CONNECT</i>
Self-management support	Patient-reported outcomes, shared care plans, and a health coaching/ask-tell-ask approach.
Delivery system design	Structured visits with assigned nurses, patient check-in calls, and feedback to oncologists.
Decision support	Training nurses in evidence-based approaches to symptom management, providing emotional support, and advance care planning.
Clinical information systems	Documentation of patient symptoms and advance care plans in the medical record.

CONNECT, Care Management by Oncology Nurses.

and caregivers in advance care planning, (3) providing emotional support to patients and caregivers, and (4) communicating with oncologists and coordinating appropriate care. The Edmonton Symptom Assessment Scale (ESAS)^{48,49} and Distress Thermometer⁵⁰ are administered to patients before every visit and used to guide visit content. Visits are guided by an intervention manual that includes (1) visit-specific checklists of key content and goals, (2) communication pearls, (3) common pitfalls, and (4) sample scripts. The intervention manual also includes evidence-based approaches to symptom management,^{44,51} providing emotional support,^{52–54} and advance care planning.^{55–58} Based on best practices in palliative oncology care,^{2,59} the first visit focuses on establishing rapport, addressing symptom needs, and choosing a surrogate decision maker. Subsequent visits include an additional focus on treatment preferences and future goals.

During every CONNECT encounter, the CONNECT nurse works with the patient and caregiver to complete and update an individualized Shared Care Plan. Modeled on successful care management strategies in primary care, CONNECT Shared Care Plans facilitate patient and caregiver involvement in (1) addressing symptoms and (2) the process of advance care planning. All CONNECT participant materials are available in large font (14-point or higher).

After every CONNECT visit, the CONNECT nurse discusses the patient's symptoms, preferences, and goals with the oncologists via a mandatory follow-up. These follow-ups are designed to ensure that oncologists are aware of patient preferences and involved when a new treatment plan is needed. The timing and mode (e.g., in person versus telephone) of each follow-up with the oncologist depends on clinical urgency. In addition, the CONNECT nurse conducts a follow-up call with the patient and/or caregiver within one week of every visit to assess how things are going at home and coordinates additional care (e.g., specialty or hospice referrals) as necessary.

Interventionist training

The CONNECT nurse participated in a two-day training, led by a palliative care physician and an oncology nurse

practitioner. Training included interactive didactic sessions and role-playing with simulated patients focused on the four primary palliative care roles described above. The training was designed to allow for practice and feedback on key competencies in a supportive environment. The principal investigator, a palliative care physician, subsequently held biweekly supervision sessions with the CONNECT nurse in which audiorecorded CONNECT encounters were reviewed. These sessions were designed to provide opportunities for continued learning and prevent skills drift.

Assessment of intervention fidelity

Based on best practices and recommendations from the NIH Behavior Change Consortium,⁶⁰ intervention fidelity was monitored through (1) measurement of whether CONNECT encounters occurred according to protocol and (2) analysis by the principal investigator of a subset (18%) of audiorecorded CONNECT encounters for key content and overall quality.

Measures

Basic demographic and clinical information was collected from patients, caregivers, and oncologists at the time of enrollment.

Feasibility

Feasibility was assessed through (1) enrollment rates, (2) visit checklists to track whether the CONNECT intervention was implemented according to protocol, and (3) three-month outcome assessment rates. For every CONNECT visit, the CONNECT nurse documented the encounter mode (in person versus by telephone), timing, length, key content, and outcomes.

Acceptability and perceived effectiveness

Acceptability was assessed through tracking the percentage of participants who dropped out of the study. Three-month questionnaires administered to patients, caregivers, and oncologists assessed satisfaction with the intervention; the extent to which CONNECT was helpful (for example, in managing symptoms or planning for the future); comfort level working with the CONNECT nurse (oncologists only); and likelihood of recommending the intervention (patients and caregivers only).

Patient, caregiver, and health care utilization outcomes

Patient and caregiver outcomes were measured at baseline and three months by research staff. Patient outcomes included (1) quality of life, Functional Assessment of Chronic Illness Therapy–Palliative Care scale (FACIT-Pal); (2) symptom burden, Edmonton Symptom Assessment Scale (ESAS); and (3) mood, Hospital Anxiety and Depression Scale (HADS). Caregiver outcomes include mood (HADS) and caregiver burden (Zarit Caregiver Burden–short form). The FACIT-Pal is a validated 46-item scale designed to measure quality of life concerns for patients with life-limiting cancer (range 0–184, with higher scores indicating better quality of life).^{20,61,62} The ESAS is a nine-item patient-rated symptom scale developed and validated in cancer patients

TABLE 2. TIMING, PARTICIPANTS, AND KEY TASKS FOR EACH CONNECT ENCOUNTER

	<i>Introductions</i>	<i>First visit</i>	<i>Follow-up</i>	<i>Second visit</i>	<i>Follow-up</i>	<i>Subsequent visits</i>	<i>Follow-up</i>
Timing	Within 1 week of enrollment	First scheduled oncology visit after consent. If no visit planned within 1 month at time of consent, schedule CONNECT visit	Within 1 week of first visit	Next scheduled oncology visit. If no visit planned within 1 month, schedule CONNECT visit	Within 1 week of second visit	Subsequent scheduled oncology visits. If no visits planned at least monthly, schedule CONNECT visit	Within 1 week of subsequent visits
Participants	1. Patient and caregiver 2. Oncologist	Patient and caregiver	1. Oncologist 2. Patient and/or caregiver 3. Other clinicians	Patient and caregiver	1. Oncologist 2. Patient and/or caregiver 3. Other clinicians	Patient and caregiver	1. Oncologist 2. Patient and/or caregiver 3. Other clinicians
Tasks	1. Introduce yourself to patient and caregiver 2. Plan for upcoming visit 3. Answer questions 4. Update oncologist	1. Establish rapport 2. Explain role 3. Set agenda 4. ESAS/distress thermometer 5. Assess views about illness and coping 6. Provide emotional support 7. Address symptoms 8. Discuss preferences and goals—identify a medical decision maker 9. Complete shared care plans 10. Give patient a copy of shared care plans and Five Wishes 11. Elicit understanding 12. Review next steps	1. Follow-up with oncologist 2. Follow-up call to patient/caregiver 3. Coordinate needed care with other clinicians	1. Set agenda 2. ESAS/distress thermometer 3. Assess views about illness and coping 4. Provide emotional support 5. Address symptoms 6. Continue to discuss preferences and goals—hopes and concerns, communication and decision making 7. Update shared care plans and give patient a copy 8. Elicit understanding 9. Review next steps	1. Follow-up with oncologist 2. Follow-up call to patient/caregiver 3. Coordinate needed care with other clinicians	1. Set agenda 2. ESAS/distress thermometer 3. Assess views about illness and coping 4. Provide emotional support 5. Address symptoms 6. Continue to discuss preferences and goals—complete Five Wishes 7. Update shared care plans and give patient a copy 8. Elicit understanding 9. Review next steps	1. Follow-up with oncologist 2. Follow-up call to patient/caregiver 3. Coordinate needed care with other clinicians

ESAS, Edmonton Symptom Assessment Scale.

receiving palliative care (range 0–900, with higher scores indicating greater symptom intensity).^{48,49} The HADS is a widely used 14-item instrument that measures symptoms of anxiety and depression.⁶³ Scores of ≥ 8 on either domain indicate significant symptoms of depression or anxiety with good sensitivity and specificity.⁶⁴ The Zarit–short form is a 12-item, two-factor version of the longer Zarit Burden Interview that correlates well with the original instrument.⁶⁵ Health care utilization outcomes were assessed via patient and caregiver questionnaires and medical record abstraction.

Data management and analyses

Study data were collected and managed using REDCap (Research Electronic Data Capture) tools hosted at the University of Pittsburgh.⁶⁶ We used descriptive statistics to summarize the data, including simple counts and means (standard deviations).

Results

A total of 48 potential participants were identified over the enrollment period, of whom 35 were approached for participation. Our consent-to-approach rate was 86% and our enrolled-to-consent rate was 77% (see Fig. 1).

Most enrolled patients (83%) identified a caregiver who was also enrolled. The mean age was 67 (SD 14) for patients and 57 (SD 17) for caregivers. The most common cancer types were lung (26%) and colon (26%), representing the population of sicker patients cared for at the study site (see Table 3 for additional participant characteristics).

The mean (SD) baseline score on the FACIT-Pal was 140.7 (24.9), and the mean (SD) baseline score on the ESAS was 216.7 (128.9). Patients had a mean (SD) baseline score of 5.5 (3.9) on the HADS anxiety subscale and 4.6 (3.4) on the depression subscale. Mean (SD) caregiver burden was 10.7 (9.2) at baseline. Caregivers had a mean (SD) baseline score

FIG. 1. Enrollment diagram.

TABLE 3. BASELINE CHARACTERISTICS OF PARTICIPANTS^a

	<i>Patients</i> (N = 23)	<i>Caregivers</i> (N = 19)
Age, years, mean (SD)	67 (14)	57 (17)
Male	11 (48)	7 (37)
Caucasian	22 (96)	19 (100)
Religion		
Roman Catholic	12 (52)	11 (58)
Protestant/other Christian	10 (43)	5 (26)
Other religion	0 (0)	3 (16)
Agnostic/atheist/no religion	1 (4)	0 (0)
Importance of religion		
Very important	12 (52)	8 (42)
Fairly important	3 (13)	5 (26)
Not too important	6 (26)	3 (16)
Not at all important	2 (9)	3 (16)
Highest education completed		
Less than high school	1 (4)	1 (5)
High school or GED	8 (35)	10 (53)
Some college	7 (30)	1 (5)
Completed college	2 (9)	3 (16)
≥ 1 year postgraduate	2 (9)	0 (0)
Graduate or professional degree	3 (13)	4 (21)
Cancer type		
Breast	1 (4)	
Cervical	1 (4)	
Colon	6 (26)	
Esophageal	2 (9)	
Lung	6 (26)	
Neuroendocrine tumor	1 (4)	
Ovarian	1 (4)	
Pancreatic	2 (9)	
Prostate	3 (13)	
Time since diagnosis		
≥ 1 month but < 6 months	7 (30)	
≥ 6 months but < 1 year	5 (22)	
≥ 1 year but < 2 years	6 (26)	
≥ 2 years but < 5 years	1 (4)	
≥ 5 years	4 (17)	
Time receiving care with current oncologist		
< 1 month	1 (4)	
≥ 1 month but < 6 months	7 (30)	
≥ 6 months but < 1 year	4 (17)	
≥ 1 year but < 2 years	6 (26)	
≥ 2 years but < 5 years	2 (9)	
≥ 5 years	3 (13)	
ECOG performance status		
0	9 (39)	
1	13 (57)	
2	1 (4)	
Current cancer treatment		
Chemotherapy	20 (87)	
Radiation therapy	3 (13)	
Other cancer treatment	3 (13)	
None	2 (9)	
Relationship to patient		
Spouse/partner		11 (58)
Child		6 (32)
Parent		1 (5)
Friend		1 (5)
Lives with patient		12 (63)

^aAll data *N* (%) except where indicated otherwise.
ECOG, Eastern Cooperative Oncology Group.

of 7.7 (5.3) on the anxiety subscale and 4.0 (5.6) on the depression subscale.

The CONNECT intervention was implemented according to protocol for all enrolled patients (see Table 4 for feasibility data). CONNECT visits took place in person (92%) or by phone (8%). Most visits occurred on the same day as regularly scheduled oncology visits (92%). The average visit length was 29 (SD 15) minutes. Intervention fidelity was excellent. The mean overall quality score for audiorecorded encounters (*N* = 11) was 84%, and the mean content score was 96%.

Check-in sessions with oncologists focused on patients' physical symptoms (98%); emotional symptoms, distress or coping (94%); readiness to think about the future (58%); goals of care (45%); treatment preferences (39%); questions for the oncologist (34%); decision making preferences (32%); and possible care transitions (i.e., stopping chemotherapy or enrolling in hospice) (18%). In 33 of 62 (53%) check-in sessions, the CONNECT nurse presented the oncologist with a request for a new treatment plan, and in all such cases the oncologist was receptive.

The three-month mortality rate was 17%. Patients died at 10, 60, 66, and 82 days after enrollment. Three-month outcome assessments were completed with all living patients (*N* = 19) and their caregivers (*N* = 15). Baseline and three-month questionnaires were completed in person (47%), by phone (47%), or by mail (6%). The rate of missing data was approximately 1%.

Acceptability and perceived effectiveness of this program were high. None of the study participants withdrew after enrollment. Overall, patient and caregiver participants were satisfied with the intervention sessions (94%) and perceived CONNECT as effective (see Table 5). Ninety-seven percent reported that they would recommend supportive care to others. All oncologists (five out of five) perceived CONNECT as helpful for managing patient symptoms, engaging patients in advance care planning, providing emotional support, and coordinating care; all were comfortable working with the CONNECT nurse; and all strongly agreed that CONNECT had improved the quality of care provided for their patients.

Discussion

We designed and pilot-tested a nurse-led care management intervention called CONNECT to improve provision of primary palliative care^{26,47} within oncology clinics. CONNECT employs successful strategies from primary care to overcome key barriers to provision of palliative oncology care. In this study we demonstrate that CONNECT is feasible, acceptable, and perceived as effective by patients with advanced cancer, their caregivers, and participating oncologists.

CONNECT is innovative in important ways. First, our approach challenges the paradigm that has focused on provision of subspecialty physician-led palliative care, to focus instead on provision of *primary* palliative care within oncology practices. This is important because practical barriers—including workforce shortages and lack of availability^{28,29}—prevent most patients with advanced cancer from receiving specialty palliative care. Second, we have refined a clinic-based care management approach successfully used in primary care but *not* previously employed in

TABLE 4. FEASIBILITY OF IMPLEMENTING THE CONNECT INTERVENTION

	% of patients for whom this encounter occurred	Mode		Duration, mean (SD), min
		In-person N (%)	Telephone N (%)	
Introduction to the study (N=22)	100	22 (100)	0 (0)	n/a
CONNECT visit 1 (N=22)	100	22 (100)	0 (0)	38 (15)
Visit 1 follow-up—oncologist (N=22)	100	22 (100)	0 (0)	7 (3)
Visit 1 follow-up—patient/caregiver (N=22)	95 ^a	8 (36)	13 (59)	10 (4)
CONNECT visit 2 (N=21)	100	20 (95)	1 (5)	28 (14)
Visit 2 follow-up—oncologist (N=21)	100	21 (100)	0 (0)	8 (4)
Visit 2 follow-up—patient/caregiver (N=21)	90 ^a	9 (43)	10 (48)	9 (4)
CONNECT visit 3 (N=19)	100	15 (79)	4 (21)	21 (10)
Visit 3 follow-up—oncologist (N=19)	100	19 (100)	0 (0)	6 (3)
Visit 3 follow-up—patient/caregiver (N=19)	95 ^a	6 (32)	12 (63)	7 (5)

^aA total of four patient/caregiver follow-ups missing because interventionist was unable to reach after three attempts.

oncology clinics. This is important because primary care innovations provide valuable insights into how to meet the needs of complex patients, but to date have not been translated to oncology practice settings. Third, CONNECT focuses on patients *and* their caregivers, reflecting an increasing recognition of caregiver morbidity and the importance of family-centered care in advanced cancer. Fourth, CONNECT provides an enhanced role for oncology nurses: becoming a CONNECT nurse may enable personal and professional growth while strengthening relationships with patients. Fifth, CONNECT is guided by a detailed, evidence-based intervention manual while utilizing existing oncology nursing staff, allowing for ease of future dissemination.

Potential criticisms of the CONNECT intervention include (1) intervention tasks are too complex or time-consuming for oncology nurses to accomplish and (2) nurses without prescribing privileges cannot be expected to effectively impact care. In this study we demonstrated that implementing CONNECT is feasible in a busy oncology clinic with excellent adherence to protocol. We present detailed information about visit lengths to aid in planning for interventionist time in a larger trial. Furthermore, our pilot data suggest that nurses without prescribing privileges *can* impact treatment decisions through required follow-up with oncologists. These follow-ups resulted in a new treatment plan over half the time.

We encountered challenges in this pilot. First, given more rapid enrollment than anticipated, at times the CONNECT nurse reported feeling overwhelmed. We took steps to alleviate nursing burden through (1) debriefing with study team members during weekly meetings, (2) strong support from clinic leadership, and (3) adjusted staffing models so that CONNECT patients were always assigned to the CONNECT nurse for treatment. Second, 4 of 23 enrolled patients died during the study, reflecting expected mortality in a population of patients with advanced cancer. We will plan for such loss to follow-up in a larger trial to assess efficacy. Third, a minority of CONNECT patients were too sick to come to the clinic for visits. Our decision to allow for telephone visits to be conducted in these circumstances worked well and allowed for all participants to receive three CONNECT visits according to protocol.

Our study had limitations. First, the majority of patients in this community clinic were Caucasian. We were therefore unable to enroll a racially or ethnically diverse population. Additional work is needed to evaluate CONNECT in more diverse groups. Second, this was a single-site study. While CONNECT was designed to be flexible and account for the constraints of busy oncology clinics, it is critically important to expand the scope of the intervention to additional sites to understand whether further adaptations are necessary. Third, this pilot study did not have a control arm. While participants

TABLE 5. ACCEPTABILITY AND PERCEIVED EFFECTIVENESS OF THE CONNECT INTERVENTION FOR PATIENT AND CAREGIVER PARTICIPANTS^a

	All (N=34)	Patients (N=19)	Caregivers (N=15)
I have been satisfied with the supportive care sessions I have participated in.	32 (94)	19 (100)	13 (87)
Receiving supportive care has improved my/my [relationship] pain or other symptoms.	29 (85)	18 (95)	11 (73)
Receiving supportive care has helped me to better understand my/my [relationship] illness.	30 (88)	18 (95)	12 (80)
Receiving supportive care has helped me to cope with my/my [relationship] illness.	31 (91)	18 (95)	13 (87)
Receiving supportive care has helped me to plan for the future.	28 (82)	15 (79)	13 (87)
I would recommend supportive care to other patients with cancer and their family members.	33 (97)	19 (100)	14 (93)

^aAll data presented as number (percentage) of participants who agreed or strongly agreed with each statement.

rated CONNECT favorably, this trial does not establish efficacy. A randomized control trial of CONNECT is needed.

In conclusion, CONNECT is a feasible and acceptable nurse-led care management intervention with perceived effectiveness for managing symptoms, providing emotional support, coordinating care, and planning for the future among patients with advanced cancer and their caregivers. This successful pilot trial provides support for conducting a larger, multisite, cluster-randomized trial to assess the efficacy of CONNECT on patient, caregiver, and health care utilization outcomes.

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Author Disclosure Statement

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