

■ Article

# Implementing Distress Management Guidelines in Ambulatory Oncology: A Quality Improvement Project

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Distress assessment and referral to psychosocial services is an essential component of evidence-based oncologic nursing care. Oncology nurses have an opportunity to address patient distress needs through leadership of implementation programs and support for the positive outcomes that engaging in psychosocial services provides. This quality improvement project was conducted to evaluate the feasibility and utility of the National Comprehensive Cancer Network's distress management clinical practice guidelines in ambulatory oncology. A theoretical framework guided the process design that included staff education, screening, and management in a cohort implementation project with historical control.

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Patients with a cancer diagnosis routinely experience distress, also known as an emotional response to a physical or psychological condition. The National Comprehensive Cancer Network (NCCN, 2012) defined distress as “a multifactorial unpleasant emotional experience of a psychological, social and/or spiritual nature that may interfere with the ability to cope effectively with cancer, its physical symptoms and its treatments” (p. 2). The prevalence of cancer-related distress varies across populations and points of care in the cancer trajectory. Rates of distress have been reported from 27% in patients with myeloma (Molassiotis, Wilson, Blair, Howe, & Cavet, 2010) to 61% in patients with lung cancer (Graves et al., 2007). Emotional distress has been associated with lower patient satisfaction with medical care and lower quality of life (Von Essen, Larsson, Öberg, & Sjoden, 2002), and has been implicated in reduced overall survival (Hamer, Chida, & Molloy, 2009). Despite clinical consequences and a

high prevalence, inconsistencies in detection of distress and referral to resources have been reported repeatedly (Absolom et al., 2011; Sollner et al., 2001). Nurses play a pivotal role in distress management, as care providers who incorporate assessment and referral into their clinical practice and as leaders who implement distress management programs (Vitek, Rosenzweig, & Stollings, 2007).

## Background

In 2009, the supportive care staff at the University of Michigan Comprehensive Cancer Center identified distress as a high-priority clinical problem. At that time, a review of patient referrals to the psych-oncology clinic for high emotional distress revealed that 54% had no documented psychosocial care. This number remained unchanged in subsequent years despite targeted efforts to educate staff about distress and its management.

## Intended Improvement

A multidisciplinary team convened in 2012 to develop a systematic approach to distress management. The NCCN's (2012) Clinical Practice Guidelines in Oncology for distress management were selected as the source of intended practice change. The guidelines include the distress thermometer screening tool and algorithms for psychosocial service referral. The distress thermometer is a valid tool with moderate specificity for cancer-related distress and its causes (Mitchell, 2010; Tuinman, Gazendam-Donofria, & Hoekstra-Weebers, 2008). The vertical thermometer scale ranges from 0 (no distress) to 10 (extreme distress) and is accompanied by a problem checklist containing 35 potential sources of distress from five categories. Referral to psychosocial services is recommended for distress at levels 4–10 (Mitchell, 2010; Snowden et al., 2011).

## Theoretical Framework for the Change Process

The author's project team used the Diffusion of Innovations Model to guide the design of facilitative strategies (Greenhalgh, Robert, Bate, Macfarlane, & Kyriakidou, 2007). The Diffusion of Innovations Model defines attributes of successful innovation implementation in healthcare settings. Greenhalgh et al. (2007) based their model on the earlier work of Rogers (1962), who described patterns of successful adoption of new ideas over time in his diffusion of innovations. The components of Greenhalgh et al.'s (2007) model include personnel, the local and external environment, communication mechanisms, and the innovation itself. Facilitative strategies also were sought from reports of similar implementation projects (Child, McVey & Brooks, 2010; Fulcher & Gosselin-Acomb, 2007).

The primary aim of this quality improvement project was to evaluate the feasibility and use of a systematic implementation of the NCCN distress management guidelines in an ambulatory hematology/oncology setting that were guided by the Diffusion of Innovations Model. Secondary aims included evaluating the effect of the practice change on staff workload, satisfaction, and perceived benefit, and identifying perceived process barriers and facilitators.

## Methods

### Setting and Participants

The innovation included patients aged 18 years or older with a cancer diagnosis receiving care in the ambulatory hematology/oncology offices and infusion center in a satellite facility of the comprehensive cancer center during a four-week project period in February 2013. The staff included 38 multidisciplinary care providers consisting of nurses, medical assistants, clerical staff, physicians, nurse practitioners, physician assistants, and the supportive care staff at the cancer center.

### Procedures

Institutional review board review deemed this a quality improvement project exempt from human subject review. The

electronic medical records of patients with cancer, who received care at the project site during July 2012, were reviewed for documentation of a referral to, as well as receipt and timing of psychosocial services received to establish baseline rates.

One week prior to implementation, members of the project team conducted an education program. Staff participated in 30-minute sessions during their work schedule; 38 staff members (clerical employees, RNs, medical assistants, social workers, nurse practitioners, physician assistants, and physicians) were invited to participate in an education session. The content was constructed to facilitate understanding of distress and staff desire to integrate psychosocial care into their practice. Assignment of value, or relative advantage, to an innovation is a primary attribute of successful innovation adoption (Greenhalgh et al., 2007). Methods to increase the relative advantage of distress management are described in Table 1.

The NCCN distress thermometer screening tool was included in the paperwork provided to eligible patients at the appointment check-in area. Patients completed the distress screening in the waiting room prior to the visit and were offered a brochure that described distress and included instructions for completing the distress thermometer. The screening results were then incorporated into the clinical visit by the oncologist, nurse practitioner, or physician assistant, or in the infusion appointment by the oncology nurse. Patients with a distress level of 4 or greater were referred to a psychosocial intake center where the patient need was triaged and assigned an intervention. Completed screens were collected and imaged into the electronic medical record.

In keeping with innovation implementation theory, in week 3 of the project, a midpoint update of the rates of tool completion and referral as well as the mean distress score were provided to the staff. This meeting included case examples of referral outcomes from the first two weeks of the project and a discussion of implementation barriers and facilitators. Key strategies (i.e., embedding the screening process into the current check-in process) were employed in the project design to facilitate the implementation of the overall innovation in keeping with the theoretical framework. To evaluate the effect of the practice change on staff workload, satisfaction, and perceived benefit, an electronic survey was distributed to all staff two weeks after project conclusion.

### Analysis

Because patients were exposed to screening during repeat visits, their scores and responses were not independent from one visit to the next. Therefore, all statistical analyses employed multiple logistic or multiple linear regression using the generalized estimating equations method to estimate average group-level differences and account for repeated measures (Kung-Yee & Zeger, 1986). Descriptive statistics were used to analyze the staff survey, and missing data were excluded from the analysis. Content analysis of the qualitative questions addressing barriers and facilitators of the screening process was conducted by two members of the research team, who assigned responses to a component of the Diffusion of Innovations Model.

**TABLE 1. Implementation Strategies Employed to Address the Diffusion of Innovation Model Components**

Component	Strategies Employed in the Implementation Project
The Innovation	<ul style="list-style-type: none"> <li>• Lessen its complexity and increase its compatibility.               <ul style="list-style-type: none"> <li>– Screening process was imbedded into the current check-in and infusion process</li> <li>– Initiation of a psychosocial intake center provided one contact for all referrals</li> </ul> </li> <li>• Enhance its relative advantage, or value, to staff.               <ul style="list-style-type: none"> <li>– Included patient and family advisory board member and nurse early-adopter experiences in education</li> <li>– Highlighted leadership support and expectations for implementation project support</li> </ul> </li> <li>• Lessen its risk to staff.               <ul style="list-style-type: none"> <li>– Included potential for process failure in education program</li> </ul> </li> <li>• Allow staff to adapt it.               <ul style="list-style-type: none"> <li>– Staff developed the imaging and collection process for completed screens.</li> </ul> </li> </ul>
Communication	<ul style="list-style-type: none"> <li>• Cultivate communication and support from peers, experts, champions, and change agents.               <ul style="list-style-type: none"> <li>– Nurse and social worker early adopters were included in the education program.</li> <li>– The implementation team was comprised of leadership, peers, change agents, and champions.</li> </ul> </li> <li>• Use a variety of communication methods and provide timely communication to increase impact.               <ul style="list-style-type: none"> <li>– Communications were sent via email, print newsletter updates, and onsite meetings throughout the planning phase, immediately prior to the start, at the midpoint update, and at post-project meetings.</li> <li>– Pocket cards with process overview and contact numbers were given to staff and posted in the work area.</li> </ul> </li> </ul>
The System or “Inner Context”	<ul style="list-style-type: none"> <li>• Shrink the size of the system.               <ul style="list-style-type: none"> <li>– The project was implemented in a satellite clinic setting rather than at the larger health system.</li> </ul> </li> <li>• Assess system readiness and staff absorptive capacity for new knowledge.               <ul style="list-style-type: none"> <li>– Project start was delayed for six months after initiation of a system-wide electronic medical record project.</li> <li>– Potential for change fatigue was assessed in education sessions with staff and at onsite meetings.</li> </ul> </li> <li>• Ensure available resources.               <ul style="list-style-type: none"> <li>– Psychosocial intake center’s rapid response to referrals was highlighted throughout the process.</li> </ul> </li> <li>• Create tension for change.               <ul style="list-style-type: none"> <li>– The professional and regulatory requirements for distress screening were highlighted.</li> </ul> </li> </ul>
The Environment or “Outer Context”	<ul style="list-style-type: none"> <li>• Highlight professional mandates.               <ul style="list-style-type: none"> <li>– Education sessions included professional organization support from the Oncology Nursing Society, the American Society of Clinical Oncology, and the National Comprehensive Cancer Network.</li> </ul> </li> </ul>
Implementation Process	<ul style="list-style-type: none"> <li>• Secure implementation team decision-making authority and availability of resources.               <ul style="list-style-type: none"> <li>– Leadership supported the nurse-led multidisciplinary project team, which was given dedicated time to develop the screening project.</li> <li>– The project was funded through a national clinical project grant.</li> </ul> </li> </ul>

*Note.* Based on information from Greenhalgh et al., 2007.

## Findings

### Patient Characteristics

The innovation cohort included 238 visits or screening opportunities; the historical control included 248. The characteristics of the patients in the historical control and innovation cohort were closely matched (n = 175 in innovation, 197 in historical control). Both groups included slightly more men than women (60% men in the innovation cohort, 59% in the historical control), and the mean age for the innovation cohort was 62.5 years, 62.4 years for the historical control. The visits of both cohorts were conducted in similar proportions across the infusion area and the office (63% were conducted during office visits in the historical control group, 58% in the innovation group). The mean number of observations per subject also was closely matched in both groups (1.36 in innovation, 1.26 in historical control).

### Feasibility of Guideline Implementation

Measures of process feasibility are defined in Table 2. The estimated screening rate of the innovation cohort was significant

at 62% (95% confidence interval [CI] [0.55, 0.68]). Screening completion decreased for patients in the innovation cohort who were screened repeatedly. Those receiving a tool for the first time were screened at a rate of 64% (95% CI [0.57, 0.71]), the second time at 61% (95% CI [0.45, 0.74]), and the third time at an estimated rate of 35% (95% CI [0.17, 0.6]). Overall, the more frequently a patient was exposed to screening, the less likely they were to complete the screening tool.

Referrals to psychosocial services were made by the physician, physician assistant, nurse practitioner, staff nurses, or the patients themselves. Referrals were estimated at a rate of 26% for the innovation cohort (95% CI [0.15, 0.41]) and 3% (95% CI [0.11, 0.05]) for the historical control. The odds of receiving a referral to psychosocial services were significantly higher, at 5.84 times greater for patients in the innovation cohort than for those in the historical control cohort (odds ratio = 5.84, 95% CI [2.17, 15.74]).

The mean referral timing in the historical control was 5.8 days (95% CI [2.53, 9.07]), and 2.7 days (95% CI [1.39, 3.99]) in the innovation cohort. The difference between the group means is expressed as the study group minus the control group

mean, and was found to be -3.1 days (95% CI [-6.6, 0.4]). Patients whose distress was managed via a systematic process received care earlier than those who were managed without one.

### Utility of the Guidelines and Patient Outcomes

Measures of the distress management process use included the detected distress level and patient receipt of services. The estimated mean distress level for the population was 2.8 (95% CI [2.3, 3.31]). Within this group (n = 109), the rate of moderate distress (distress score 4-7) was estimated at 31% (95% CI [0.24, 0.4]). The rate of high distress in this group (distress score 8-10) was 7% (95% CI [0.03, 0.13]).

The authors explored the proportion of patients with distress (scores of 4 or greater) in the innovation cohort who were referred to psychosocial services and found 59% received psychosocial services (95% CI [0.31, 0.82]).

### Effects of Practice Change on Staff Workload, Satisfaction, and Benefit

The survey was completed by 29 of 38 staff members, representing a 76% response rate. Staff respondents roles included eight clerical employees, seven supportive care specialists, five RNs, four social workers, two physician assistants, two medical assistants, and one physician. All respondents reported that the distress management process was relevant to their practice, and 20 were satisfied or very satisfied with the distress management process. The tool was described as easy or very easy to use by 22 respondents. Twenty-two respondents noted that their daily workload stayed the same, whereas six noted that their daily workload increased. Twenty-five respondents recommended the continued use of the distress management process.

### Barriers and Facilitators of the Implementation Process

Fifteen of 22 comments (68%) described perceived process facilitators. Most facilitators addressed the system, innovation, or communication model components. Examples of facilitative comments included, "Works best if referring through the

electronic medical record; this way the process is tracked and seamless," "I really liked this tool because it opened up communication between the nurse and the patient," and "Screening allowed patients to think about their symptoms and express what is going on with a simple checklist." Other facilitative elements included the education program, the daily eligibility list for the check-in staff, and the single, centralized referral telephone contact number (which was described by five responders).

Seven of 22 (32%) comments described perceived barriers in the communication or the system model components. Examples included, "The referrals were not managed in a timely way," "I was not always aware when the attending (physician) had already intervened for the patient," "Need the patient to agree to additional help," and "Giving the sheet every time to patients that came often seemed to bother them."

Anecdotal comments also were gathered at the midpoint update. During this meeting, the medical assistants described several patients who designated a distress level believing the tool was requesting them to indicate degree of physical pain. This observation was supported by nurses who experienced similar patient confusion between distress and pain.

## Discussion

The Diffusion of Innovations Model offered a facilitative framework for implementing the distress thermometer into clinical practice in this setting. To capture the known variability of distress level among patients with cancer, the authors designed an implementation approach to distress management that offered a screening and referral process for patients with cancer at every visit to ambulatory oncology. The authors uniquely incorporated distress management into the office and treatment areas of cancer care simultaneously. The repeated screenings at each visit and in various locations may have contributed to the reduced survey completion rates realized over repeat visits. Of note, the distress thermometer does not include a selection field for a patient to opt out of screening or to indicate that they are currently receiving services. Adding those fields to the tool may improve tool completion rates.

TABLE 2. Patient Outcome Measures (N = 372)

Adherence Measure <sup>a</sup>	Historical Control (n = 175)		Innovation Cohort (n = 197)		Significance	
	Value	95% CI	Value	95% CI	Value	95% CI
Mean level of distress	–	–	2.8	[2.96, 3.307]	–	–
Screening rate (number of completed screens/number of screening visits)	–	–	62%	[0.545, 0.68]	–	–
Referral rate (number of patients referred/number of patients with distress level of four or greater)	3%	[0.011, 0.054]	26%	[0.15, 0.41]	5.84 (OR)	[2.17, 15.74]
Referral timing (days from referral to receipt of services)	5.8 days	[2.53, 9.07]	2.7 days	[1.39, 3.99]	-3.11 days	[-6.6, 0.4]

<sup>a</sup> All measures estimated using logistic regression generalized equations to account for repeated measures. CI—confidence interval; OR—odds ratio



The screening completion rate of 62% for all patient visits was less than anticipated. This may be from the completion failure realized with repeated visits. The mean distress score of 2.8 (range = 1–10) is aligned with those reported in similar cancer population studies that range from 2.47 (Kendall, Glaze, Oakland, Hansen, & Parry, 2011) to 3.8 (Child et al., 2010). Within the innovation cohort, referrals occurred five times more frequently than in the historical control cohort. Although the sample was small and not statistically significant, the timing to receipt of services of those referred was reduced by three days compared to historical control data.

Of note, a central referral process with one point for referral to psychosocial care was initiated one year prior to this project. Several respondents described this process as facilitative and a positive moderator of the distress management process. Importantly, the rate of service delivery in this sample with distress scores of 4 or greater was found to be 59%, and is much higher than is reported elsewhere (Kendall et al., 2011; Merckaert et al., 2009; Tuinman et al., 2008). In fact, a 3:1 ratio of those referred to services compared with those who receive them has been demonstrated in the literature to date (Carlson, Waller, & Mitchell, 2012). The simple method of contact and response timeliness from the intake center staff may have been moderators of service delivery, although this warrants additional investigation.

Staff described the process as easy, were satisfied and not burdened with the distress management process, and universally assigned clinical merit to its use. The high assignment of clinical merit is aligned with the theoretical framework attribute of relative advantage, an attribute that was targeted in the authors' design and is necessary for successful implementation (Greenhalgh et al., 2007).

The education process was an innovation facilitator. Although the project design originally included a formal slide presentation, the satellite center staff found it easier to attend an informal meeting with project team members. Sessions were conducted more frequently, and with fewer participants than anticipated, which provided an opportunity for informal discussion. Staff provided feedback that this approach facilitated their understanding of the process.

The authors noted several clinical findings that warrant discussion. First, several patients with high levels of distress accepted referrals to services only after repeat screening. Although the sample was too small for analysis, this trend suggests an argument in favor of repeat screening. Perhaps repeat screening signals clinical importance and availability of interventions to the patient. As previously discussed, studies have identified a low rate of psychosocial service delivery and a high patient decline rate. Those clinical findings suggest a cohort of patients that may be more amenable to services after repeated screenings. This warrants additional investigation and development of a mechanism to conduct repeated screenings and avoid patient frustration. Screening for distress at every visit in this project led to a lower completion rate than expected. Although it may not be feasible to screen at that frequency, the routine method of screening also led to staff endorsement as easy to use and resulted in higher psychosocial service delivery. Additional implementation research is warranted to identify patient compliance facilitators that do not increase staff workload or process complexity.

Another clinical finding of interest involves the measurement of pain and its correlation with distress. The blurring of the concepts of distress and pain may contribute to the poor patient acceptance rates of referral to psychosocial services and may have other moderating factors on the distress management process. The authors suggest that future studies explore a potential correlation of distress and pain level.

## Limitations

This implementation project was performed at a single site and may not be generalizable to other oncology settings. Although the authors explored all means of documentation available, the data are limited by what was documented, which may not reflect the care provided. At the time of implementation, the health center was six months into a conversion to a new electronic medical record system that may have contributed to a reduction in imaged documentation of screening in the control group. The data revealed that 61% of the patients had a screen within their electronic medical record. The authors do not know why the other 39% demonstrated an incomplete screening process, although possible reasons include failure to administer the screen at check-in, patient refusal to complete the tool, and/or loss of tool after completion so that it was not scanned.

## Implications for Nursing

Psychosocial care of the patient with cancer is a critical component of quality oncology nursing care. The Oncology Nursing Society included distress management in their evidence-based clinical practice standards (Eaton & Tipton, 2009). The role of the oncology nurse as a care provider is vital in distress management and includes a responsibility to understand the construct of distress and how to screen for it, educate patients, and navigate patients to supportive care interventions as their assessments indicate. Nurses have a unique opportunity, as primary care providers, to lead distress management implementation initiatives, such as this one, that address these prevalent and clinically important unmet patient needs.

Finally, the implementation strategies detailed in this nurse-led project provide a framework for implementing other evidence-based practice guidelines into clinical practice. The use of a theoretical framework provides facilitative evidence for implementation strategies that guide the translation of evidence to practice. The Diffusion of Innovation Model provides structure and a mechanism for taking a large body of knowledge regarding evidence-based practice change and making it meaningful to the nurses who must adopt the practice change.

## Recommendations for Future Practice

Nurses should include a screening question during assessment to document whether a patient is receiving psychosocial support services, either at the health center or in the community. Documentation of current services would provide important data for discussion and referral in the clinical visit. Patients may decline services if they are receiving adequate

## Implications for Practice

- ▶ Focus on psychosocial care, an often unmanaged component of care for all patients with cancer.
- ▶ Use a routine screening process to improve distress detection and enhance distress management.
- ▶ Incorporate screening for distress and subsequent referral to appropriate psychosocial resources.

support elsewhere, so eliciting that information may prevent duplication of services. A field in the electronic medical record to document that a patient declined services also would provide clarity to the provider and documentation of the patient choice. In addition, staff recommended a document they could give patients upon referral that includes phone numbers and descriptions of local services.

## Conclusions

Overall, the NCCN's distress management guidelines were found to be easy to implement, staff were satisfied with the process, distress was detected, and referral to psychosocial resources was improved. The implementation process resulted in a higher proportion of patients referred to psychosocial services and a shorter time interval between referral and receipt of services. Most importantly, 59% of those referred to psychosocial services received them—an important outcome of the implementation project. Little value comes from screening without intervention. Therefore, with several noted modifications to the distress tool, the authors support the ongoing implementation of the NCCN distress management guidelines as a means of assessing and managing cancer-related distress.

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