Study Using the NCCN Guidelines for Palliative Care to Screen Patients for Palliative Care Needs and Referral to Palliative Care Specialists

Paul Glare, MBBS, FRACP; Kathy Plakovic, MSN, APRN; Anna Schloms, RN, MSN, NL; Barbara Egan, MD; Andrew S. Epstein, MD; David Kelsen, MD; and Leonard Saltz, MD

Abstract
The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines) for Palliative Care recommend screening all patients for palliative care (PC) needs and to call a PC consult when referral criteria are met. The goal of this pilot project was to evaluate the feasibility of implementing the screening and referral components of the NCCN Guidelines for Palliative Care in patients admitted to the Gastrointestinal Oncology Service (GIOS) at a comprehensive cancer center (CCC). Floor nurses performed the initial screening of all patients admitted to the 2 teams—Team A and Team B—of the GIOS on one floor of Memorial Hospital for 3 months. In addition, only the patients admitted to Team A were evaluated according to the referral criteria, triggering a PC consult if results were positive. Nurses were surveyed regarding satisfaction with and the acceptability of screening. During the study period, 229 (90%) total admissions were screened, with 169 (73%) having positive results. Of the Team A admissions, 72 (64%) met the referral criteria. More consults occurred for patients in Team A (47 vs 15; \( P = .001 \)). In 30% of the referral criteria–triggered consults, the PC needs were manageable by the primary team. Nurses reported screening to be easy and quick (<5 minutes per patient) but only somewhat helpful. Being unfamiliar with many patients and families, floor nurses often felt unable to screen them accurately for some issues. In conclusion, screening was feasible, increasing access to PC, but accuracy and usefulness are concerns. With a consult indicated in 64% patients, yet with 30% being manageable by the primary team, the current criteria may be too sensitive for the inpatient environment of a CCC. More evaluation is needed before widespread implementation can be recommended. (JNCCN 2013;11:1087–1096)

Palliative care (PC) is patient- and family-centered care for persons with life-threatening or debilitating illness that focuses on effective management of pain and other distressing symptoms, while incorporating psychosocial and spiritual care according to patient/family needs, values, beliefs, and cultures. The goal of PC is to prevent and relieve suffering, and to support the best possible quality of life for patients and their families, regardless of disease stage or the need for other therapies. Unlike hospice, PC can be delivered concurrently with life-prolonging care or as the main focus of care.

Now considered to be a core component of comprehensive cancer care, most cancer centers have a PC program in place. As these programs become more common, the next challenge is to ensure that patients who would benefit from these programs have access to them. Traditionally, referral to the PC program has been the prerogative of the oncologist. Under this rubric, referral is dependent on various factors, including the oncologist’s subjective judgment that referral is needed, their awareness of the program and what it can offer, and their willingness to refer. Each of these factors is a potential barrier to timely access.

In an effort to help overcome these barriers, the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines) for Palliative Care recommend that all patients with cancer be screened for PC needs, and consultation or collaboration with a PC specialist is recommended when complex problems are identified (to view the most recent version of these guidelines, visit NCCN.org). Although in existence since 2003, the NCCN Guidelines have not been systematically evaluated for implementation or clinical impact.
The primary goal of this study was to assess the feasibility and sustainability of implementing the screening and referral components of the guidelines in patients admitted to the gastrointestinal oncology floor of the hospital (Memorial Hospital) of Memorial Sloan-Kettering Cancer Center (MSKCC), an NCCN-affiliated comprehensive cancer center (CCC) in New York City. Because the NCCN Guidelines for Palliative Care recommend that oncologists should screen and rescreen patients,1 the authors wanted to evaluate whether such a policy could be successfully introduced on a hospital floor and maintained for an extended period. The secondary goal was to determine the impact of screening on referrals to the hospital's PC service, particularly to determine whether screening would result in more referrals, and what the patient characteristics and problems to be addressed would be when consults are triggered by a tool rather than requested by a clinician.

Hospitalized patients with gastrointestinal cancer are a relevant population in which to evaluate the NCCN Guidelines because gastrointestinal malignancies are responsible for approximately 15% to 20% of the 500,000 cancer deaths occurring annually in the United States.8 Because most chemotherapy and other cancer care are now provided on an outpatient basis, most medical admissions with gastrointestinal malignancies have advanced disease and are likely to have PC needs. The Gastrointestinal Oncology Service (GIOS) is the busiest solid tumor service at MSKCC, with more than 3000 new patients per year and more than 1200 admissions annually. To make the workload manageable, the GIOS inpatient service is divided into 2 teams (Team A and Team B). The decision to admit patients to either team is primarily based on equalizing the workload between them. Historically, approximately 10% of GIOS admissions are referred to MSKCC's hospital PC service.

Methods

Study Design
This evaluation of the screening and referral components of the NCCN Guidelines was conducted as a quality improvement project from November 1, 2010, to January 28, 2011. It was not undertaken as a clinical trial of the outcomes of providing PC consults.9,10 A waiver was obtained from the Institutional Review Board to retrospectively use patient data to evaluate the project. A research study assistant was recruited to facilitate data collection but did not participate in the screening process, supported by a grant from the Mayday Fund.

Every patient admitted to the GIOS on the 16th floor of Memorial Hospital for Cancer and Allied Diseases during the project period was eligible for inclusion. All patients were screened for the presence of 6 PC concerns identified in NCCN Guidelines, version 1.2009,1 which would then be considered in the comprehensive patient management plan:

- Uncontrolled symptoms
- Moderate-to-severe distress
- Serious comorbid conditions
- A poor prognosis
- Patient/family concerns about the course of the disease and the treatment decision-making
- Patient/family requests for PC

In this article, this step of the process is referred to as screening. The second step of the process, referred to as assessment according to the referral criteria, involves assessing patients against a long list of more challenging PC problems, for which referral to or collaboration with a PC specialist is recommended. All patients underwent the first screening step, performed by a staff nurse, as soon as possible after arrival on the floor. A simple, single-page form was created to facilitate screening and recording of the results, and was adapted from a similar form developed by the Hospice of the Bluegrass of Kentucky,11 modified for patients with cancer. The term screening positive in this article only refers to this first step of the process, performed in all patients on both teams.

The second step of the process, involving assessment according to the NCCN Guidelines' referral criteria, was only performed for patients admitted to Team A. To systematize the nurses' assessment according to the referral criteria, a single-page checklist was also developed for this purpose. All patients on Team A were evaluated by the referral criteria, not just those who screened positive. When a patient in Team A met any 1 of the 24 referral criteria (see Table 1), the attending physician, usually a hospitalist, was asked to order a PC consult. Three weeks after commencing the project, it was decided to also have the patient's outpatient oncologist approve the consult. In the case of patients on Team A
who did not meet the referral criteria and all patients on Team B, the attending physician could order an ad hoc PC consult based on their clinical judgment.

**Study Measures**
To evaluate the feasibility and sustainability of screening on the floor (Aim 1), the authors measured the following:
- Percentage of admissions who completed the screening
- Median time between admission and screening
- Floor’s nurses opinions regarding their satisfaction with and the acceptability of the screening process

To evaluate the impact of the NCCN Guidelines’ referral criteria as a trigger for PC consults (Aim 2), the authors measured the following:
- Percentage of patients on Team A who met the referral criteria
- Percentage of patients on Team A who received a consult
- Percentage of patients on Team B who received a consult
- Time from screening to consult
- Average pain intensity during the previous 24 hours using a numerical rating scale (0=none; 10=worst possible)
- Symptom distress score, using the Condensed Memorial Symptom Assessment Schedule (CMSAS)
- Demographic and clinical details, including disposition and survival, were also obtained from the chart at the end of the study to compare the patients on the 2 teams who had a PC consult

Regarding the nurses’ opinions about the screening process, at the end of the project they were asked if the paper tools were
- Easy to use, quick to complete, clear and easy to understand
- Inclusive of all the relevant PC issues
- Helpful or useful in improving patient care
- Rewarding and fulfilling to complete

Nurses were also asked whether they were confident they knew the patient/family well enough to screen them, and if it would be an improvement to collaborate with the medical staff before screening.

### Table 1 Prevalence of Positive Referral Criteria: Team A Patients Only

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Number Affirmative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident or breakthrough pain</td>
<td>39</td>
</tr>
<tr>
<td>Limited treatment options, especially in patients receiving phase I therapy or anticancer therapy with a palliative intent</td>
<td>31</td>
</tr>
<tr>
<td>Neuropathic pain</td>
<td>15</td>
</tr>
<tr>
<td>Pain associated with psychosocial or family distress</td>
<td>9</td>
</tr>
<tr>
<td>Severe comorbid conditions</td>
<td>9</td>
</tr>
<tr>
<td>High distress score</td>
<td>7</td>
</tr>
<tr>
<td>Rapid escalation of opioid dose</td>
<td>5</td>
</tr>
<tr>
<td>Communication barriers (language, physical)</td>
<td>4</td>
</tr>
<tr>
<td>Family/caregiver limitations</td>
<td>4</td>
</tr>
<tr>
<td>History of drug or alcohol abuse</td>
<td>3</td>
</tr>
<tr>
<td>Impaired cognitive dysfunction</td>
<td>3</td>
</tr>
<tr>
<td>Nonpain symptoms not responding to conventional management</td>
<td>3</td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>3</td>
</tr>
<tr>
<td>Family discord</td>
<td>3</td>
</tr>
<tr>
<td>Financial limitations</td>
<td>2</td>
</tr>
<tr>
<td>Inadequate social support</td>
<td>2</td>
</tr>
<tr>
<td>Patient concerns regarding care of dependents</td>
<td>2</td>
</tr>
<tr>
<td>Multiple allergies or history of multiple adverse reactions to pain and symptom management interventions</td>
<td>1</td>
</tr>
<tr>
<td>Spiritual or existential crisis</td>
<td>1</td>
</tr>
<tr>
<td>Requests for hastened death</td>
<td>0</td>
</tr>
<tr>
<td>Intensely dependent relationships</td>
<td>0</td>
</tr>
<tr>
<td>History of significant psychiatric disorder</td>
<td>0</td>
</tr>
<tr>
<td>Limited access to care</td>
<td>0</td>
</tr>
<tr>
<td>Unresolved or multiple prior losses</td>
<td>0</td>
</tr>
</tbody>
</table>

**Screening End Points**
As with screening in other contexts, screening for PC ought to be evaluated for characteristics such as reliability, validity, sensitivity, specificity, predictive value, accuracy, and yield. However, this evaluation is challenging in PC because these metrics require definitions for what is a “positive screening result” and what is “true disease.” To enable this purpose, the authors defined a positive screening result as meeting any 1 or more of the 6 clinical situations identified in the first step of screening. They took 2 approaches to defining true disease. One definition
was “meets 1 or more of the referral criteria.” The other was to use a more clinical definition of PC, namely “has advanced cancer, a poor prognosis, and uncontrolled symptoms or psychosocial distress.”

An innovative aspect of this quality improvement project was the development and use of a matrix to enable the specialist PC team to categorize the complexity of consults triggered by the referral criteria. The matrix, which is shown in Table 2, provides definitions for “generalist level” (manageable by the primary team, perhaps with curbside advice from the PC specialist) and “specialist level” problems (requires a full consult by a specialist) within the 6 domains of PC that would typically be encountered by a hospital-based consult team. Although not formally validated, this matrix seems to have face validity and was scored with complete agreement by 2 of the authors: one a nurse practitioner and the other a physician. Patients with multiple specialist-level problems may be further categorized as “complex.”

Data Analysis

Patients who were readmitted and screened more than once during the study period were only counted once with regard to their clinical and demographic features. Descriptive and simple comparative statistics were used to compare groups using GraphPad QuickCalcs online calculators (GraphPad Software Inc, La Jolla, CA; www.graphpad.com).

### Results

#### Screening (Teams A and B)

Throughout the 3 months of the project, screening was completed in 90% (229 of 254) of the admissions to the GIOS, including 87% (113 of 130) of admissions to Team A and 94% (116 of 124) of admissions to Team B (Figure 1). The 229 screened admissions comprised 194 individual patients, 29 of whom were admitted and screened more than once. Screening was performed a median of 2 days after admission (range, 0–6) because of weekends and holidays. Because the average length of stay was only 5.4 days, many patients were unavailable for a subsequent consultation and for the second evaluation of pain and symptoms at day 4.

This was a younger cancer population than usual (Table 3), with only one-third of patients being older than 65 years. More than 90% had advanced disease, and more than 60% were still pursuing active treatment. No significant differences were seen between the patients on Teams A and B in terms of age, gender, site, extent or duration of disease, or goals of treatment. Admissions were mostly for the management of the complications of advanced cancer or treatment-related toxicities. Almost none were for administration of chemotherapy.

Overall, 73% (169 of 229) patients had positive screening results: 87 (77%) on Team A and 82 (70%) on Team B ($P=0.30$). The most common reasons for

<table>
<thead>
<tr>
<th>Table 2 Complexity Framework for Palliative Care Consults</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reason for Referral</strong></td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>Pain</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Other symptoms (eg, dyspnea)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Psychological support</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Dying and distressed</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Insight of patient/family</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Disposition</td>
</tr>
</tbody>
</table>

Abbreviations: DNR, do not resuscitate; PCA, patient-controlled analgesia.

*Oncologist/house staff/nurse practitioner can manage with palliative care curbside advice.

*Call palliative care team for full consult.
positive results were uncontrolled symptoms, followed by serious comorbidities and a poor prognosis (Table 4). Distress related to the cancer or its treatment, and concerns regarding decision-making were each identified in approximately 15%. Patients or their families rarely requested a PC consult. No significant differences were seen between Teams A and B in terms of the number of patients who screened positive, or the percentage of individual screening items that were positive.

**Referral Criteria (Team A Patients Only)**

Of the 113 Team A admissions, 72 (64%) met 1 or more of the referral criteria (Figure 1). These 72 patients comprised 60 of the 87 (69%) patients who screened positive on the first step and 12 of the 26 (46%) who screened negative. Therefore, the yield of screening positive on the first step was 69% when true disease was defined as “meets the referral criteria.” In contrast, the yield of the first step of screening is significantly higher (85% vs 69%; \( P=.019 \)) when the more clinical definition of PC was used (ie, advanced disease with a poor prognosis and uncontrolled symptoms or psychosocial distress).

The median number of positive referral criteria per patient was 1.5 (range, 1–11). All but 5 of the 24 referral criteria were identified at least once, but only 6 (incident or neuropathic pain, limited options for more anticancer therapy, psychosocial distress, and severe comorbid conditions) occurred in more than 5% patients (Table 1). Specialized pain problems were uncommon, such as rapidly escalating doses, multiple opioid allergies, and substance abuse histories. Serious psychosocial issues were not identified, such as major psychiatric disorders, increased risk for complicated grief, and requests for euthanasia.

**Impact of Screening Guideline on the Rate of PC Consults**

Across the study period, the hospital PC service consulted on more than one-quarter (62 of 227; 27%) of the screened admissions, significantly more than usual. Many more consults were performed for Team A than Team B (47 vs 15; \( P<.0001 \)), including 37 triggered by the guideline, 9 on patients already seen emergently by the PC service in the hospital’s urgent care center before they came to the floor and were screened, and 1 ad hoc consult for a patient who did not meet the referral criteria when initially screened. Of the consults triggered by the guideline, only 10% were already known to the hospital PC service. The automatically triggered consults were usually seen the same day, but in 27% of cases they were seen later, up to 3 days after screening. More than one-third (26 of 72; 36%) of patients on Team A who met the referral criteria did not receive a consult, because they were either off the floor or already discharged when the PC team rounded (n=20). In a few cases (n=6) the triggered consult was not performed because of pushback from the patient’s outpatient oncologist. No patient or family refused a consult when approached.

Several indicators suggest that as a result of the referral criteria, the Team A consults occurred earlier in the illness trajectory (Table 5): they had significantly...
Table 3 Patient Clinical and Demographic Features

<table>
<thead>
<tr>
<th></th>
<th>Total (229 Admissions; 194 Patients)</th>
<th>Team A (113 Admissions; 104 Patients)</th>
<th>Team B (116 Admissions; 107 Patients)</th>
<th>Team A Versus Team B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>107 (56%)</td>
<td>63 (61%)</td>
<td>56 (52%)</td>
<td>P = .27</td>
</tr>
<tr>
<td>Average age, y</td>
<td>62 (range, 31–91)</td>
<td>60 (range, 31–90)</td>
<td>63 (range, 35–91)</td>
<td></td>
</tr>
<tr>
<td>&gt;65 y</td>
<td>61 (32%)</td>
<td>34 (35%)</td>
<td>39 (36%)</td>
<td>P = .66</td>
</tr>
<tr>
<td>Primary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper gastrointestinal</td>
<td>45 (24%)</td>
<td>25 (24%)</td>
<td>24 (22%)</td>
<td>P = .87</td>
</tr>
<tr>
<td>Colorectal</td>
<td>66 (36%)</td>
<td>35 (34%)</td>
<td>36 (34%)</td>
<td>P = 1.00</td>
</tr>
<tr>
<td>Hepatopancreatobiliary</td>
<td>70 (37%)</td>
<td>29 (28%)</td>
<td>41 (38%)</td>
<td>P = .11</td>
</tr>
<tr>
<td>Other</td>
<td>12 (6%)</td>
<td>8 (8%)</td>
<td>5 (4%)</td>
<td></td>
</tr>
<tr>
<td>Average time since diagnosis (mo)</td>
<td>14</td>
<td>13</td>
<td>15</td>
<td>P = .65</td>
</tr>
<tr>
<td>Extent of disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NED</td>
<td>5 (2%)</td>
<td>5 (5%)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>6 (3%)</td>
<td>3 (3%)</td>
<td>3 (3%)</td>
<td></td>
</tr>
<tr>
<td>LA</td>
<td>26 (14%)</td>
<td>18 (19%)</td>
<td>14 (13%)</td>
<td>P = .45</td>
</tr>
<tr>
<td>Mets</td>
<td>154 (81%)</td>
<td>80 (82%)</td>
<td>84 (79%)</td>
<td>P = .87</td>
</tr>
<tr>
<td>Active treatment</td>
<td>141 (62%)</td>
<td>72/112 (64%)</td>
<td>70/115 (61%)</td>
<td>P = .68</td>
</tr>
<tr>
<td>Average length of stay</td>
<td>4 d</td>
<td>4.94 d</td>
<td>5.87 d</td>
<td>P = .14</td>
</tr>
<tr>
<td>Disposition status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td>109 (48%)</td>
<td>58 (52%)</td>
<td>49 (43%)</td>
<td>P = .18</td>
</tr>
<tr>
<td>Home with services</td>
<td>56 (25%)</td>
<td>28 (25%)</td>
<td>23 (20%)</td>
<td>P = .43</td>
</tr>
<tr>
<td>SA rehab/SNF</td>
<td>5 (2%)</td>
<td>3 (3%)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Transfer</td>
<td>1</td>
<td>–</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Home hospice*</td>
<td>27 (12%)</td>
<td>13 (12%)</td>
<td>14 (12%)</td>
<td>P = 1.00</td>
</tr>
<tr>
<td>Inpatient hospice</td>
<td>10 (4%)</td>
<td>1 (1%)</td>
<td>9 (8%)</td>
<td>P = .02</td>
</tr>
<tr>
<td>Died</td>
<td>12 (5%)</td>
<td>4 (3%)</td>
<td>8 (7%)*</td>
<td>P = .37</td>
</tr>
<tr>
<td>Inpatient hospice or died</td>
<td>22</td>
<td>5</td>
<td>17</td>
<td>P = .01</td>
</tr>
</tbody>
</table>

Abbreviations: LA, locally advanced; Mets, metastases; NED, no evidence of disease; SA, subacute; SNF, skilled nursing facility.

*Includes patients offered but declining hospice (total): 5 (A), 4 (B).

(clinically but not statistically) less pain and symptom distress than the consults from Team B; a trend was seen for more of them to still be on active treatment; and they were less likely to die in the hospital or go home on hospice, and more likely to survive for at least a month after discharge. Furthermore, 4 of the 26 patients who met the referral criteria but were not seen during the admission were subsequently referred to the PC service, typically 6 to 12 months later and in the final weeks or months of their life.

Components of the Consults Triggered by the Guideline

Among the 37 consults triggered by the NCCN Guidelines, the median number of PC problems identified at consultation was 3. The most frequently encountered problem was the patient/family having difficulty accepting that the options for further antitumor therapy were limited. At the end of the consult, the PC physician typically made 2 recommendations to assist with these problems. However, based on the complexity matrix (Table 1), the patient’s PC needs were deemed to be “generalist level” in 30% (11 of 37), manageable by the primary team, with curbside advice if necessary (Table 6).

Nursing Survey

The survey was completed by 16 nurses (response rate >50%). Most of the respondents found screening for PC issues to be simple and quick but only somewhat helpful for improving patient care (see Figure 2). Several respondents reported they did not know the
patient or family well enough to screen them accurately. Most respondents reported that they did not need help from the physician to do the screening, but a poor level of agreement was seen between the nurses’ evaluation of advanced disease and the chart review (84% vs 95%; κ, 0.11 ± 0.06).

**Discussion**

This quality improvement project demonstrated that it was feasible to implement the screening component of the NCCN Guidelines for Palliative Care in gastrointestinal oncology (GIO) patients admitted to this CCC (to view the most recent version of these guidelines, visit NCCN.org). Floor nurses performed the screening and generally found it to be a simple, quick process that did not greatly increase their daily work. As a result, screening was able to be sustained for the entire 3 months of the project without any complaints or extra resources. Using the NCCN Guidelines as a referral trigger, patients on Team A had a significant increase in access to the PC service, and access appeared to occur earlier in the course of disease. However, half of the consults that were triggered were not completed, partly because of an insufficient PC workforce to see them before discharge.

Because this was not a clinical trial of PC consults, this study was not designed to evaluate whether any benefit occurred from all the extra consults performed. However, approximately one-third of the consults triggered by the referral criteria were called for “generalist level” problems that were felt to be

---

**Table 4** Results of Screening, Indicating No Differences Between Team A and Team B

<table>
<thead>
<tr>
<th></th>
<th>Overall (n=229)</th>
<th>Team A (n=113)</th>
<th>Team B (n=116)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screened Positive at least 1 Item</td>
<td>168 (73%)</td>
<td>87 (77%)</td>
<td>81 (70%)</td>
<td>P=.24</td>
</tr>
<tr>
<td>1. Uncontrolled symptoms</td>
<td>91 (40%)</td>
<td>41 (36%)</td>
<td>50 (43%)</td>
<td>P=.35</td>
</tr>
<tr>
<td>2. Distress related to disease or treatment</td>
<td>32 (14%)</td>
<td>17 (15%)</td>
<td>15 (13%)</td>
<td>P=.85</td>
</tr>
<tr>
<td>3. Serious comorbid conditions</td>
<td>74 (32%)</td>
<td>38 (34%)</td>
<td>33 (28%)</td>
<td>P=.48</td>
</tr>
<tr>
<td>4. Poor prognosis</td>
<td>70 (31%)</td>
<td>37 (33%)</td>
<td>33 (28%)</td>
<td>P=.57</td>
</tr>
<tr>
<td>Poor performance status</td>
<td>31 (16%)</td>
<td>15 (13%)</td>
<td>17 (15%)</td>
<td>P=.85</td>
</tr>
<tr>
<td>Cancer complications</td>
<td>50 (22%)</td>
<td>30 (26%)</td>
<td>20 (17%)</td>
<td>P=.11</td>
</tr>
<tr>
<td>5. Concerns regarding decision-making</td>
<td>30 (13%)</td>
<td>12 (11%)</td>
<td>18 (16%)</td>
<td>P=.33</td>
</tr>
<tr>
<td>6. Request palliative care</td>
<td>5 (2%)</td>
<td>2 (2%)</td>
<td>3 (3%)</td>
<td>P=1.00</td>
</tr>
<tr>
<td>Reason not specified for #1, 2, 5, or 6</td>
<td>8 (4%)</td>
<td>4 (4%)</td>
<td>4 (4%)</td>
<td>P=1.00</td>
</tr>
</tbody>
</table>

**Table 5** Comparisons of the Palliative Care Consults Referred for Team A and Team B

<table>
<thead>
<tr>
<th></th>
<th>Team A (n=47)</th>
<th>Team B (n=15)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (median)</td>
<td>61 y</td>
<td>57 y</td>
<td>NS</td>
</tr>
<tr>
<td>Male</td>
<td>25 (67%)</td>
<td>10 (67%)</td>
<td>NS</td>
</tr>
<tr>
<td>Time since diagnosis, average</td>
<td>22 mo</td>
<td>15 mo</td>
<td>NS</td>
</tr>
<tr>
<td>Metastatic disease</td>
<td>36 (77%)</td>
<td>14 (93%)</td>
<td>NS</td>
</tr>
<tr>
<td>On best supportive care</td>
<td>13 (35%)</td>
<td>10 (67%)</td>
<td>.06</td>
</tr>
<tr>
<td>Died/hospice transfer</td>
<td>13 (35%)</td>
<td>10 (67%)</td>
<td>.06</td>
</tr>
<tr>
<td>Died next 30 d</td>
<td>12 (26%)</td>
<td>8 (53%)</td>
<td>.06</td>
</tr>
<tr>
<td>Died next 90 d</td>
<td>27 (57%)</td>
<td>11 (73%)</td>
<td>NS</td>
</tr>
<tr>
<td>Died next 180 d</td>
<td>34 (72%)</td>
<td>12 (80%)</td>
<td>NS</td>
</tr>
<tr>
<td>Provided symptom data</td>
<td>27 (57%)</td>
<td>8 (53%)</td>
<td>NS</td>
</tr>
<tr>
<td>Pain score, average ± SD</td>
<td>5.30 ± 3.47</td>
<td>7.5 ± 2.31</td>
<td>.09</td>
</tr>
<tr>
<td>Pain score ≥7 out of 10</td>
<td>12 (46%)</td>
<td>4 (57%)</td>
<td>NS</td>
</tr>
<tr>
<td>CMSAS sum score, average ± SD</td>
<td>1.61 ± 0.70</td>
<td>2.39 ± 0.29</td>
<td>.0045</td>
</tr>
</tbody>
</table>

**Screening:**

<table>
<thead>
<tr>
<th></th>
<th>Team A (n=47)</th>
<th>Team B (n=15)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor prognosis</td>
<td>20 (42%)</td>
<td>6 (40%)</td>
<td>NS</td>
</tr>
<tr>
<td>Palliative care problems</td>
<td>31 (66%)</td>
<td>12 (80%)</td>
<td>NS</td>
</tr>
<tr>
<td>Screen positive</td>
<td>42 (89%)</td>
<td>13 (87%)</td>
<td>NS</td>
</tr>
</tbody>
</table>

Abbreviations: CMSAS, Condensed Memorial Symptom Assessment Scale; NS, not significant; SD, standard deviation.

Triggered by NCCN Guidelines for Palliative Care or based on clinician judgment.

Referral based on clinician judgment only.
manageable by the primary team. The distinction between generalist- and specialist-level PC care has been recognized in other countries for many years, but only recently in the United States. To improve general PC, definitions of end-of-life care need clarification and standardization, a greater evidence base is needed to define models of good practice, and a commitment to provide education and training and adequate resources for service provision is also needed. Generalists should be able to initiate pain management by following guidelines such as the NCCN Guidelines for Adult Cancer Pain, with curbside advice from the PC service. For example, incident pain and neuropathic pain are consult triggers according to the NCCN Guidelines for Palliative Care, when telephone advice on adjusting the pain medicines may often be sufficient (to view the most recent version of all guidelines, visit NCCN.org).

It was no surprise that most of these hospitalized GIO patients had PC problems. Currently, most care of patients with solid tumors is ambulatory, and admissions are primarily to treat symptoms caused by progressive disease or toxicity of treatment, with few patients admitted for chemotherapy, or even surgery. However, it was unexpected that almost two-thirds of patients would meet the criteria for a PC consult, because this is double the number that was previously reported to access PC in a CCC. This high prevalence of PC problems emphasizes the need for oncologists and hospitalists to incorporate PC into the cancer treatment plan, as recommended by NCCN and ASCO. It was noteworthy that greater than 50% (7 of 11) of the patients with early-stage or no disease also had positive screening results because of comorbid conditions, poor performance status, and/or uncontrolled symptoms. This is not inappropriate, because the contemporary view of PC is that it should be available independent of stage or prognosis. Two oncologists resisted consults being performed, even when triggered by the guidelines. Much has been written about the barriers to PC referral and the types of strategies needed to overcome them. No single intervention is likely to be successful: education of professionals and families, appropriate policies, and adequate resources are all going to be needed, in addition to guidelines and triggers. It was surprising that the nurses reported that screening did not contribute much to improving their patient care, although they acknowledged that they did not always know the patients and families well. They also made some errors when scoring the screening items, and in retrospect they could have been trained better on how to complete the screening form. Oncologists and other physicians need education in the principles and practice of basic PC, as do nurses.

Much has been written regarding the need for PC and the benefits of earlier referral, but little research has been performed on implementing screening or other trigger tools to improve access. No prior attempts have been made to implement the NCCN Guidelines, although in a small extension to this project the authors trialed screening in a colorectal-focused outpatient clinic at MSKCC. In that setting, 7% to 17% of patients were identified as meeting the criteria for a PC referral. Daily screening of hospitalized patients for PC needs has also been proposed by the Center to Advance Palliative Care (CAPC), but is yet to be evaluated. In a Japanese study of a novel PC screening tool for ambulatory patients commencing chemotherapy, a high screening rate (98% of 211 patients) was also achieved, with 50% having positive screening results. Unlike the study presented here, the Japanese patients were only re-

---

### Table 6 Types of Palliative Care Problems Elicited at Consultation and Their Complexity

<table>
<thead>
<tr>
<th>Problem</th>
<th>Generalist Level</th>
<th>Specialist Level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepting options are limited</td>
<td>11</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>Nonpain symptoms</td>
<td>16</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Pain</td>
<td>12</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Psychosocial or spiritual issue</td>
<td>7</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Disposition plan</td>
<td>7</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Dying and distressed</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*a Manageable by primary team with curbsiding by hospital palliative care team.

*b Requires full consult.
ferred to PC if the oncologist and patient concurred. This resulted in 23% being referred: 18% with newly recognized problems only identified on screening and 5% with problems already identified by the primary physician. In a study of PC needs in the emergency room, more than half of the patients exceeded cut points on the Needs at the End-of-Life Screening Tool for physical symptoms, financial problems, mental health, and access to care. Referral to PC was not evaluated as part of that study.

The results reported have many limitations. One is generalizability, because the project was not performed as a clinical trial, but as a quality improvement project in one service on one floor of one CCC. The lack of a gold standard definition for a “PC patient” is a major methodological challenge to evaluating the reliability, validity, accuracy, and yield of PC screening. The reliability of nurse-based screening has not been tested either and some errors were identified. The optimal time to screen has yet to be established. The matrix that was used to assess the complexity of the consults is also not validated.

Regarding future studies, it would be helpful to obtain more information on providers’ perceptions of screening (oncologists, house staff, nurses, and the PC team) and its burden (time spent performing the screening process and its effect on patient care and workflow), and of the timeliness and usefulness of the PC response to the triggered consults. The referral criteria should be revised so they are less sensitive, and ideally should be combined with the screening items to make it a one-step process. Formal testing of the reliability and validity of the revised criteria is also needed. Once these are established, a clinical trial of the guideline could be proposed. Patients would be randomized to 3 arms: 1 in which the guideline is an automatic trigger, 1 in which it is a decision aid, and 1 in which patients receive standard oncologic care. Patients referred to PC would be followed regularly in clinic, as in the early PC in lung cancer study. End points would include pain and symptom scores, use of aggressive end-of-life care, and survival.

Conclusions
Nurses were able to rapidly screen hospitalized GIO patients for PC issues using the NCCN Guidelines. This led to many more PC consults being called, overcoming barriers that may exist on the part of the primary team. However, with a consult indicated in 64% of patients and 30% having problems that were manageable by the primary team, the current referral criteria may be too sensitive for use as an automatic trigger. The outcomes of these extra consults must be evaluated in well-designed clinical trials.

References
3. Hui D, Elsayem A, De la Cruz M, et al. Availability and integration...
4. von Gunten CF. Who should palliative medicine be asked to see? J Palliat Med 2011;14:2–3.