The cancer psychosocial care matrix: a community-derived evaluative tool for designing quality psychosocial care delivery

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Abstract

Objective: Although the Institute of Medicine provided a vision for effective psychosocial care for cancer survivors, limited guidance exists regarding the essential components of comprehensive care or progressive steps for implementing each component. This paper describes the development of a unique tool for assessing capacity to provide quality psychosocial care to cancer survivors and the results of the first implementation of this tool in community settings.

Methods: The psychosocial working group of the National Cancer Institute Community Cancer Centers Program (NCCCP) developed the Cancer Psychosocial Care Matrix assessment tool. All NCCCP sites (n=30, enrolled in 2007 and 2010) completed the matrix indicating their capacity for providing psychosocial care at entry into NCCCP (‘baseline’) after 2 years of NCCCP participation (2007 sites only) and within the coming year (‘future aspirations’).

Results: At baseline, matrix responses reflected few or no systematic processes in place for most components of comprehensive psychosocial care. However, reported capacity to deliver specific components improved at 2 years post-NCCCP entry for the 2007 sites and in all NCCCP sites’ future aspirations.

Conclusions: With growing demand on cancer centers to meet new metrics of quality care, the psychosocial matrix can help centers systematically identify and develop steps to address gaps in their capacity to meet these new standards. The Cancer Psychosocial Care Matrix appears to enable evaluation of psychosocial programs, promote intentions to improve psychosocial services, and can facilitate communication of ‘best practices’ among cancer centers.

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Introduction

The National Cancer Institute (NCI) launched the NCI Community Cancer Centers Program (NCCCP) in 2007 to enhance cancer research and quality care in community hospitals, which generally have a closer proximity to patients but fewer research and patient care resources than comprehensive cancer centers. The NCCCP was designed to build a community-based network to support a wide range of research with the ultimate goals of reducing cancer disparities, advancing cancer research and enhancing quality of care for patients [1]. Among the requirements for NCCCP participants was the expectation that sites would develop or expand supportive services to cancer survivors. Member sites discovered that the NCCCP afforded a unique opportunity to share best practices for meeting the needs of patients, survivors, and their families. It became readily apparent that more systematic guidance was needed about what structures, policies, practices, and staffing are necessary to build effective psychosocial care programs. A working group of the larger NCCCP Survivorship & Palliative Care Subcommittee sought to develop and test a tool to provide such guidance.

The working group’s vision for effective psychosocial care programs came from the Institute of Medicine (IOM) report, Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs [2]. The report documents that psychosocial needs, such as depressed mood or other emotional concerns, lack of information about or skills for managing illness, lack of transportation and other supportive resources, and disruptions in work, school, and social life, are frequently unrecognized or untreated [3–12]. Further, these needs are adversely associated with quality of life [2,13–21], quality of healthcare [2,22,23], and survival [24–27]. The first recommendation in the report is that cancer care should ensure appropriate psychosocial services by (i) facilitating effective communication between patients and care providers; (ii) identifying each patients’ psychosocial needs; (iii) designing and implementing a plan that (a) links patients with needed psychosocial services, (b) coordinates biomedical and psychosocial care, and (c) engages and supports patients in managing their health; and (iv) systematically following up on, re-evaluating, and adjusting plans [2].

Currently, there is limited guidance regarding how to best approach the development of high quality psychosocial programs for cancer survivors. The research literature includes descriptions of specific cancer centers’ experiences with developing psychosocial programs [for example, 28, 29]. The National Comprehensive Cancer Network’s (NCCN)
Distress Management guidelines [30,31], the Canadian Association of Psychosocial Oncology’s Assessment of Psychosocial Health Care Needs of the Adult Cancer Patient [32], the American Society of Clinical Oncology Quality Oncology Practice Initiative’s (QOPI®) [33] core measures and several international clinical practice guidelines for the management of specific cancers [34–41] emphasize the importance of providing distress screening, offering psychosocial interventions or referral, and/or improving patient–provider communication. However, although standards of care, clinical practice guidelines, and measurable indicators of the quality of care all have the potential to improve the availability and reach of psychosocial care for cancer survivors [42], none of these delineate the full array of components of care required to provide comprehensive psychosocial care in accordance with IOM recommendations [2] or the progressive steps needed to implement each component.

The Cancer Psychosocial Care Matrix (CPCM) assessment tool was created to assist community cancer centers in evaluating capacity to provide quality psychosocial care. This matrix focuses on the structural and process aspects of evaluating capacity to provide quality psychosocial care. It was intended that only the defined response options, rather than the half-way points between defined response choices (e.g., a response of ‘level 3.5’, or a response of ‘level 2’ on an item with only levels 1, 3, or 5 as defined choices), would be selected.

**Methods**

**Cancer psychosocial care matrix development**

The NCCCP psychosocial working group included representatives from NCCCP sites with experience in medical oncology, nursing, social work, and psychology. The group held seven conference calls in 2007 and 2008 and generated 12 versions of the matrix until the group was satisfied with the content and wording. The group drew upon the IOM report [2], Patient communication in cancer care: Promoting healing and reducing suffering [44] and NCCN’s Distress Management Guidelines [31] to identify consensus-based components of psychosocial care to be included in the matrix. The working group circulated the matrix among all NCCCP sites to review for clarity and completeness and informally piloted the usability of the matrix in their own clinics. The resulting matrix was designed as a self-evaluation tool for assessing capacity to deliver quality psychosocial care. It was expected that not every site would be capable of achieving the highest level of performance for every component of care. Rather, the tool was intended to allow sites to identify areas for improvement that are desirable and feasible and to permit them to take appropriate, incremental steps to reach their full potential.

The CPCM (Appendix A) includes 10 specific items within seven broad categories (some categories include multiple items). Eight matrix items directly reflect the first recommendation in the IOM report [1]. Because of the fundamental importance of facilitating communication between patients and providers for optimal health outcomes [44], the matrix includes three items on communication (items 1, 2a, and 2b). Additionally, because ongoing training and evaluation of service delivery are both essential for keeping programs current and maintaining program quality [31,45], the matrix includes items on provider education and program evaluation (items 6 and 7).

**Test sites**

Sixteen cancer centers were funded by the NCI as part of the NCCCP pilot program in 2007 (2007 sites), and an additional 14 centers were enrolled in 2010 (2010 sites) (see Acknowledgments for complete listing). Information on the mission of the NCCCP and the participating cancer centers is available at: http://ncccp.cancer.gov/. Although members of the original 16 sites developed the matrix, all 30 NCCCP sites assessed their program using the CPCM. Unlike the 2007 sites, the 2010 sites were required to show a commitment to psychosocial screening in the competitive award process and therefore were expected to have greater service capacity upon entry into NCCCP. All 30 sites had as a deliverable the expansion of psychosocial care services.

**Procedures**

The 2007 sites completed the matrix between January and March 2010, approximately 2 years after their entry into NCCCP (June 2007) with respect to three different phases of program development: baseline (retrospective report of program development at the time of joining NCCCP), 2 years post-NCCCP entry (current program development), and future aspirations (1 year goals for program development). The 2010 sites assessed themselves in July 2010, within 3 months of entry into NCCCP (April 2010), in relation to two different phases of program development: baseline (at the time of joining NCCCP) and future aspirations (1 year goals for program development).

Sites were instructed to assemble a small team (preferably multidisciplinary) to complete the assessment. Sites were asked to choose a specific clinic or multidisciplinary center, such as the breast cancer center, for evaluation. The same key informant(s) assessed the same clinic for each phase of development.
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Analysis

Responses that were between the defined response options (<8% of responses) were corrected to the intended format: for baseline or 2 years post-NCCCP entry assessments (related to program development that has already occurred), responses were corrected downward to the closest response for which the site would already have full implementation, and for future aspirations, responses were corrected upward to the closest response choice to indicate striving for full competency at the next level. Because of the nominal nature of the matrix response options, frequency data are presented. This paper presents summary data from all matrix items; we report descriptive statistics on the number of sites with certain responses on ≥5 CPCM items (≥ half of the items) as an indicator of overall performance. This paper reports frequency data specific to three CPCM items; frequency data for the other seven items are available in an online appendix. Data on communicating about the importance of psychosocial care and screening for psychosocial needs are presented because it was felt that these are already considered fundamental to most programs. Additionally, we present data on conducting follow-up to and adjustment of the psychosocial treatment plan because this component appeared to be the most difficult for sites to attain. The non-parametric Mann–Whitney U test was used to test for differences between the 2007 and 2010 sites on the number of items on which they aspire to improve.

Results

The matrix was completed by all 30 NCCCP sites. Disciplines represented by persons completing the matrix included medicine, nursing, psychology, social work, other mental/behavioral health, and administration.

Distribution of matrix responses and change over time

2007 sites (n = 16)

At baseline, the majority of the 2007 sites (62.5%) reported level 1 service delivery (the lowest level) on ≥5 of 10 items. At 2 years post-NCCCP entry, only 25% reported level 1 service delivery on ≥5 items. Most 2007 sites (62.5%) aspired to level 5 service delivery (the highest level) on ≥5 items, and 18.8% aspired to level 5 performance on every item. As depicted in Figure 1, across all matrix items, most 2007 sites’ responses at baseline (60.0%) reflected level 1 service delivery. In contrast, most responses at 2 years post-NCCCP entry (59.4%) indicated service delivery at levels 2–4, and the majority of future aspirations (61.3%) reflected level 5 service delivery.

Half of the 2007 sites reported improvement on ≥5 items from baseline to 2 years post-NCCCP entry. The only site that did not report change on any item already had a well-developed program at baseline (level 5 performance on 7/10 items). The mean number of items on which 2007 sites reported improvement from baseline to 2 years post-NCCCP entry was 5.0 (sd = 2.6, range 0–10). After 2 years of NCCCP participation, the mean number of items on which 2007 sites aspired to improve was 7.4 (sd = 2.4, range 2–10). Nearly all 2007 sites (93.8%) planned improvement on ≥5 items, and 25.0% planned improvement on all 10 items.

2010 sites (n = 14)

At baseline, 50.0% of 2010 sites reported level 1 service delivery for ≥5 of 10 items. Three sites (21.4%) aspired to level 5 performance on ≥5 items and 1 site aspired to level 5 service delivery on all 10 items. Across all matrix items, most of the 2010 sites’ baseline responses reflected service delivery consistent with level 1 (47.1%) or with levels 2–4 (45.7%) (Figure 1). Most future aspirations indicated service delivery at levels 2–4 (65.7%) or level 5 (30.7%).

The mean number of items on which the 2010 sites aspired to improve after baseline was 7.8 (sd = 2.4, range 3–10). Almost all 2010 sites (85.7%) planned improvement on ≥5 items, and three sites (21.4%) planned change on all 10 items. The number of items on which sites aspired to improve in the next year did not differ by year of entry into NCCCP (p = 0.72).

![Figure 1. Distribution of responses across all matrix items. Note: Across all 10 items, level 1 service delivery (the lowest level) reflects minimal or a complete lack of services and level 5 services delivery (the highest level) reflects advanced service delivery](image-url)
Responses to specific matrix items

For ‘Communicates to the cancer survivor and family the importance of psychosocial needs and care’ (Figure 2), many 2007 sites reported having no systematic process in place at baseline (level 1, 43.8%) or communicating the importance of psychosocial care via at least one mechanism on at least one occasion (level 3, 43.8%). After 2 years in NCCCP, the majority of 2007 sites reported performance consistent with level 3 (68.8%). Finally, all 2007 sites aspired to communicate the importance of psychosocial care via multiple mechanisms on multiple occasions including participation from physicians (level 5). Most 2010 sites reported level 3 at baseline (57.1%), and the majority aspired to level 5 (64.3%).

Regarding ‘Identifies psychosocial health needs of cancer survivors’ (Figure 3), most 2007 sites reported having no screening process in place (level 1, 56.3%) or screening inconsistently (level 2, 25.0%) at baseline. After 2 years in NCCCP, only 6.3% of sites reported level 1 service delivery but many sites still reported service delivery consistent with level 2 (48.3%). Others reported consistent screening with a standardized assessment (level 3, 12.5%) or consistent screening plus a comprehensive assessment (level 4, 31.3%). Finally, many 2007 sites aspired to services consistent with level 4 (37.5%) or providing consistent screening with comprehensive assessment and reassessments from diagnosis through follow-up (level 5, 50.0%). Many 2010 sites reported either no systematic process (level 1, 28.6%) or inconsistent screening (level 2, 50.0%) at baseline. Further, the majority of 2010 sites aspired to deliver care consistent with level 3 (71.4%).

Lastly, for ‘Conducts follow-up, re-evaluation, and adjusting of psychosocial treatment plan’ (Figure 4), nearly all
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Figure 4. Percentage of sites reporting capacity to conduct follow-up, re-evaluation, and adjusting of psychosocial treatment plan. Note for Figures 2–4: For the 2007 sites (n = 16), baseline ratings were retrospective reports of psychosocial care at the time of entry into National Cancer Institute Community Cancer Centers Program (NCCCP) (approximately 2 years earlier), 2 years post-NCCCP entry ratings were current reports of psychosocial care, and future aspirations relate to desired psychosocial care delivery for 1 year later. For the 2010 sites (n = 14), baseline ratings were current reports of psychosocial care at entry into NCCCP, and future aspirations relate to desired psychosocial care delivery for 1 year later.

2007 sites indicated that they had no systematic process in place at baseline (level 1, 81.5%). Half (50.0%) still had no systematic process in place after 2 years in NCCCP. Most 2007 sites aspired either to provide systematic follow-up for survivors with a positive screen (level 4, 43.8%) or to establish a mechanism to manage treatment intensification or adjustment (level 5, 50.0%). Almost all 2010 sites also reported level 1 performance at baseline (85.7%) and aspired to provide care consistent with level 3 (85.7%).

Discussion

Although the importance of psychosocial support of cancer survivors has been clearly established [2,31], cancer centers still struggle to systematically screen for psychological distress [7,12] and to implement more comprehensive psychosocial care. The NCCCP psychosocial working group developed the CPCM to delineate the components of comprehensive psychosocial care, provide measurable milestones within each care component, and promote improvement toward sites’ full potential. There is an inherent recognition that not all community cancer centers would be expected to achieve the highest level of service delivery across all components of care. Rather, the CPCM provides a means to identify component capacity to meet recommended psychosocial care delivery, and, as appropriate, designate areas in which further development might be desired.

Overall, feedback from NCCCP sites suggests that the psychosocial matrix is useable and valuable in the community setting. All the participating sites were able to complete the matrix; only occasional responses were outside the defined options. Typical completion times ranged from 30 min to 2 h (across two meetings), which was considered reasonable by respondents. Most sites utilized a multidisciplinary team to complete the matrix, which offers potential benefits compared with completion by one individual, including possibly a more honest evaluation of service delivery, continuity in evaluations over time, and consensus priority setting for future growth.

Several specific benefits of the psychosocial matrix were identified on the basis of the current results and anecdotal feedback from the NCCCP sites. First, the matrix appears to enable evaluation of psychosocial programs, including reviewing past growth and identifying the resources that enabled those changes, that otherwise might not occur because of having caught up in the daily responsibilities of program management. The CPCM can be used at multiple time points to chart changes in the capacity to provide psychosocial services, either regarding a specific component of care (e.g., moving from no systematic process for psychosocial distress screening to consistent screening using a standardized method) or more globally (e.g., improving from three areas with ‘level 1’ care to no areas with ‘level 1’ care). Further, the ordered response options allow programs to demonstrate incremental growth toward a desired practice; such growth would not be reflected in checklist format (present vs. absent).

Second, the CPCM may promote intentions to improve psychosocial services. In this initial implementation effort, all NCCC sites indicated aspirations for enhancing psychosocial services in the coming year. Most programs reported plans to improve on at least half of the 10 care components, and >20% of the sites reported plans to improve on every care component. Providing feedback about adherence to quality standards leads to improvement in performance [46]. Similarly, evaluation of performance through the psychosocial matrix may also lead to improved service delivery. Further, feedback from NCCCP site personnel indicated that the process itself of completing the matrix served as a catalyst for conversations about psychosocial care that had not previously occurred at their cancer centers. Quantifying aspirations for program growth allowed them...
to conceptualize, operationalize, and prioritize components of care to target. It also assisted them in identifying strategies for change, including necessary first steps. Additionally, NCCCP sites reported using the matrix in discussions with hospital administrators to inform strategic planning and to project the resources needed to provide desired levels of care.

Another potential benefit of using the CPCM is the promotion of communication of ‘best practices’ among cancer centers. Sites with well-developed services were able to share specific keys to success (e.g., referral guidelines and specific screening instruments). Information sharing can also be useful among different clinics within the same hospital or delivery system, as comparisons of matrix responses can provide clinics with a sense of their relative strengths and weaknesses and foster opportunities for shared resource utilization.

In addition to lessons learned about the usability and utility of the CPCM, data from this initiative revealed differential patterns of psychosocial care delivery. Such information is valuable given the limited literature available about the implementation of recommended psychosocial care [12,42]. Responses to the psychosocial matrix showed substantial variability across NCCCP sites in the services provided and highlighted components of care that were frequently relatively well developed and more commonly less developed. Irrespective of year of entry, NCCCP sites exhibited demonstrable room for future development and a similar number of areas in which they hoped to improve.

The NCCCP sites reported relatively high competence in communicating the importance of psychosocial care to patients and their families. Although many sites had no systematic process for this at baseline (44% of 2007 sites and 29% of 2010 sites), all but one 2007 site reported some systematic process in place after 2 years of NCCCP participation, and all sites aspired to have some systematic process in place in the next year. These results suggest that communicating this basic philosophy about psychosocial care is perceived as both important and achievable.

Although any screening process is likely more beneficial than no process, the emphasis should be on implementing systematic, effective methods [47]. Consistent with previous research [7,12], these results indicate that systematic screening for psychosocial needs remains challenging, but that progress is possible. Only ~20% of sites reported systematic screening for psychosocial needs using a standard method at baseline. However, after 2 years of NCCCP participation, half of the 2007 sites reported systematic screening and over 1/3 indicated using comprehensive assessments. All sites aspired to have systematic screening in the next year.

Finally, repeated distress screening enhances accuracy for detecting distress [48], and follow-up to positive screens is a crucial element of quality psychosocial care [2]. Not surprisingly, these data indicate that re-assessment and adjusting psychosocial treatment plans are particularly difficult to implement. Over 80% of sites had no systematic process in place for these processes at baseline, and half of the 2007 sites still had no systematic process in place after 2 years. However, nearly all 2010 sites aspire to implement rescreening of survivors with a positive initial screen, and many 2007 sites aspire to rescreen and alter treatment based on this rescreening.

This initiative also revealed challenges associated with using the matrix. First, sites were asked to select a specific clinic or center to be evaluated, yet many sites evaluated their entire cancer center (e.g., all inpatient and outpatient oncology services). Average scores may not reflect the diverse successes and challenges across different clinics within one facility. For future use, the need to identify a specific clinic(s) to be evaluated should be emphasized because the most useful and valid data will result from separately evaluating smaller, more homogeneous clinical units. Second, respondents may feel that the response choices do not fully capture their current service delivery for a given component of care. Specific instructions about viable response choices (i.e., selecting the highest level at which complete competency has been obtained or is desired) should be emphasized. Finally, on rare occasions, sites may not have achieved the lowest possible level of service delivery defined (particularly for categories 4a, 4b, and 4c). The response options may need to be refined so that programs with limited psychosocial service capacity can accurately report their level of service.

Additional limitations of the CPCM and this implementation initiative should be considered. Although the CPCM has face validity, the matrix has not been validated with objective measures of service delivery. A positive response bias may artificially inflate responses. However, the tool was developed for self-evaluation and planning rather than cross-site comparisons. Baseline reports were retrospective for the 2007 sites, which may cause bias in an unknown direction. Although improvements in psychosocial care were a deliverable of the NCCCP program, CPCM data were not used in evaluating deliverables and participation completing the CPCM was voluntary. Other factors (e.g., contract-related financial incentives) may also drive intentions to improve psychosocial care, but the NCCCP sites did not receive monies specifically allocated for survivorship activities. Finally, the matrix demonstrated ceiling effects for one site with a highly developed psychosocial program. The matrix may be most useful for cancer centers or clinics with developing psychosocial programs (which includes the majority of cancer centers in the United States).

This study points to several important future directions related to the development and application of the CPCM. First, matrix ratings should be validated with objective performance indicators (e.g., chart review, patient questionnaires, and performance observations) and measures of quality care delivery (e.g., QOPI [49]). Inter-rater reliability should be established so that classification of levels of care delivery is standardized. Follow-up studies are also needed to document the extent to which sites achieve aspired levels of care and the barriers to meeting aspirations and, the extent to which ratings for specific clinics reflect care provided in all clinics within a cancer center. Further, to understand the utility of the matrix in contexts outside of the NCCCP (where there is already high-level commitment to improving psychosocial care), use of the matrix should be evaluated in a larger set of diverse cancer centers and in smaller oncology clinics or practices. The matrix could be more effective if it were available on a web-based platform that includes tailored feedback about current performance and suggestions for next steps (see, for example, the self-rating tool for applying the RE-AIM research framework, http://tools.re-aim.org/quiz/intro.html). Finally, the value of the CPCM could be
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improved by obtaining patient input on the matrix content and through adding patients to the multidisciplinary using the matrix for self-evaluation.

To our knowledge, this is the first tool developed to assess the capacity of community cancer centers to deliver recommended elements of psychosocial care. The tool was developed by community practitioners in collaboration with scientific experts informed by both practical experience and empirical evidence. With growing demand on centers to meet new metrics of quality psychosocial care

Appendix A. Cancer Psychosocial Care Matrix
NCCCP Cancer Psychosocial Care Matrix (CPCM). Modeled for whole-person care

Psychosocial Health Services are those psychological and social services that enable cancer survivors, their families, and health care providers to optimize biomedical health care and to manage the psychological/behavioral and social aspects of cancer and its consequences so as to promote better health.

Multidimensional culturally informed psychosocial health needs screening to include:

<table>
<thead>
<tr>
<th>Categories</th>
<th>Elements for consideration</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Communicates to the cancer survivor and family the importance of psychosocial needs and care</td>
<td>• Letter&lt;br&gt;• Brochures&lt;br&gt;• Posters&lt;br&gt;• Structured discussion with oncology healthcare team members</td>
<td>1&lt;br&gt;2&lt;br&gt;3&lt;br&gt;4&lt;br&gt;5</td>
</tr>
<tr>
<td>2. Facilitates effective patient/provider communication</td>
<td>• Creates rapport&lt;br&gt;• Elicits patient perspective&lt;br&gt;• Demonstrates empathy&lt;br&gt;• Manages uncertainty&lt;br&gt;• Shares decision-making&lt;br&gt;• Enables patient self-management</td>
<td></td>
</tr>
<tr>
<td>3. Monitors effectiveness of patient/provider communication</td>
<td>• Patient surveys&lt;br&gt;• Provider surveys</td>
<td></td>
</tr>
<tr>
<td>4. Identifies psychosocial health needs of cancer survivors</td>
<td>• Data collection&lt;br&gt;• Method&lt;br&gt;• Timing/periodicity</td>
<td></td>
</tr>
<tr>
<td>5. Designs and implements psychosocial plan of care</td>
<td>a. Links cancer survivor/family with needed psychosocial services</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix A. (Continued)

<table>
<thead>
<tr>
<th>b. Engages and supports cancer survivor in managing their illness and health</th>
<th>meeting needs of survivors</th>
<th>in basic psychosocial needs</th>
<th>is available on site to provide psychosocial services</th>
<th>available to meet the needs of all patients who need those services</th>
</tr>
</thead>
<tbody>
<tr>
<td>c. Coordinates psychosocial and biomedical care</td>
<td>Generic cancer survivor education materials available</td>
<td>Level 1 plus variety of media/modes (i.e., audio, visual, and/or opportunities for group learning, such as behavioral change programs)</td>
<td>Level 3 plus tailored education specific to cancer survivor/family situation (type of cancer, treatment, language, literacy level)</td>
<td></td>
</tr>
<tr>
<td>5. Conducts follow-up, re-evaluation, and adjusting of psychosocial treatment plan</td>
<td>Initial psychosocial assessment data documented and available to healthcare team</td>
<td>Level 1 plus specific personnel responsible for psychosocial care management and interdisciplinary communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Provider education and competencies</td>
<td>• How are current services working • Any new needs</td>
<td>Systematic follow-up completed and documented in all cases for survivors having a positive screen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Quality oversight</td>
<td>• Internal and external quality measures</td>
<td>Use of internal quality measures to obtain feedback on psychosocial programs offered and/or referred to</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In some cases, there are not five levels of care. In categories where there are less than five levels, assign a score on the basis of the highest level of criteria met.

#### NCCN defined periods of increased vulnerability for distress:

- Symptom suspicion
- Workup/staging
- Diagnosis
- Awaiting treatment
- Change in treatment modality

- End of treatment
- Discharge from hospital following treatment
- Stresses of survivorship
- Medical follow-up and surveillance
- Treatment failure

- Recurrence/progression
- Advanced cancer
- End of life

#### Scoring

<table>
<thead>
<tr>
<th>Category</th>
<th>1</th>
<th>2a</th>
<th>2b</th>
<th>3</th>
<th>4a</th>
<th>4b</th>
<th>4c</th>
<th>5</th>
<th>6</th>
<th>7</th>
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Score

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In some cases, there are not five levels of care. In categories where there are less than five levels, assign a score on the basis of the highest level of criteria met.

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delivery (e.g., the Commission on Cancer requires distress screening for accreditation beginning in 2015 [50]), use of the psychosocial matrix tool has the potential to help cancer centers systematically identify and develop steps to address gap areas in their capacity to meet these new standards.
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Supporting information

Supporting information may be found in the online version of this article.

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References