

Developing an Informatics Tool To Advance Supportive Care: The Veterans Health Care Administration Palliative Care National Clinical Template

The Faculty of Oregon State University has made this article openly available. Please share how this access benefits you. Your story matters.

Citation	Goebel, J. R., Ahluwalia, S. C., Chong, K., Shreve, S. T., Goldzweig, C. L., Austin, C., ... & Lorenz, K. A. (2014). Developing an Informatics Tool To Advance Supportive Care: The Veterans Health Care Administration Palliative Care National Clinical Template. <i>Journal of Palliative Medicine</i> , 17(3), 266-273. doi:10.1089/jpm.2013.0288
DOI	10.1089/jpm.2013.0288
Publisher	Mary Ann Liebert, Inc.
Version	Version of Record
Terms of Use	http://cdss.library.oregonstate.edu/sa-termsofuse

Developing an Informatics Tool To Advance Supportive Care: The Veterans Health Care Administration Palliative Care National Clinical Template

Joy R. Goebel, RN, MN, PhD,¹ Sangeeta C. Ahluwalia, PhD, MPH,² Kelly Chong, PhD, MHA, MPhil,³
Scott T. Shreve, DO,^{4,5} Caroline L. Goldzweig, MD, MS,⁶ Colletta Austin, RN, MSN,⁶
Steven M. Asch, MD, MS,^{7,8} and Karl A. Lorenz, MD, MSHS^{3,9}

Abstract

Background: Increasing emphasis in performance-based payment, public reporting, and quality improvement (QI) has led to widespread interest in measuring and improving the quality of care. By 2014, hospice programs will be required to report quality data to the federal government or incur financial penalties. With this increased interest in quality reporting comes an opportunity to develop informatics tools to capture data that reflect the complex practices involved in palliative care (PC). Therefore, there is a need to disseminate information on developing tools that facilitate capturing data and fostering improved performance. The Veterans Health Care Administration, a national leader in health information technology (HIT) and PC, established the Quality Improvement Resource Center (QuIRC) to develop innovative HIT tools to standardize and improve PC practices throughout the 153 Department of Veterans Affairs (VA) medical centers nationwide.

Objective: The aim of the paper is to describe the development of the Palliative Care-National Clinical Template (PC-NCT) for documenting initial PC consults.

Results: Domains of quality of life provided the foundation for this template. Principles of user-centered informatics design guided development activities. A national consensus panel of PC experts prioritized quality indicators as targets for QI. An interdisciplinary team of PC providers identified desired aspects of template functionality. QuIRC balanced PC providers' desired aspects of functionality against the feasibility within the VA HIT system. Formal pilot and usability testing contributed to numerous iterations of the PC-NCT currently piloted in five geographically distributed sites.

Conclusion: This paper presents a robust approach to developing an informatics tool for PC practice. Data collected via the PC-NCT will bring variations in current practice into view and assist in directing resources at "important targets" for QI. Although the development of HIT tools to quantify PC practice is complex, there is enormous potential to improve the quality of care for patients and families facing serious illnesses.

Introduction

INCREASING EMPHASIS in performance-based payment, public reporting, and quality improvement (QI) has led to widespread interest in measuring and improving the quality of care.¹ By 2014, hospice programs will be required to report

quality data to the federal government or incur financial penalties.¹ Furthermore, the Health Information Technology for Economic and Clinical Health (HITECH) Act encourages the "meaningful use" of informatics to measure the quality of PC.² With this increased interest in quality reporting comes an opportunity to develop informatics tools to capture data that

¹School of Nursing, California State University Long Beach, Long Beach, California.

²School of Social and Behavioral Health Sciences, Oregon State University, Corvallis, Oregon.

³Quality Improvement Resource Center, Greater Los Angeles VA Health Care System, Los Angeles, California.

⁴Hospice and Palliative Care, Lebanon VA Health Care System, Lebanon, Pennsylvania.

⁵Pennsylvania State College of Medicine, Lebanon, Pennsylvania.

⁶Clinical Informatics, Greater Los Angeles VA Health Care System, Los Angeles, California.

⁷Palo Alto VA Health Care System, Palo Alto, California.

⁸Division of General Medical Disciplines, Stanford University, Palo Alto, California.

⁹David Geffen School of Medicine, University of California Los Angeles, Los Angeles, California.

Accepted November 8, 2013.

reflect the complex practices involved in PC. Thus, there is a need to disseminate information on developing informatics tools that facilitate capturing data and fostering improved performance in palliative and end-of-life care.³

The Department of Veterans Affairs (VA) provides high-quality comprehensive care to approximately five million veterans and manages about 153 medical centers nationwide. Additionally, the VA has emphasized the use of clinical informatics to facilitate QI for over a decade.⁴ The VA initiated the Comprehensive End of Life Care (CELC) Initiative and established the Quality Improvement Resource Center (QuIRC) in 2009 to improve access to high-quality palliative and end-of-life care for veterans. QuIRC develops and implements informatics tools, capitalizing on the VA's data systems to improve national data capture of PC service activity. One of QuIRC's goals is to facilitate uniform, high-quality processes of care, and improve routine and appropriate use of PC consults through the development of state-of-the-science informatics tools.

QuIRC created a medical record template for initial PC consults, the Palliative Care-National Clinical Template (PC-NCT), to support evidence-based, essential bedside practices, educate new PC providers, and facilitate continuous assessment of performance to promote QI. The PC-NCT embraces processes and outcomes of care identified by the National Quality Forum,^{1,5} the National Consensus Project,⁶ Assessing Symptoms Side Effects and Indicators of Supportive Treatment (ASSIST),⁷ and Assessing Care of Vulnerable Elders (ACOVE-3)⁸ projects, and the Bereaved Family Survey⁹ (see Table 1). The PC-NCT is a tool designed for use across settings (e.g., inpatient, outpatient, and hospice). This article describes the development of the PC-NCT to inform others interested in building informatics tools to improve the quality of PC.

Early template development activities

The QuIRC team set forth to identify a conceptual framework that reflects current PC consult practice, to identify content critical for an initial PC consult, and to develop and refine an initial PC consult prototype template. The PC-NCT's design reflects core elements of health-related quality of life (HRQOL).¹⁰ By embedding an HRQOL definition into the consult template, the PC-NCT implicitly supports multi-

disciplinary goals, and we included multidisciplinary (e.g., physician, nursing, social work, chaplaincy) perspectives in everything from our stakeholder panels to provider input. Thus, PC-NCT represents common dimensions of PC assessment including pain and nonpain symptoms, emotional well-being, caregiving and social context, existential well-being, communication, and care planning. Based on evidence of the most important assessment practices, we narrowed required template content to the most essential processes. One ultimate measure of the PC-NCT and its effectiveness will be whether its use facilitates better HRQOL for patients and caregivers.

Another measure of an informatics tool's usefulness is its successful implementation into clinical practice.¹¹ Successful implementation of information technology frequently rests not only on the technical aspects of a tool's design, but also on the contextual and process-related factors influencing the adoption of the software.¹² User-centered informatics design is a process that strives to focus on the contextual and people factors that significantly influence the users' adoption of informatics technology.¹¹ In the design of the PC-NCT, we engaged the buy-in of multiple stakeholders involved in bedside care, program development, and QI at the national, regional, and local levels. QuIRC's multidisciplinary development team included PC physicians, a registered nurse (PhD), a social worker (PhD), computer programmers, and health service researchers. The multidisciplinary perspectives represented various viewpoints when identifying and resolving concerns that inevitably arise during the development of an electronic medical record (EMR) tool.¹¹ However, the guiding principle throughout the development process was attention to provider user needs. After establishing a framework for tool development, the key tasks for QuIRC were (1) defining content, (2) defining functionality, and (3) developing and refining a prototype EMR PC consult template.

Defining the Content of the PC-NCT

The QuIRC team sought to identify and prioritize content for the PC template by first conducting a modified systematic and gray literature review and then convening a consensus panel to rank key aspects of care for inclusion in the template. The PC-NCT's development focused on what an initial PC consult should include⁶ (addressing the educational purpose for the software) as well as what specific content areas should be the focus for national data collection and QI (to evaluate adherence to evidence based processes of PC).^{1,5-8} QuIRC solicited EMR PC templates in use by VA PC programs across the country and we identified two in regional and local use. Additionally, QuIRC identified a multidisciplinary group of 11 nationally prominent PC clinical experts to provide key stakeholder support and guide template development. These experts were asked to provide feedback during development of the template and serve on a consensus panel using a modified nominal group process.¹³

Prior to conducting the consensus panel, the QuIRC team conducted a series of systematic literature reviews to identify key palliative processes of care and the evidence supporting those practices for both cancer and noncancer patients. This review updated and nonsystematically expanded ACOVE-3⁸ and ASSIST⁷ reviews. These indicators identify evidence-based targets for improving HRQOL and supportive

TABLE 1. PC-NCT CAPTURES QUALITY INDICATORS IDENTIFIED IN MULTIPLE GUIDELINES

Quality indicators	PC-NCT	NQF	NCP	ASSIST	ACOVE3	BFS
Pain indicators	◆	◆	◆	◆	◆	◆
Dyspnea indicators	◆	◆	◆	◆	◆	◆
Spiritual indicators	◆	◆	◆	◆	◆	◆
Psychological indicators	◆	◆	◆	◆	◆	◆
Goals/treatment preferences and indicators	◆	◆	◆	◆	◆	◆

ACOVE3, Assessing Care of Vulnerable Elders-3; ASSIST, Assessing Symptoms Side Effects and Indicators of Supportive Treatment; BFS, Bereaved Family Survey; NCP, National Consensus Project for Quality Palliative Care; NQF, National Quality Forum; PC-NCT, Palliative Care-National Clinical Template.

processes of care and several are included in the National Quality Forum (NQF) recommendations for PC practice.¹ Panelists received a synthesis of the evidence related to best practices, as well as articles pertaining to EMR templates, and examples of PC templates currently in use.

The consensus panel met twice. During the first session, QuIRC asked the panelists to discuss the advantages and disadvantages of PC consult templates and the relative importance of standardizing specific processes of PC. Additionally, QuIRC asked panelists to identify potential difficulties and solutions for implementing a national consult template. Following the first conference call, panelists completed an online survey that prioritized elements of care for inclusion in a PC consult template and processes to target for QI. PC providers not serving as panelists and members of QuIRC reviewed this survey for face validity, comprehensiveness, and appropriate formatting.

Panelists received the results of the survey at a second conference call and provided final recommendations. The panelists prioritized 10 aspects of care as being most important to include in a PC consult template, such as advance care planning (ACP), functional status, and symptom review.

Most Important Elements of Care to be Captured in a PC EMR Template (in Rank Order)

1. Advance care planning: Decision making ability of the patient
2. Advance care planning: Surrogate choice
3. Chief complaint
4. Functional/performance status
5. History of present illness
6. Review of physical Symptoms
7. Review of emotional symptoms: depression
8. Social history: caregiver support
9. Review of emotional symptoms: anxiety
10. Assessments: assessment of symptoms

Additionally, panelists prioritized 10 processes of care as the most important targets for QI and enriched data collection, such as identifying a surrogate decision maker, screening for pain, and assessing dyspnea.

Processes of Care Recommended as Targets for QI (in Rank Order)

1. Surrogate identified
2. Chronic opioid prescribed with bowel prophylaxis
3. Short-acting (e.g., breakthrough) opioids initiated with long-acting opioids
4. Change in moderate to severe pain treatment followed up
5. Routine dyspnea assessment on admission
6. Pain screened for presence and intensity
7. Moderate or greater pain managed by change in treatment
8. Persistent dyspnea in metastatic cancer or oxygen-dependent COPD offered opioids
9. Documented new depression treated (pharmacologic, psychotherapy)
10. Constipation treated

The national VA PC program's intranet site posted a report summarizing the panelists' recommendations, and we solicited feedback from national PC program staff. The first iteration of the template reflected all the forwarded comments.

With a list of the key elements to be captured by a consult template, QuIRC staff conducted a second literature review focused on existing measures to capture symptoms (pain, dyspnea, depression); ACP (decisional capacity/surrogate identification); and functional status/prognosis. Each tool was evaluated according to the following criteria: (1) difficulty of administration (number of items, complexity of item, time required to administer); (2) validity/reliability; (3) familiarity to providers; (4) existing use within the VA; (5) agreement with evidence based practices; (6) ability to support clinical management/QI; and (7) generalizability across the PC spectrum of illness—not overly specific to the stage of illness, e.g., actively dying. After rating potential measures, a consensus process among QuIRC staff identified the tools used for the first prototype template.

QuIRC also interviewed providers to characterize bedside practices and evaluate how providers distinguish actual from ideal practices.¹⁴ Providers tend to modify research tools in daily practice, and don't adhere to their formal qualities, e.g., strict wording or administration. Previously, our research on a simple pain screening measure mandated in the VA (e.g., the numeric rating system, 0–10) demonstrated that providers use informal (e.g., 'Does your knee hurt?') as often as formal (e.g., 'What is your current pain on a scale of 0–10?') approaches to rate pain.¹⁵ In order to ensure that the consult template reflected the clinical practices of multidisciplinary end users, we conducted semistructured interviews with PC physicians, nurses, and program managers regarding their routine practices around two key PC processes, i.e., symptom assessment and ACP.¹⁴

These interviews covered routine practices around symptom assessment (using dyspnea as a prototype symptom)¹⁴ and ACP because these elements offered a high potential for QI, and because symptom measures (e.g., the Edmonton Symptom Assessment Scale¹⁶) offered promising structured approaches. The interviews also assessed preferences for standardized tools to aid in symptom assessment and ACP, and perceived barriers and facilitators to symptom assessment and ACP. Data were coded and analyzed using the constant comparative method of qualitative analysis to ensure consistency in the process.¹⁷ Findings from these interviews guided the structure and content of the symptom assessment and ACP sections of the template.

Subsequent to these interviews QuIRC modified available research measures to reflect what providers told us they actually do (e.g., evaluate if constipation was present, 'yes' or 'no'), as compared to using a measure of intensity (e.g., recording constipation on a scale of 0–10).¹⁴ In contrast to evidence-based elements, for other important but nonevidence-based aspects of the comprehensive PC consult (e.g., recording a chief complaint), we strove for simplicity and developed text boxes to qualitatively record information related to palliative assessments.

Defining the Functionality of the PC-NCT

The QuIRC team strove to develop a template whose function would meet the needs of the providers requesting, as well as those providing the consult. To inform development, a QuIRC team member conducted workflow observations of individuals involved in PC consults (social workers, chaplains, MDs, and RN case managers). QuIRC staff observed individuals accessing EMR data and reviewing PC

consults, and documenting their care. A paper-and-pencil tool recorded the number of times an individual accessed the EMR while completing or referring to the PC consult. In addition, QuIRC staff recorded the length of time assessing or entering patient information, and the information accessed in the EMR. Furthermore, PC consultants provided feedback during these sessions on desired functionality aspects for an EMR template, as well as the critical information they needed to provide comprehensive care.

Based on these observations and provider input, we characterized prior clinical records and data (e.g., pharmacy records) that providers access when planning for and providing PC consults. PC providers informed us they preferred a template created in a modular format that would allow them to complete sections (modules) in the progress note, close the record, and return later to complete the record. A modular format would also enable PC providers to document either a comprehensive consult or a focused consult to meet an identified need (e.g., family meeting to discuss goals of care, or a consult to identify interventions for out-of-control pain).

Developing and refining the initial PC-NCT prototype

The QuIRC team began their work with programmers to match desired template content and functionality with the technical capabilities of the VA's EMR system. A table was generated which compared the findings from qualitative interviews, focus groups, and observations of workflow. Concurrently, local providers piloted a paper and pencil version of the template to ensure the template reflected the natural experience of providers entering data related to the care of PC patients. To continue to refine the PC-NCT, PC program managers and bedside providers attending a VA national PC conference completed an initial PC consult using a case study and a paper and pencil prototype of the template. Feedback from this activity led to refinements of the template. Finally, QuIRC posted a prototype on the national VA intranet and solicited comments and suggestions from the field that further modified the template.

QuIRC engaged the Human-Computer Interaction (HCI) & Simulation Laboratory at the Indianapolis VA Medical Center to conduct a formal usability testing of PC-NCT. This laboratory provides an environment to capture usability data and assesses user interaction with information systems. Five providers tested the PC-NCT at the laboratory. These providers were involved with initial PC consults and had variable previous experiences using the template. Informatics literature suggests that 80% of usability issues are discovered after testing five subjects, with progressively diminishing returns after five subjects.¹⁸

The QuIRC team created patient scenarios for use during the testing session. Providers were asked to "think aloud," and a verbal record of the participants' decision making processes was recorded.¹⁹ A video and audiorecording from each test, as well as direct screen captures of the computer monitor images, were created. Analysis of the recordings identified any difficulty meeting task goals. A report identified all critical incidents (e.g., usability issues) for use by QuIRC. A critical incident is an event that has a significant effect (negative or positive) on task performance or user satisfaction. The laboratory generated a list of erroneous user assumptions or actions, statements of confusion, tasks taking

longer than anticipated, and self-reported measures of satisfaction. The HCI & Simulation Laboratory provided a detailed report with suggestions for modifications in the PC-NCT to improve usability.

A user community of five VA programs is currently piloting the PC-NCT. Monthly conference calls or webinars with the user community provide support during this phase of implementation. These meetings discuss template functionalities and 'work arounds' for unique glitches within the VA EMR system. These calls also provide information to continuously modify and improve the tool and prepare for a national implementation process. The QuIRC team also created a technical installation guide, a provider user guide, a pocket card, and a 'template tips' information sheet to support implementation in our pilot sites.

Discussion

The PC-NCT was developed primarily to support clinical care and QI, although it may also facilitate future research. The PC-NCT's development reflects vigorous collaboration between VA operational, clinical, and research staff to ensure the most robust tool possible. The PC-NCT's development was conceptually grounded in HRQOL elements¹⁰ and user-centered design concepts.¹¹ The PC-NCT's final content (see Appendix 1) allows others to take advantage of our experience and consider how to adapt it for their own ends.

The PC-NCT's development had to balance conflicting opinions related to the goals of the tool and policy and actual practice. During tool development the team fielded many differing, sometimes conflicting, recommendations. QuIRC balanced the desire to limit the burden of an informatics tool on providers with building a tool for QI. We balanced the desire for a complete symptom assessment measure with the need for a brief measure that more closely reflects actual clinical practice.¹⁴ Limitations of the VA's EMR presented technical obstacles that also led to compromises. Policy considerations also intruded, given that while PC consult teams operate in a multidisciplinary fashion, the VA EMR's clinical and workload documentation practices for consult are optimized for physician input.

Consults serve many purposes including initial assessment, discussion of goals of care, and identifying transfer or discharge options. We created the initial PC-NCT note primarily to serve as a palliative assessment; but the template also provides the opportunity to communicate other important information, including disposition alternatives for the veteran postconsult. The documentation of disposition is especially important in a consult note because many consults are placed by referring teams that need a discharge option for their patient. Furthermore, clear communication of disposition within the medical record may mitigate factors that contribute to the need for reconsults.

Currently, QuIRC is developing a PC follow-up progress note template that will include a discharge module. The template will include content previously assessed in the consult template (to enable tracking data such as symptoms over time) as well as new content identified as important to improving PC. The PC-NCT user community is currently reviewing a prototype of this follow-up note and discharge module. Additionally, a family meeting template is also under development that reflects evidence-based practices and captures processes associated with exemplary family meetings.

Future efforts will focus on the nationwide implementation of the PC-NCT. QuIRC will endeavor to develop a family of QI tools that capitalizes on the VA's ability to track HRQOL data to improve veteran and family experiences. Because the VA uses the Bereaved Family Survey⁹ for all inpatient deaths to evaluate family perceptions of care quality, the PC-NCT provides the opportunity of comparing factors associated with important processes and outcomes of PC consults. For example, the VA can examine a family's satisfaction with symptom control and the documentation of symptom assessments. This allows "unbundling" the measureable impact of PC consult practices on outcomes on a national level.

Conclusion

In summary, this manuscript provides information on the development of a robust informatics tool with the potential to improve PC across settings. The PC-NCT represents a significant advance in HIT by facilitating data capture about critical PC practices. The PC-NCT provides the opportunity to standardize and improve care at the patient, program, or national level. This tool offers an opportunity to educate providers new to PC services related to the essential elements for initial PC consults. The data collected via the template will bring variations in current practice into view and assist in directing resources at "important targets" for QI. The PC-NCT allows collection of data about areas of practice where the standard is uncertain, facilitating an evaluation of those practices and their potential benefit for veterans and families. Although the development of informatics tools to guide and quantify PC practice is complex, there is enormous potential for these tools to improve the quality of care for patients and families facing serious, life-limiting diseases.

Author Disclosure Statement

No competing financial interests exist.

Acknowledgments

The authors would like to acknowledge the unfailing efforts of the QuIRC administrative team: Kristen Cribbs, BA, Allyson Hemstreet, BA, Claudia Ochotorena, BS, and Hannah Schreiber-Baum, MPH. We also wish to thank the reviewers who provided excellent feedback to improve the clarity of this manuscript.

References

1. National Quality Forum: *Performance Measurement Coordination Strategy for Hospice and Palliative Care*. Washington, DC, National Quality Forum, 2012.
2. Cartwright-Smith L, Hyatt Thorpe J, Burke T, Rosenbaum S: An Overview of Final Regulations Implementing HITECH's Meaningful Use Provisions and their Implications for Regional Collaboratives: Aligning Forces for Quality Improving Health & Health Care in Communities Across America. Robert Wood Johnson Foundation, Princeton, NJ, 2010.
3. Abernethy AP, Wheeler JL, Bull J: Development of a health information technology-based data system in community-based hospice and palliative care. *Am J Prev Med* 2011;40.
4. Longman P: *Best Care Anywhere: Why VA Health Care Is Better Than Yours*. San Francisco, CA: Berrett-Koehler Publishers, 2010.
5. National Quality Forum: *A National Framework and Preferred Practices for Palliative and Hospice Care Quality*. Washington, DC, National Quality Forum, 2012.
6. National Consensus Project for Quality Palliative Care: *Clinical Practice Guidelines for Quality Palliative Care*. Pittsburgh, PA, National Consensus Project for Quality Palliative Care, 2013.
7. Dy SM, Lorenz KA, O'Neill SM, Asch SM, Walling AM, Tisnado D, Antonio AL, Malin JL: Cancer Quality-ASSIST Supportive Oncology Quality Indicator Set. *Cancer* 2010; 116:3267-3275.
8. Wenger NS, Roth CP, Shekelle P: Introduction to the Assessing Care of Vulnerable Elders-3 Quality Indicator Measurement Set. *J Am Geriatr Soc* 2007;55:S247-S252.
9. Casarett D, Shreve S, Luhrs C, Lorenz K, Smith D, De Sousa M, Richardson D: Measuring families' perceptions of care across a health care system: Preliminary experience with the Family Assessment of Treatment at End of Life Short Form (FATE-S). *J Pain Symptom Manage* 2010;40:801-809.
10. Steinhauser K, Christakis NA, Clipp EC, McNeilly M, McIntyre L, Tulsky JA: Factors considered important at the end of life by patients, family, physicians, and other care providers. *JAMA* 2000;284:2476-2482.
11. Dabbs ADV, Myers BA, Mc Curry KR, Dunbar-Jacob J, Hawkins RP, Begey A, Dew MA: User-centered design and interactive health technologies for patients. *Comput Inform Nurs* 2009;27:175-183.
12. Kuziemy C, Jewers H, Appleby B, Foshay N, Maccaull W, Miller K, Macdonald M: Information technology and hospice palliative care: Social, cultural, ethical and technical implications in a rural setting. *Inform Health Soc Care* 2012;37:37-50.
13. Dobbie A, Rhodes M, Tysinger J, Freeman J: Using a modified nominal group technique as a curriculum evaluation tool. *Fam Med* 2004;36:402-406.
14. Ahluwalia SC, Leos RL, Goebel JR, Asch SM, Lorenz KA: Provider approaches to palliative dyspnea assessment: Implications for informatics-based clinical tools. *AJHPM* 2013;30:231-238.
15. Lorenz KA, Sherbourne CD, Shugarman LR, Rubenstein LV, Wen L, Cohen A, Goebel JR, Hagenmeier E, Simon B, Lanto A, Asch SM: How reliable is pain as the fifth vital sign? *J Am Board Fam Med* 2009;22:291-298.
16. Bruera E, Kuehn N, Miller MJ, Selmser P, Macmillan K: The Edmonton Symptom Assessment System (ESAS): A simple method for the assessment of palliative care patients. *J Palliat Care* 1991;7:6-9.
17. Strauss A, Corbin J: Grounded theory methodology. In: Denzin N, Lincoln Y (eds): *Strategies of Qualitative Inquiry*. Thousand Oaks, CA: Sage Publications, 1998, pp. 158-183.
18. Nielsen J: Estimating the number of subjects needed for a thinking aloud test. *Int J Hum Comput Interact* 1994;41:385-397.
19. Nielsen J: *Usability Engineering*. Amsterdam, The Netherlands: Morgan Kaufmann, 1993.

Address correspondence to:
 Joy R. Goebel, RN, MN, PhD
 School of Nursing
 California State University Long Beach
 1250 Bellflower Boulevard
 Long Beach, CA 90804-0301
 E-mail: joy.goebel@csulb.edu

(Appendix follows →)

Appendix 1. Palliative Care National Clinical Template (PC-NCT) Version 3.0

To view a comprehensive user guide, click link: *(Link to the user guide)*

To view the template pocket card, click link: *(Link to the pocket card)*

To view template tips, click link: *(Link to template tips)*

To view instructions on opening/closing template, click link: *(Link to template: opening & closing)*

CLINICAL PRESENTATION

- History obtained primarily from:
 - the patient: [TEXTBOX]
 - other than the patient: [TEXTBOX]
- Chief complaint and reason for consultation: [TEXTBOX]
- History of present illness: [TEXTBOX]
- Problem list: Check box to include data in progress note. All data MUST be verified and edited to ensure accuracy. *(Imported in)*
- Prior medical/surgical history: [TEXTBOX]
- Allergies: Check box to include data in progress note. All data MUST be verified and edited to ensure accuracy. *(Imported in)*
- Medications: Check box to include data in progress note. All data MUST be verified and edited to ensure accuracy. *(Imported in)*
Active Outpatient Medications (excluding supplies): *(Imported in)*
- History of any substance misuse, current or prior:
 - Tobacco
 - Yes Comments: [TEXTBOX]
 - No Comments: [TEXTBOX]
 - Alcohol
 - Yes Comments: [TEXTBOX]
 - No Comments: [TEXTBOX]
 - Opioids or heroin
 - Yes Comments: [TEXTBOX]
 - No Comments: [TEXTBOX]
 - Other
 - Yes Comments: [TEXTBOX]
 - No Comments: [TEXTBOX]

SOCIAL HISTORY

- Patient Caregiving Needs: [TEXTBOX]
- Social/Personal/Military History: [TEXTBOX]

REVIEW OF SYMPTOMS

Record the presence or absence of the following symptoms. Record the symptom distress during the 24 HOURS prior to the evaluation.

- Last Recorded Pain Score (from vitals package): *(Imported in from Vitals)*
- Pain (average pain score in the past 24 hours)
 - Pain assessed using numeric rating scale
 - Pain: *(drop box options below)*
 - 0 -no pain
 - 1 -slightly uncomfortable
 - 2
 - 3
 - 4

- 5
- 6
- 7
- 8
- 9
- 10 -worst imaginable
- 99 -unable to respond

- Pain assessed using categorical rating scale
 - Absent
 - Mild
 - Moderate
 - Severe

- Dyspnea
 - Patient assessed using numeric rating scale
 - 0 (no dyspnea)
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10 (worst imaginable)
 - Patient assessed using categorical rating scale
 - Absent
 - Mild
 - Moderate
 - Severe

- Constipation
 - Absent: [TEXTBOX]
 - Present: [TEXTBOX]

- Anorexia
 - Absent: [TEXTBOX]
 - Present: [TEXTBOX]

- Nausea or Vomiting
 - Absent: [TEXTBOX]
 - Present: [TEXTBOX]

- Diarrhea
 - Absent: [TEXTBOX]
 - Present: [TEXTBOX]

- Insomnia
 - Absent: [TEXTBOX]
 - Present: [TEXTBOX]

- Other: [TEXTBOX]

- Other: [TEXTBOX]

- Other: [TEXTBOX]

- Psychological Symptoms
 - Last Recorded Patient Health Questionnaire (PHQ) score *(Imported in)*
 - Depression (link to the MH package (PHQ-2)
 - Other history of depression: [TEXTBOX]
 - Anxiety

Answer the first question with regard to whether or not the patient is experiencing the symptom. Answer the second question to indicate the pervasiveness of the symptom.

During the past two weeks, how often has the patient been bothered by any of the following problems?

Feeling nervous, anxious, or on edge:

- Not at all (=0)
- Several days (=1)
- More than half the days (=2)
- Nearly every day (=3)

Not being able to stop or control worrying:

- Not at all (=0)
- Several days (=1)
- More than half the days (=2)
- Nearly every day (=3)

A combined score of 3 or greater on both questions indicates a need for further evaluation for anxiety or PTSD.

Other history of anxiety: [TEXTBOX]

PALLIATIVE PERFORMANCE SCALE (PPSV2) version 2

Copyright: Victoria Hospice Society, BC, Canada (2001)
victoriahospice.org/sites/default/files/imce/PPS%20ENGLISH.pdf

** Suggested use for patients with advanced cancer **

CARE PLANNING

Current decision making capacity:

- The patient has impaired ability to contribute to medical decision making
 - associated with a temporary cause
 - not associated with a temporary cause
- The patient was completely able to participate in medical decision making

Emergency Contact

Does the patient currently have a preferred emergency contact identified?

Yes

Name of the emergency contact: [TEXTBOX]

Phone number for the emergency contact:

[TEXTBOX]

No

Surrogate documentation

Is the surrogate information documented in an advance directive or power of attorney?

Yes

No

Discussion of goals, values, and relevance to current and future health: [TEXTBOX]

Please document any limitations of treatment appropriate on the basis of expressed preferences in the Assessment and Recommendations module. If patient expressed preferences for treatment limitations, are all of these preferences documented in an advance directive?

Yes

No

SPIRITUAL CONCERNS

Spiritual/religious history and concerns: [TEXTBOX]

PHYSICAL EXAMINATION

Click on this box to include the weight/vitals in the progress note.

General: [TEXTBOX]

Head/Neck: [TEXTBOX]

Heart: [TEXTBOX]

Lungs: [TEXTBOX]

Abdominal: [TEXTBOX]

GU: [TEXTBOX]

Rectal: [TEXTBOX]

Extremities/Musculoskeletal: [TEXTBOX]

Neurological: [TEXTBOX]

Skin: [TEXTBOX]

Other: [TEXTBOX]

ASSESSMENT AND RECOMMENDATIONS

Assessment: [TEXTBOX]

Summary of likely prognosis and relevance to management: [TEXTBOX]

Patient or surrogate expressed preferences consistent with the following:

No limitations to treatment

Check the appropriate limitations to treatment and discuss each in detail in the text box.

Cardiopulmonary resuscitation: [TEXTBOX]

Mechanical Ventilation [TEXTBOX]

Feeding tube or other artificial feeding (e.g., TPN): Describe: [TEXTBOX]

Transfer to the intensive care unit: [TEXTBOX]

Rehospitalization: [TEXTBOX]

Other: [TEXTBOX]

Recommendations: [TEXTBOX]

WORKLOAD CAPTURE

In addition to the medical provider (MD/DO, NP, PA, or CNS), the following bedside consult team members were involved in the initial palliative care evaluation:

Registered Nurse

Licensed Vocational or Practical Nurse

Social Worker

Chaplain

Mental Health Provider

Pharmacist

Nutritionist

Other: [TEXTBOX]

For inpatient and outpatient palliative care consults, this section will populate the encounter form.

Primary Palliative Consult Diagnosis

- Cancer & Hematologic Conditions
- CNS Conditions Other than Cancer
- Cardiopulmonary Conditions Other than Cancer
- Renal Conditions Other than Cancer
- Dermatologic Conditions
- Rheumatologic, Vasculitic, and Thromboembolic Conditions
- Infections Conditions and Systemic Inflammatory Response Syndrome (SIRS)

A CPT code that ends in a three (3) or higher is associated with a comprehensive consult addressing physical, spiritual, and care planning domains.

Inpatient [WORKLOAD CAPTURE MODULE]

Minimal (CPT:99251) (20 minutes or more)

Problem Focused (CPT:99252) (40 minutes or more)

Expanded (CPT:99253) (55 minutes or more)

- Detailed (CPT:99254) (80 minutes or more)
- Complex (CPT:99255) (110 minutes or more)
- Outpatient [WORKLOAD CAPTURE MODULE]
 - Minimal (CPT:99241) (15 minutes or more)
 - Problem Focused (CPT:99242) (30 minutes or more)
 - Expanded (CPT:99243) (40 minutes or more)

- Detailed (CPT:99244) (60 minutes or more)
 - Complex (CPT:99245) (80 minutes or more)
- Was more than half of the consultation time spent counseling the patient or family? [WORKLOAD CAPTURE MODULE]
- Yes
 - No