

Oncology Outpatient and Provider Responses to a Computerized Symptom Assessment System

Janet S. Carpenter, PhD, RN, Susan Rawl, PhD, RN, Jennifer Porter, MSN, RN, Karen Schmidt, MSN, RN, Jennifer Tornatta, BSN, RN, Foluso Ojewole, MSN, RN, Paul Helft, MD, David A. Potter, MD, PhD, Christopher Sweeney, MD, and R. Brian Giesler, PhD

Purpose/Objectives: To assess patient and provider responses to a computerized symptom assessment system.

Design: Descriptive, longitudinal study with retrospective, longitudinal medical records review.

Setting: University-based National Cancer Institute–designated outpatient cancer center.

Sample: 80 oncology outpatients receiving chemotherapy, 8 providers, and 30 medical records.

Methods: Patients completed the computerized assessment during three chemotherapy follow-up clinic appointments (times 1, 2, and 3). Patient usability was recorded via an observer checklist (ease of use) and the computer (completion time). Patient satisfaction and impact were assessed during telephone interviews two to three days after times 1 and 3 only. Provider usability and impact were assessed at the end of the study using a questionnaire and focus groups, whereas effect on provider documentation was assessed through chart audits.

Main Research Variables: Patient usability (ease of use, completion time), satisfaction, and impact; provider usability and impact.

Findings: Patients reported good usability, high satisfaction, and modest impact on discussions with their providers. Providers reported modest usability, modest impact on discussions with patients, and had varied reactions as to how the system affected practice. Documentation of symptoms was largely absent before and after implementation.

Conclusions: This system demonstrated good usability and satisfaction but had only a modest impact on symptom-related discussions and no impact on documentation.

Implications for Nursing: A computerized system can help address barriers to symptom assessment but may not improve documentation unless it can be integrated into existing medical records systems.

Key Points . . .

- ▶ During chemotherapy follow-up clinic appointments, oncology outpatients reported good usability, high satisfaction, and mixed impact with a computerized assessment system, targeting multiple symptoms, symptom management strategies, and symptom outcomes.
- ▶ Oncologists and oncology nurses (i.e., providers) reported modest usability for the computerized symptom assessment system and suggested several changes to improve the system.
- ▶ Despite patient reports indicating symptoms were well addressed, lack of symptom documentation in medical records suggest that the computerized system did not affect provider documentation.

are feasible, can be completed in a reasonable timeframe, and may increase discussions of symptoms initiated by providers. This article describes patient and provider responses to a computerized symptom assessment system that was pilot-tested in a university-based National Cancer Institute–designated outpatient cancer center.

Janet S. Carpenter, PhD, RN, is an associate professor, Susan Rawl, PhD, RN, is an associate professor, Jennifer Porter, MSN, RN, is a graduate student, Karen Schmidt, MSN, RN, is a project manager, Jennifer Tornatta, BSN, RN, is a graduate student, and Foluso Ojewole, MSN, RN, is a graduate student, all in the School of Nursing at Indiana University in Indianapolis. Paul Helft, MD, is an associate professor in the Department of Medicine, Division of Hematology/Oncology, at the Indiana University Simon Cancer Center in Indianapolis; David A. Potter, MD, PhD, is an associate professor in the Department of Medicine, Hematology, Oncology and Transplant Division, at the University of Minnesota in Minneapolis; Christopher Sweeney, MD, is an associate professor in the Department of Medicine, Division of Hematology/Oncology, at the Indiana University Simon Cancer Center; and R. Brian Giesler, PhD, is an assistant professor in the Department of Psychology at Butler University in Indianapolis. This study was funded by the National Cancer Institute (grant R21 CA100803). No financial relationships to disclose. (Submitted October 2007. Accepted for publication January 7, 2008.)

Digital Object Identifier: 10.1188/08/ONF.661-669

Careful symptom assessment is vital for providing quality cancer care (Institute of Medicine, 2003). However, systematic assessment is complex. Patients with cancer may experience multiple symptoms at any one time (Patrick et al., 2004) but tend not to spontaneously share information about those symptoms (Stone et al., 2000; Ward et al., 1993). Healthcare providers also may find addressing multiple symptoms during a single patient encounter difficult or time-consuming. In addition, provider documentation can be incomplete or may not reflect patients' symptoms (DeVon, Ryan, & Zerwic, 2004; Stromgren, Groenvold, Pedersen, et al., 2001; Stromgren, Groenvold, Sorensen, & Andersen, 2001). Computerized symptom assessment systems have been proposed as a means of overcoming these barriers. Previous reports suggest that touch screen systems with printed reports