

A Model of Proactive Tele-Oncology Nursing Triage Through Remote Monitoring of Patient-Generated Health Data

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BACKGROUND: Telehealth approaches to remotely triage and manage patient issues are commonly used in surgical oncology. To date, most models place the burden of communication with the cancer care delivery system on the patient at home and in the community.

OBJECTIVES: This project presents a model for proactive tele-oncology nursing triage that leverages remotely captured, patient-generated health data to guide assessment and management.

METHODS: The nursing triage model is presented through three case studies, which illustrate the trajectory of proactive triage encounters, communication with the surgical oncology team, and management recommendations before surgery to 90 days post-hospital discharge.

FINDINGS: Patients were able to share intermittent electronic symptom data before and after surgery and postoperatively wear sensor devices to support functional recovery. Oncology triage nurses leveraged the data to guide telephone communication to address patients' needs.

KEYWORDS

surgery; symptoms; functional recovery; digital health; remote monitoring

DIGITAL OBJECT IDENTIFIER

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ADVANCES IN TREATMENT AND HEALTHCARE TRENDS have resulted in a shift in cancer care delivery from inpatient to outpatient. These trends have also affected oncology nursing care; the American Academy of Ambulatory Care Nursing estimates that about 25% of nurses practice in outpatient settings (Hickey, 2019; Laughlin & Witwer, 2019). Findings from the 2020 National Nursing Workforce Survey found that 50% of surveyed nurses provided care through telehealth technologies (Smiley et al., 2021). In an effort to guide nursing care, the American Academy of Ambulatory Care Nursing (Angela et al., 2018) developed the *Scope and Standards of Practice for Professional Telehealth Nursing*.

Telephone calls and telehealth have been used by oncology nurses to provide care to patients and families remotely. In this cancer care delivery model, oncology nurses quickly collect information from patients and families to guide triage and management decisions (Steingass & Maloney-Newton, 2020). As cancer care continues to shift more to the outpatient setting, an efficient and reliable system is needed to address potential problems that arise at home for patients and families. The purpose of this article is to describe a model of proactive perioperative tele-oncology triage nursing care that improves postoperative outcomes in surgical oncology. The models are implemented and illustrated through three case studies.

Background

Evidence on Remote Telemonitoring

Electronic symptom monitoring has been shown to improve patient outcomes in advanced cancer. A multicenter cluster randomized study of electronic symptom monitoring (PRO-TECT [Alliance AFT-39]) was conducted across 52 oncology practices nationwide and enrolled 1,191 patients (Basch et al., 2022). The intervention consisted of weekly electronically obtained patient-reported symptom surveys for one year that contained questions from the National Cancer Institute's Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events. When scores reached a prespecified symptom threshold or worsened compared to previous survey results, the patient received email links to educational materials, and alerts were sent to a clinical nurse responsible for the patient. Practices acted on the data based on standards and at the discretion of