

# Leveraging eHealth Technology for Oral Chemotherapy Management: A Literature Review

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**BACKGROUND:** Patients prescribed oral chemotherapy (OC) may find adherence and management of side effects difficult. Leveraging technology available to patients, such as smartphones, laptops, or at-home computer devices, may help close the loop on crucial information needed for the safe administration of these toxic medications.

**OBJECTIVES:** The primary aim of this review was to explore the feasibility of standardization of an electronic OC adherence questionnaire to gather patient-reported outcomes. The secondary aim was to determine whether patient-reported outcome measures improve providers' response times to patient-reported concerns.

**METHODS:** A comprehensive literature review was performed in CINAHL®, Scopus®, Open Access Journal Finder, and SocINDEX. Ten articles, from which four themes were synthesized and discussed, were selected for this review.

**FINDINGS:** Leveraging eHealth using an OC adherence questionnaire to monitor medication adherence, laboratory testing schedule adherence, and self-management of symptoms and disease, as well as providers' timely response to potential issues, may improve overall health outcomes.

## KEYWORDS

patient-reported outcomes; adherence; electronic patient reports

## DIGITAL OBJECT IDENTIFIER

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**WITH THE GROWING AVAILABILITY OF ORAL CHEMOTHERAPY (OC)** for patients with cancer, managing these hazardous drugs can be challenging because of a lack of timely professional guidance on symptom management and medication adherence in the home setting. In addition, OC assessments have not integrated well with electronic health records (EHRs), limiting patient input rather than encouraging patient engagement throughout their course of treatment. Using eHealth technology and OC patient-reported outcome measures (PROMs) can improve timely communication, adherence, and quality of life (QOL), and may assist patients with better self-management of their disease (Birkhoff et al., 2018; Erickson et al., 2021; Girgis et al., 2018).

The National Cancer Institute, the American Cancer Society, and the U.S. Food and Drug Administration stress the importance of incorporating patient-reported outcomes (PROs) into cancer care and policy formation (Tran et al., 2020). The National Institute of Nursing Research (2016) has emphasized the necessity of a scientific focus to improve QOL for people with chronic diseases through self-management, and has highlighted and identified technology's critical role in improving patients' health. For this article, eHealth is defined as healthcare delivery using electronic communication technologies when healthcare providers and patients are not in the same location and their encounters are mediated electronically.

PROs are standardized measures taken to gain the patient's perspective about their current health status. These measures are increasingly used in health care to ensure optimal delivery of person-centered care (Warsame & D'Souza, 2019). The Guidance for Industry Patient-Reported Outcome Measures (2009) defines a PRO as "any report of the status of a patient's health condition that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else" (p. 2). PRO responses are assessed through PROMs, which are standardized, evidence-based practice tools developed as surveys, scales, or single-item measures, generally used in clinical trials. Each PRO question is designed to collect a specific PROM for provider analysis, such as a symptom or functional status. The routine administration of PROs over an individual patient's course of care allows for longitudinal assessments and benchmarking by their oncology provider, as well as aids in more effective analysis and clinical decision-making (Field et al., 2019).

## Purpose

The primary aim of this study was to explore the feasibility of standardizing an electronic OC adherence questionnaire to gather PROs from patients with