

# An Evidence-Based Review of the Safety and Efficacy of Remote Chemotherapy Verification

Erica Fischer-Carlidge, DNP, RN, AOCNS®, EBP-C, Caroline Clark, MSN, APRN, OCN®, AG-CNS, EBP-C, Sarah B. Kibbee, BSN, RN, CMSRN®, OCN®, and Kerri Moriarty, MLS

In response to the nursing shortage and the emergence of telehealth opportunities, the Oncology Nursing Society used an evidence-based approach to examine current literature and trends for the two-person independent double check of high-risk medications, such as chemotherapy, when one of those two individuals is working remotely. Analysis of available evidence suggests virtual technology for two-person independent double checks is feasible and may be equal to live two-person checks; however, lack of consistency and rigor in the interventions and outcome measures makes a determination on safety or efficacy challenging.

## AT A GLANCE

- Innovative solutions for chemotherapy safety checks are needed across the cancer care continuum to respond to the evolving healthcare landscape without sacrificing safety.
- Integrating remote technology into chemotherapy safety checks was not associated with adverse event reports in the literature or practice interviews.
- To determine the safety and efficacy of remote independent verification for high-risk medications, nursing research is recommended.

## KEYWORDS

high-risk medication; safety; remote; telehealth; quality; virtual health

## DIGITAL OBJECT IDENTIFIER

10.1188/24.CJON.313-317

Oncology nursing care is complex and requires special training (Oncology Nursing Society, 2020). The consequences of a medication error can be devastating, but when completed properly, an independent double check (IDC) may lessen the chance an error will occur. The IDC of high-risk medications, such as chemotherapy, by two nurses has long been a standard of administration (Neuss et al., 2017). IDCs ensure patients receive medication in the safest way possible and have conventionally occurred with two nurses in the same setting as the patient, independently verifying key components prior to medication administration.

Traditional on-site IDCs can be limiting, more so when there are staffing shortages. The adoption of electronic health records (EHRs) along with the explosion of telehealth opportunities accelerated by the COVID-19 pandemic has given clinicians the ability to be in one location while remotely helping another who may be down the hall or miles away. According to Berlin et al. (2022), the United States will be short an estimated 450,000 nurses by 2025. Because of current and projected nursing shortages, as well as the lack of specialty-trained oncology nurses, trailblazing solutions are necessary to answer the constantly evolving environmental challenges across the care continuum without sacrificing safety.

Implementation of virtual care nurse models, where components of care are delivered via telephone or with two-way communication via video technology, is increasing in a variety of settings (Cloyd & Thompson, 2020). Several core functions of the virtual care nurse include patient education, mentorship, patient monitoring, and admission and discharge care; however, verification of high-risk medications prior to administration is not one of those elements (Cloyd & Thompson, 2020). This article provides an overview of the current literature and clinical practice trends of remote IDC for chemotherapy verification.

## Methods

Synthesis of interventions and outcomes associated with virtual checks of high-risk medications was completed using an evidence-based approach. The PICO (problem, intervention, comparison, outcome) format generated