Enhancing Oncology Side Effect Management Using a Remote Monitoring System

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An estimated 86% of patients with cancer receiving treatment report at least one side effect (SE), with an estimated 65% reporting a grade 3 or higher SE during treatment (Pearce et al., 2017; Winstead, 2022). In addition, an estimated 15% of patients report experiencing SEs that never resolve (Lee et al., 2022). The SE burden of oncolytic treatment is highly individualized and affects patients’ and caregivers’ overall well-being and quality of life (QOL) (Hassen et al., 2019; Mohammadzadeh Nimekari et al., 2019; Padmaja et al., 2017).

More than one-third of patients with cancer are hospitalized annually (Whitney et al., 2018). Although some hospitalizations are the result of complications from the cancer itself, others are preventable and attributable to poor management of treatment-related SEs (Whitney et al., 2018). Hospitalizations add to the already high financial burden of cancer care (Roeland et al., 2018). Evidence-based discharge programs and structured discharge checklists reduce hospital readmissions (Beaver & Magnan, 2016; Rohlfs, 2022). However, to improve the efficiency of healthcare delivery and reduce costs, strategies to prevent initial hospitalizations are needed.

Reductions in treatment-related SE burden and hospitalizations can improve QOL for patients with cancer and their caregivers (Fjell et al., 2020; Hassen et al., 2019; Lee et al., 2022; Padmaja et al., 2017). To improve QOL and potentially reduce mortality throughout treatment, patients must understand treatment-related SEs and how to manage them (Olver et al., 2018). However, many patients are incapable of monitoring SEs daily and often delay reporting SEs that require prompt management (Almohammadi et al., 2020; Maguire et al., 2021; Olver et al., 2018).

Although professional oncology organizations have established guidelines for healthcare providers (HCPs) to better manage treatment-related SEs, no gold standard for SE reporting exists (Bray et al., 2018; Hesketh et al., 2017; LeFebvre et al., 2020). HCPs rely on timely and accurate patient self-reporting in the decision-making process for dose modifications and supportive care (Batra et al., 2020; Pearce et al., 2017; Sodergren et al., 2016). By enhancing patient communication and access to resources, RNs and other HCPs can reduce hospitalizations, improve patient outcomes, and improve patients’ personal health management (Almohammadi et al., 2020; Bayraktar-Ekincioglu & Kucuk, 2018; Fjell et al., 2020).

Remote monitoring systems (RMSs) are innovative technology platforms used to manage chronic diseases, monitor complex conditions, and prevent