



An Interdisciplinary Approach to the Development and Implementation of Electronic Treatment Orders in a Medical Oncology Department

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This article provides a review of the interdisciplinary approach, implementation methods, and subsequent outcomes of transitioning to an electronic-based chemotherapy and biotherapy ordering system in a community hospital–based ambulatory medical oncology department. The electronic medical record solution system platform that was used in this setting was Cerner PowerChart®, which is certified by the Certification Commission for Healthcare Information Technology.

At a Glance

- An interdisciplinary team–based approach is required to attain and maintain the development of evidence-based oncology electronic order templates for chemotherapy and biotherapy regimens.
- Keeping safety as the cornerstone for chemotherapy ordering allows the cancer care team to leverage the integration of technology and successfully transfer from a paper process to computerized order entry.
- Continuous assessment and data tracking of the electronic ordering process permits the team to track barriers, accomplishments, and outcomes.

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The administration of chemotherapy and biotherapy is a high-risk and intricate process because of the potential for medication errors, adverse effect profiles, and a narrow drug therapeutic window of treatment. The oncology care team involved with chemotherapy treatment planning includes medical oncologists, oncology nurses, and pharmacists. This team works to ensure that effective checks and balances are in place prior to the administration of chemotherapy and biotherapy, preventing medica-

tion errors from reaching the patient. More recently, information technology (IT) departments' clinical application analysts have joined this clinically focused team as the era of electronic medical records (EMRs) have entered into the mainstream of oncology care. The implementation and interfacing of EMRs, automated dispensing machines, and barcode medication administration applications in the setting of oncology improve the safety and quality of care delivered to patients (Gandhi, Tyono, Pasetka, & Trudeau, 2014).

Benefits and Challenges of Computerized Provider Order Entry

In addition to improving efficiency and safety, EMRs also facilitate the delivery of quality care, making it possible to compare an individual patient's therapy with guidelines established by the practice or with guidelines established by other entities, such as the American Society of Clinical Oncology, the National Comprehensive Cancer Network (NCCN), or other evidence-driven organizations (Presant, Bosserman, McNatt, & Emilio, 2009). The transition to computerized provider order entry (CPOE) of chemotherapy offers an institution the opportunity to develop evidence-based oncology practice, standardize supportive care, and enhance patient safety (Adelson et al., 2014). In addition, a CPOE platform provides an opportunity to enhance patient care and user satisfaction because it effectively streamlines the workflow of all team members from the point of arrival in the patient infusion suite to completion of infusion treatment (Harshberger et al., 2011). The transition from a paper-based to an electronic ordering system can be a long, laborious challenge for the health-care team because the workflow process will be changed within the department. The most studied benefit of CPOE has been the reduction of medication errors (Steele & DeBrow, 2008). Ensuring that safety mechanisms are built into the electronic system is critical to the successful transition from a paper to an electronic ordering system. A strong