

by Brent Clough

With thousands of therapy options available and, exponentially, more potential drug combinations being written, it could be assumed that some nurses and pharmacists rely on their own experience to correctly decipher a patient's prescribed course of treatment. Although unusual, this type of scenario can create the potential for overdosing or under-dosing. Even in large oncology practices where chemotherapy orders are checked by five or more professionals, mistakes can happen.

Although the proliferation of drugs creates new opportunities for cure, confusion for any given caregiver can ensue if an order is clearly not understood. In manually-created chemotherapy orders, the combination of handwritten and fill-in-the-blank documents can be especially prone to error and misinterpretation.

Three Common Oncology Treatments

Three of the most common treatments used in medical oncology today that could be considered to have the most frequent or common risks in dosing include:

» FOLFOX + BEVACIZUMAB

According to our research at IntrinsiQ, in 2007, 24,000 patients in the US received this therapy for col-

orectal cancer. It includes an infusion of one drug over two days. The infusion is prepared, and the patient is sent home with a portable I.V. This kind of 'continuous infusion' is common, however, it can be toxic, and the schedule can be considered complex by some.

In the fast-paced environment of an oncology practice, there is the slightest possibility that a mistake when writing or interpreting the prescription can occur. Hopefully, an experienced nurse recognizes the script written as "2400 mg over two days," and knows that doesn't mean 2400 mg daily over two days.

» DOSE DENSE AC-TAXOL + HERCEPTIN

This therapy was administered to 44,000 US breast cancer patients in 2007, according to our data, and has become a standard of care for adjuvant therapy in HER2-positive breast cancer. The traditional chemotherapy regimen is lengthy—usually given over 6 to 12 months.

Sometimes the patient will not be able to tolerate a full dose every week across the course of treatment so the dose levels of Taxol are frequently adjusted. In addition, Herceptin requires a loading dose as well as subsequent maintenance doses, which introduces new potential for error every time it is administered.

» TAXOL + CARBOPLATIN

This combination is less common in the treatment of non-small cell lung cancer than it was just a few years ago, but it was still given as the preferred first-line therapy to 38,000 US patients in 2007. While Taxol plus carboplatin is commonly prescribed, it is also known for its need for pre-medications. Carboplatin itself requires an area-under-the-curve dosing calculation which can introduce the potential for dosing errors.

Tracking Treatments with an Electronic System

Experienced technology users who practice with electronic clinical applications see the many benefits of the electronic approach. With the help of a computerized physician order entry (CPOE) system, detailed tracking of complex treatment cycles is an excellent way for physicians to keep up and detail their patients' dosing schedules and reduces the potential for dosing errors.

According to a 2007 practice benchmarking study conducted by Oncology Metrics, 45% of practice respondents (n=271) said they use an electronic health record system. Of those who did not use an electronic system 55% (n=179) said that they plan to use one in the next 12 to 18 months (see Fig. 1).

One of the areas that suggest that oncologists may be feeling the

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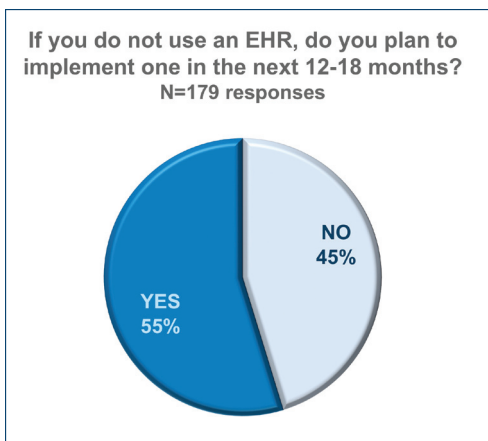


Figure 1. Source: Oncology Metrics.

pressure to automate stems from affiliated hospitals. Clinical oncology suites map to the biggest initiatives that hospitals are driving today: risk management, clinical excellence, and operational efficiency. In practices tracking chemotherapy treatments electronically, the long-term benefits are numerous:

- Oncologists ensure patients are ready for chemotherapy doses
- Practice managers assess progress toward performance metrics based on the size of a practice, treatments prescribed, and outcomes to benchmark clinical and operational performance
- Nurses and doctors can notify patients faster in the event of a drug-specific event
- Caregivers gain easy-to-read visibility into a patient's chemotherapy history with a flow chart revealing the therapies the patient has

already been exposed to and for what duration

Going Paperless

Understandably going electronic is more difficult for established practices and migration to clinical electronic medical records can take years, requiring significant resources and time to scan and verify every patient's chart. Moreover, some oncology practices that are calculating doses manually may be struggling to keep up with a changing business environment which includes the growing number of patients doctors see every day, and the increasing number of the treatments they administer.

According to our data, in the colorectal cancer arsenal alone, regimens with three or more therapies account for 25% of the options used in 2007, compared with only 5% of the total options available in 2003. While standards of care certainly exist, finding the most clinically appropriate protocol for a specific disease state requires constant dosing adjustments to balance treatment and toxicity.

Resistance to employing clinical software suites is most often simply a dilemma of finding the right functionality at the right price, and in making the commitment to practice-wide adoption after the initial implementation. Some practices start the transition through auto-

mating just their daily drug therapy administrations with a CPOE. These clinical software applications allow oncologists and nurses to start every new patient's course of treatment in an electronic system.

In Conclusion

By going paperless, a practice can create an oncology-specific database that becomes a 'system of record' for that practice. This resource enables a physician to quickly develop and modify treatment approaches to ensure a level of standardization for quality care. Automating has many advantages that are beneficial to a practice, i.e., up-to-date labs and vitals, performance metrics, and evidence-based medicine protocols. **BC**

IntrinsiQ Brent Clough is CEO of IntrinsiQ, the company with field data on more than 2 million drug administrations each year, collected through its clinical oncology software used daily by more than 100 top hospitals and practice groups.

>>OBR DAILY NEWS FLASH

A new breast cancer study in *The Archives of Internal Medicine* suggests that even invasive cancers may sometimes go away without treatment and in larger numbers than anyone ever believed. (*The New York Times*, 11/28/08)