

## Do Computer Systems Increase Medication Safety?

by E. Strode Weaver, FACHE, MBA, MHSA

If you've read any of my previous columns, you'll already know that patient safety is the issue I've decided to focus on during my tenure as ACCC President.

Of course, any dialogue about patient safety and cancer must include discussion about chemotherapy. Chemotherapy is arguably the component of the cancer service line that offers the highest potential patient safety risk. How could it not be when chemotherapy requires prescribing highly toxic drugs to control or eradicate cancer. Understandably, severe harm can result if these drugs are not administered in a safe fashion.

The Institute for Safe Medication Practices recently reported on a study that measured how effectively pharmacy computer systems could prevent a number of different chemotherapy medication errors. The findings were disturbing. After comparing the 2005 study to a similar study in 1999, analysts found that computer system safeguards had not noticeably improved. Put more bluntly, the report found that: "In 2005 many respondents' computer systems performed poorly and were unable to detect potentially serious or fatal errors."

The test methodology used a set of erroneous orders that corresponded to actual reported drug error cases. The test elements covered a potential litany of mistakes:

- Wrong administration route
- Food and drug allergies
- Excessive dosing based on age, weight, and body surface area
- Cumulative dose
- Drug interactions
- Lab monitoring values
- Duplicate therapy

So what were the results of the test? A total of 182 systems were fed the test orders; only 4 systems (or a little more than 2 percent of the systems tested) identified *all* of the potential unsafe orders.



These staggering results bring to light the fact that we cannot and must not rely on our computer systems to prevent patient safety errors. In fact, only the full attention of each member of the multidisciplinary care team—physicians, nurses, pharmacists, and others—will ensure that our cancer centers are providing services in as safe a

manner as possible. And this will require vigilant checks and double-checks every time chemotherapy is delivered.

As with my last column, I conclude with a call to action. I urge all of you to visit the Institute for Safe Medication Practices' website. Log onto [www.ismp.org/s/survey200505r.asp](http://www.ismp.org/s/survey200505r.asp) and read about this field test and the survey results.

Consider testing each of the safety elements in your pharmacy computer system to help safeguard against chemotherapy dosing errors. Work with your physicians, nursing staff, and pharmacy staff to identify any weaknesses in your prescribing and administration practices that can be improved for patient safety. And finally, critique your current computerized systems to see if they are the most up-to-date or if they can be improved through replacement or upgrades. Yes, all of these activities will require staff time and financial resources. On the other hand, it only takes one dramatically bad patient outcome to realize the resources would have been well spent. ☞

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