

Baxa debuts first Windows-based TPN order entry system

The technology race for total parenteral nutrition (TPN) order entry is heating up. Baxa grabbed an early lead with its Abacus system, which was rolled out in late 2003. But competitor Baxter has unveiled its own Windows-based system, called Logix CM, part of the Enhanced Automated Compounding System. Both products are designed to drive their maker's own automated compounders; neither works with the other company's products.

"Baxa was first," said Doug Samuelson, pharmacy operations manager at Advocate Lutheran General Hospital in suburban Chicago. "But Baxter is close behind. You have to look at the whole integrated system, not just the software."

Lutheran General is rolling out Abacus in the second quarter after a new network server is up and running. Physicians will do their own order entry, starting with the neonatal

unit. Pharmacists on the floor will also handle order entry, with pharmacists in the compounding clean room responsible for a final check and authorization of each bag.

"If you have enough TPN volume to justify automating, you can't get much better than this," Samuelson said. "It does exactly what TPN software needs to do. It keeps order entry as simple as possible and as error-free as possible." Automated order entry also saves time, which is how Samuelson sold the system to Lutheran General physicians. Physicians might be able to scribble a TPN order faster than they can enter it on screen, but Abacus eliminates callbacks from pharmacy. There are no questions on handwriting or on orders that violate formulary or treatment guidelines.

According to ASHP, about 65% of U.S. hospitals use automated compounders to mix TPN. Baxa and Baxter are the only significant U.S. competitors in this market.

It is too soon to know whether new order entry software alone will tempt hospitals to switch suppliers. But hospital pharmacists say the move from DOS-based

programs to Windows-based products is a significant improvement.

"Point-and-click technology is faster and much more user friendly," explained Nicole Bryan, pharmacy supervisor at Sunrise Hospital in Las Vegas. Sunrise was one of the first hospitals to buy into the Abacus system. Pharmacy technicians are currently handling most TPN order entry. Pharmacists are responsible for checking each order.

"We can customize labels, formulary, and almost anything else to look like familiar forms," Bryan continued. "It means less intensive training, fewer order entry errors, and easier error correction. We can tailor order entry to anything from neonatal to geriatric."

Tailoring order entry also speeds the process. Sunrise orders about 55 TPN bags daily, Bryan said. Before Abacus, order entry routinely stretched into two shifts.

With the new program, one eight-hour shift can enter an entire day's worth of TPN orders.

But order entry doesn't come easily. "You have to put in a lot of work up front to make it intuitive to physicians and other users," Samuelson cautioned. "There is a lot of work in the customization process."

Abacus arrives as a generic-looking order entry system with no formulary, warning limits, customized reports, access limits, or other hospital-specific features. A Baxa support team spends four to five days on site with each new customer, explained senior marketing manager Ed Apodaca. "If we start on Monday morning, we can go live on Wednesday or Thursday, then debug the system and train your people," he said. "We will be gone by the end of the day Friday."

During the weeklong installation, warnings, alerts, and ingredient limits are customized to match each hospital's formulary, protocol, and practice guideline

needs. Warnings can be set to anything from a gentle reminder to a full stop, depending on the potential problem and possible outcome. Weight-based formulas, for example, can be set to remind the user to check patient weight or freeze the order in place until the weight is physically verified.

Ingredient entries that could change depending on laboratory results can check current lab data automatically in some hospitals. Institutions with less integrated information systems might require the user to obtain and enter the needed data before continuing.

Warnings and formulary requirements can be customized for an entire hospital, for a specific department, or for a particular user or set of users.

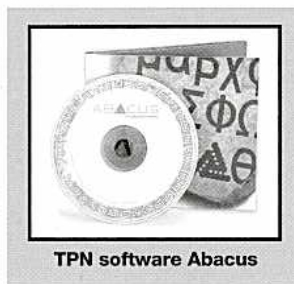
User permissions can be customized to allow different access for different people. Physicians might have one level of access and authority to override program alerts, pharmacists another, pharmacy technicians a third level, nurses a fourth. Permissions can also be set by department or individual. A neonatal ICU specialist might have different access than a generalist or a geriatric specialist.

The Baxa order entry program comes in three versions, a stand-alone calculator (Abacus CE), a single-user edition (Abacus SE) that can be used on a single workstation, and a multiuser edition (Abacus ME) designed to be used over a network.

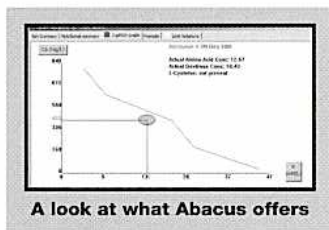
The CE computes the formula for each TPN order entered, but does not interface with Baxa's automated compounders, the Exact-Mix 2400 and 600 or the MicroMacro 12 and 23. The stand-alone program is currently priced at \$4,600.

SE and ME versions can control any of Baxa's four automated TPN compounders. Automated compounding systems are usually leased, Apodaca said, with Abacus accounting for about 20% of the total system cost.

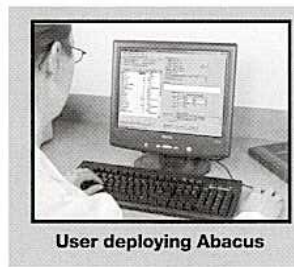
Fred Gebhart



TPN software Abacus



A look at what Abacus offers



User deploying Abacus