Nine out of ten ORs have some kind of information system, according to the 2004 OR Manager Salary/Career survey. But a large number of systems are older products that do not offer the range of functions most perioperative managers want and need.

“ORs are looking at new systems because their current systems are not robust enough,” says Judith Swanson, RN, BS, director of perioperative services at 715-bed Texas Children’s Hospital, Houston, who spoke at the Managing Today’s OR Suite conference in the fall in Chicago.

Traditionally, ORs have been islands of automation, with systems that worked well but didn’t connect well to the mainland. They might have had bridges to other departments like admissions, finance, and materials management. Sometimes those bridges were solid, and sometimes they were rickety.

Now ORs are looking to turn those bridges into super highways. They want access to real-time data and seamless integration with other information systems.

OR managers want preference cards linked to the charging and materials management systems. They want staff in the OR and postanesthesia care to have immediate access to the patient’s record with lab results and medication history. They want to be linked with physicians’ offices to better coordinate scheduling. And they want easy-to-create reports for improving processes and managing costs.

Boundaries blurred

For some, the choice of a new system is already made. They will use the OR module from a company that serves the rest of the institution, such as Cerner, McKesson, Meditech, or GE Healthcare. Managers looking at the whole market have more choices, including Surgical Information Systems (SIS), Picis, Per-So Technologies, Unibased Systems Architecture (USA), and Mediware.

The choice used to be fairly clear-cut. Would you choose a “niche” product specifically designed for surgery? Or would you choose a product that was part of a package serving multiple departments?

Now boundaries are more blurred. The trend is toward greater integration. Most of the niche vendors either have disappeared or been acquired by larger companies, as iPath was by GE Health-care in 2002.

At the same time, companies that still focus on surgery, such as SIS and Picis, have expanded to include more of the perioperative continuum and even beyond. Picis, which recently merged with ibex, an emergency department system, and offers critical care software, calls itself a “best-in-cluster” company. Both SIS and Picis have partnerships with larger health information companies, SIS with Eclipsys and Picis with IDX. Still others, namely Per-So and USA, link their perioperative software to their enterprise-wide scheduling software.

Market shifting

“I think we see the market gravitating more toward enterprise-wide systems,” says Ralph Reyes of KLAS Enterprises, a firm that tracks performance of health care IT products. A chief information officer (CIO) might look at an enterprise-wide system and say, “I can save $700,000 by buying a single package and still get 80% of the functionality for the OR.”

Ed Brotherson, RN, OR systems analyst at Shands Hospital at the University of Florida, Gainesville, says enterprise-wide systems with OR modules have been rapidly evolving.
“Most vendors have been partnering with third parties to get OR modules in the past 2 years,” Brotherson says. “There is a big question whether the enterprisewide systems have a true OR component and whether that is robust enough for most OR needs.”

If an enterprisewide system has a useful OR component, Brotherson says these integrated systems can be easier to use and maintain than those patched together through interfaces.

“Dealing with one vendor is a big reason to choose one system,” he says. “If a problem arises, you don’t have to call 2 vendors to figure out the problem or to retrieve data from interfaces.”

In 2002, Shands purchased iPath, a “niche” system for the OR. Later, General Electric Healthcare purchased iPath and now calls the system Centricity Perioperative.

“We had already purchased a (hospitalwide) system and were just looking for an OR module,” Brotherson says. “We will be purchasing a materials management system and interfacing it.”

**Heat on niche vendors**

The heat is on niche vendors, and “enterprise vendors clearly have the momentum,” comments Brian DeBusk, former CEO of iPath. Though niche companies don’t often lose when they go head-to-head with enterprise vendors, they often aren’t even invited to participate in the selection process, he observes.

In the long run, though, DeBusk thinks “niche systems will be just fine” because of dynamics in the industry. First, as enterprisewide systems improve their OR modules and sell them to a significant share of their customers, the market may become saturated. With less income from new sales, he says, these companies will have to depend more on maintenance fees and will have less incentive to upgrade their OR products. That might create an opportunity for niche vendors. Second, enterprisewide vendors don’t have as much incentive to develop OR modules because they can be just as costly to produce as a broader clinical module, yet sell for much less. Finally, enterprisewide companies, though large by health care standards, could become takeover targets for IT behemoths such as Microsoft and Oracle—sending the industry into a whole new round of massive modifications, upgrades, and integrations.

For these reasons, DeBusk thinks that niche vendors will do OK.

“For OR directors who need the flexibility and features of a powerful information system, I still believe a niche solution is the way to go,” he says. Still, “as CIOs get more power, the pressure to work with an enterprise-type OR solution will increase.”

**Two different choices**

Two hospitals systems that recently selected OR software went in different directions. The Portland, Ore-based Providence Health System chose Horizon Surgical Manager, the OR product from McKesson, an enterprise vendor, for its 7 hospitals in Oregon.

SSM Health Care, based in St Louis, on the other hand, selected SIS, an OR-specific product, for its 15 hospitals. SSMHC “has made the decision to standardize software across the system,” explains Carol Dodel, RN, BSN, Information Center product specialist for surgical services. “All (SSM) hospitals use the same materials management and hospital information systems, including billing.”

Providence, which evaluated 2 systems, chose Horizon Surgical Manager because the rest of the organization uses McKesson.

“Everyone wanted to move toward a single vendor for clinical systems so they can easily share information. This is important for physician order entry and patient safety,” says Deborah Tuke Bahlman, RN, MSN, regional surgical services information manager for the OR.

“The downside of an enterprisewide system is it may not be as nimble as a niche product in responding to clients’ needs, technical support, and robust functionality,” she notes. A niche product may have better functionality for perioperative processes and richer data and report-writing capabilities for surgery.
Nevertheless, Providence decided to go with an enterprisewide product because “we saw an opportunity down the road to have a fully integrated clinical system for nursing and surgery,” Bahlman says. She also believes Horizon Surgical Manager will continue to evolve to rival the specialized products.

A large system upgrades

SSMHC evaluated 8 competing systems.

Heading the team that developed the request for proposal was Beverly Beine, RN, MS, director of surgical services at St Mary’s Medical Center, Madison, Wis. The team discussed processes, best practices, needs, and goals.

“Our old system was sunsetting, and we decided we needed a system with a capability to do more,” says Beine, who oversees 12 ORs at St. Mary’s. The team was not confident in the numbers it was getting on OR utilization. It also wanted better information on costs to use in discussions with physicians.

The team identified system requirements, including an interface with materials management for inventory control, automatic notifications, patient tracking, and the ability to capture lost charges.

The process began in 2002. After the budget was approved, the selection process took 4 to 6 months. SIS was selected in August 2003. Implementation in all 15 hospitals was expected to take 14 months, including 7 months to replace the existing information system and another 7 months to add additional clinical modules, including preadmission, nursing preoperative care, postanesthesia care, nursing postoperative care, post-discharge follow-up, and rules-based charting. In late 2004, SSMHC planned to start an expected 9-month process to implement the inventory management module.

“The system has so much flexibility that we are still learning how to use all the data elements,” Beine says. “We can do basic reporting, but we are still on a learning curve. We haven’t gotten it all down yet.”

Specific return on investment (ROI) goals were identified as part of SSMHC’s capital approval process, including goals to enhance charge capture and reduce inventory and supply expense, says Anne Stuckel, clinical systems manager. But Dodel says the vendors’ ROI data was questionable. “It looked inflated,” she says. “We knew from the vendor demos what kind of systems we were using and how well they worked.” Still, Stuckel says SSMHC was unable to verify the vendors’ ROI claims. “It came down to ease of use and did the systems have the functionality we wanted? These were the main differences between the systems.”

Planning and training

Swanson of Texas Children’s cautions selection teams to take plenty of time in the planning stage.

“It is essential that you don’t rush into the design phase until you have taken care of the planning. Get all the stakeholders involved, take in their input, and make sure you know what system will best fit your needs,” she says.

She also warned managers to budget plenty of time for staff training.

“Don’t underestimate the time it takes to train your staff. Make sure everyone is fully trained and that you put enough resources into it.”

—Jay Greene
—Pat Patterson

Jay Greene is a freelance writer in St Paul, Minn.
**Evaluating systems? Questions to ask**

Here are questions to consider in selecting new surgical services software suggested by Judith Swanson, RN, BS, director of perioperative services at Texas Children’s Hospital, Houston, and Deborah Tuke Bahlman, RN, MSN, regional surgical services information manager for the OR for the Providence Health System based in Portland, Ore.

- **What do you want to achieve?** “You must have a vision and let the software work for you,” Swanson says. “Most of us buy software to match our current processes. We need to purchase software for what it can do, then develop processes to optimize benefits of the software.”

- **Can the software do what I need for the continuum of patient care?** Does it include modules for procedure and staff scheduling, cost analysis by procedure or by surgeon, nursing documentation, inventory control, charging and billing? Will it give the staff easy access to clinical data on the patient while they are in the OR?

- **What will be your return on investment?** Will you be able to better manage your preference lists and integrate them with the materials management system for tighter inventory management and better cost analysis? Will you have better data for managing OR time?

- **Does the staff find the system easy to use?** Give the staff plenty of time to try demos. Providence had the 2 vendors it was considering conduct demos twice for the staff, Bahlman notes.

- **Does the system generate the reports I need to monitor processes, including OR block utilization, staffing, clinical outcomes, costs and revenue, and supply usage?**

- **Is there smooth integration or interface** between the OR and materials management systems? If 2 companies will be involved, what is their track record of interfacing with one another?

- **What do other users think?** Visit other organizations that are using the systems you are considering. Observe the system in action and ask questions.

- **What support does the vendor provide for installation and training?** How much is provided by the company, and what will you have to pay for?

- **How responsive is the vendor to requests for service and support?** If interfaces will be needed, how satisfied are other customers with interfaces that have been built and the timeliness of the service?

- **How much control will you as a client have over the customization of screens and fields?** “Everyone is moving to online documentation,” says Bahlman. “You want the ability to customize screens to meet the needs of the staff.” For example, will you be able to create an abbreviated record for cataract surgery compared to more extensive procedures?

- **Is the company doing a good job of integrating the Perioperative Nursing Data Set developed by the Association of periOperative Registered Nurses?** The data set is helping to standardize nursing documentation for the OR.

- **Beyond the initial capital expense, what will the system cost in ongoing maintenance?**
OR-specific or enterprisewide system?

**OR-specific information systems**

**Pros**
- Product is focused on functionality specific to perioperative care
- Vendor is likely to understand surgical processes
- Customers may receive more attention from vendor for surgery needs

**Cons**
- May be complex to work with multiple vendors within the organization
- Interfaces may be needed with other software, which can be cumbersome and costly
- Decreases leverage if working with more than 1 vendor in an organization
- Procurement and installation costs could be higher
- Updates and new releases may be more time consuming and complex
- Annual operating expenses may be higher

**Enterprisewide systems**

**Pros**
- Patient information is shared in a common database, avoiding duplicate data entry and making clinical information available across the system, for example, on medications, tests, and allergies
- Easier to coordinate scheduling with surgery and other services, such as radiology, laboratory, and physical therapy
- OR system can communicate directly with other systems in organization without building interfaces
- May reduce overall costs and annual operating expenses

**Cons**
- May not have all the needed functionality for perioperative services
- Company may not understand the needs of surgery as well as an OR-specific vendor
- May incur costs if additional features must be added