Health care is not shy about adopting new technology when it comes to the latest generation of computed tomography, linear accelerators for cancer treatment, or other scientific innovations. Yet in their business functions, facilities have been reluctant to invest in information technology such as electronic medical records (EMR) and purchasing OR financial software.

Ambulatory surgery centers (ASCs) have been particularly slow to adopt patient information systems including EMRs. Dr Marcus Welby would feel at home in most of today’s ASCs, observes Marion Jenkins, PhD, CEO of Englewood, Colorado-based QSE Technologies, an IT consultant specializing in physician practices and ASCs.

He blames a combination of factors:

• “sticker shock,” the cost of initial conversion to electronic processing
• a lack of qualified IT professionals, either on staff or local providers
• lack of space, though paper files require as much or more space
• “attention device disorder,” his term for the complex equipment and software choices.

Instead, he says, the biggest changes from year to year have been new file folder colors and shelf designs.

Yet, the advantages of automation will outweigh the difficulties as patients begin to appreciate the convenience of more efficient and accurate business and clinical operations, Jenkins says.

He outlined his views at the October 2008 meeting of the Colorado Healthcare Strategy and Management Association. In 2005, he says, only about 24% of physician offices had any type of EMR system, with the smallest practices having the lowest adoption levels. According to a national report card issued in 2006 by the Commonwealth Fund, only 17% of all American physicians used electronic records, while those in the 3 top countries worldwide averaged 80%.

Compared with other industries, health care is well known to lag in adoption of information systems, he says. Annual IT capital spending for health care is about 5%, while other industries average about 10% per year.

“When you exclude hospitals, which spend the greatest share of these dollars, the capital IT spending for ambulatory health care is far less than 5%,” he adds.

Lack of resources

There are good reasons for this. Compared with a large hospital (or even, as Jenkins points out, McDonald’s restaurants), replacing a paper system with computers and high-tech communication devices is a financial and logistical burden for many surgery centers.

For one thing, it is usually necessary to replace any existing computer equipment. According to Jenkins, McDonald’s spends about $80,000 to wire a new restaurant, and he estimates an ASC would face a similar cost.

At the same time, the wide range of equipment options can be intimidating, from PDAs to WiFi. Software choices are even more confusing. Jenkins estimates there are more than 200 EMR systems, for example. Because the ASC market is relatively small, licensing costs are high.

For smaller facilities, it is difficult to find qualified IT staff. “It’s either Perot Systems or one guy,” he says, referring to the fact that commercial systems vendors are geared
toward huge companies, while vendors for smaller offices are often lone practitioners whose availability may be limited. In addition, ASCs rarely can afford to hire their own systems administrators.

Space may also be an issue, though Jenkins notes that paper files also occupy expensive space.

**Ending the paper chase**

It took a space crunch in the records room to convince management at the Michigan Endoscopy Center, Farmington Hills, Michigan, to “bite the bullet” and convert to EMRs. The center, which is not a client of QSE, has 3 ORs and 3 procedure rooms. Administrator Brien Fausone, MA, MBA, recalls that the center, which opened in 2003, by 2005 was running out of space.

“We were acutely aware that we needed to do something with our records,” he says.

Planning the transition took a full year, because Fausone wanted the entire staff to be comfortable with the change. A multidisciplinary planning committee included nurses, physicians, and office staff. “We wanted to make sure everybody’s concerns were addressed,” Fausone says.

Not surprisingly, younger employees were more eager to go paperless than their older colleagues were. The committee immediately identified the reluctant ones and provided them with training and encouragement.

“We got them involved early on,” Fausone says, “and they proved eager to learn.”

The center purchased 25 Dell computers. For EMR software, it turned to its dictation equipment provider, ProVation Medical, Minneapolis.

“We purchased a system that could be customized,” Fausone says. Now, each bay and bedside has a workstation that allows immediate electronic input.

**Building for the future**

At Rocky Mountain Surgery Center, a new facility in Englewood, Colorado, automation was built in from the start. Sue Hayes, the center’s CEO at the time, worked with Jenkins to design a structure to accommodate the wiring and equipment, then to select software to create an expandable network.

Later, as CEO of the acute-care Colorado Orthopedic Surgical Hospital, part of Chicago-based National Surgical Hospitals, Hayes developed a larger, even more complex technology network.

Based on that experience, she advises ASCs to develop detailed plans before starting automation projects. Then they should expect to implement the conversion gradually, in a series of steps.

For the planning, most ASCs will need to bring in technical experts. “You need a consultant to help integrate the software and equipment,” she says.

Among considerations are the location of wires and cables for each system: front office, medical records, and operating room equipment, for example.

If a center expects to add ORs in the future, those sites should be wired during construction: “It’s better to build it in now because it’s expensive to add later,” she notes. “There’s a lot of stuff that goes into the walls before they close them up.”

ORs are especially difficult because every cable, like every piece of equipment, must be cleanable.

**The business side**

On the business side, the planner must determine who has access to which computers. Security must be designed for the software that allows, for example, third-party billing companies to see only the specific information they need.

Besides computers, the design must include telephones, wireless access areas, even televisions, she notes: “You’ve got to know all the pieces of the puzzle.”

Hayes says ASCs must also plan for a “data room” containing servers and other processing equipment. There is a tendency to think servers can be left in a closet or tucked into corners, but they need a controlled environment to function properly.

Do not expect to eliminate paper entirely. “Some things need to be on paper, such as implant records and autoclave records. Not all suppliers send electronic bills, so accounts payable will have to keep some paper,” she says.
Whether starting a new facility or automating an existing center, implementation should follow a series of steps, Hayes says.

First are surgical scheduling and preference cards. Next is billing, which should be integrated smoothly with the data from the scheduling system. Then integration should continue with inventory, collections, quality assurance, and medical records.

The goal is to have them merged in a single network, Hayes notes. When looking at software packages, planners should ask, “Do they integrate?”

**The customer service factor**

Putting off conversion to automated billing, scheduling, and communications may not be an option for long because patients are coming to expect more streamlined service.

Soon it will be impossible to remain in the Marcus Welby era. From a marketing standpoint, Jenkins believes both patients and staff will demand the convenience of electronic transactions. Like comfortable waiting rooms and art on the walls, technology will influence a patient’s choice of surgery center, he predicts.

Because most of the newer ASCs are designed with built-in electronic business and record systems, the gap between “haves” and “have-nots” will continue to grow, he says.

Jenkins compares the state of health care business technology with that of the fast-food industry, such as ordering a pizza for delivery:

- Caller ID identifies you when you call.
- If you are a repeat customer, they know your address and what your last order was.
- They quote a charge, you get your pizza, and they get their money at the same time.
- There is little or no paperwork.

In contrast, Jenkins cites the typical surgery center experience:

- Even if you are a returning patient, you must fill out a paper form on a clipboard with the same details you have provided before.
- The physician does not know what your charges will be.
- If you are referred to another location for a test, you must fill out a similar form there.

In addition, each form is different even though the forms ask for much of the same information. Patients become “part of the workflow” as they carry X-rays and other records to the next specialist.

That, says Jenkins, is equivalent to a restaurant expecting diners to carry their orders to the kitchen.

The payment process is equally cumbersome, he says. With patient bills and insurance claims submitted and processed on paper, “There can be months between date of service and payment.”

**Investment pays off**

Despite the obstacles to automation, he says, the investment would pay off in many ways.

It would improve employee efficiency and reduce errors, improve cash flow, and increase patient satisfaction.

It would reduce or eliminate the costs associated with storage and retrieval of paper records. Jenkins tells of a client surgery center that experienced missing records more than 50% of the time. “They had 2 FTEs just to hunt down charts,” he recalls. “This is not at all uncommon.”

A 2004 study by the Center for Information Technology Leadership shows the US health care system could save $132 billion annually by converting to EMRs that would allow interchange of information among providers. About 34% of that amount would go to ASCs.

Net savings will likely increase as the costs of IT continue to decrease. For example, broadband costs declined by 90% in the past 5 years, while servers are up to 30 times more powerful for the same price.

“Most providers report a 100% return on investment within 12 to 18 months if EMRs are properly implemented,” Jenkins adds.

Hayes estimates the automation cost for a typical ASC at a minimum of $250,000.
Savings, she says, are most easily expressed in time—staff time saved and greater efficiency.

At Michigan Endoscopy Center, the conversion to EMRs cost about $100,000. Fausone has not tried to compute a return on investment timetable because he believes other benefits are more important.

“The real value is the accuracy of the information,” he says. “Multiple users can look at a chart at the same time. Pathology reports come back electronically and interface to the EMR system.”

As for the old records room, he says, “We got to reclaim the space, which we made into an extension of the business office—now it is actual productive space.”

An added benefit is that the new system enforces compliance with documentation because it will not allow a user to close it down if required information is missing: “The system won’t allow us to bypass any steps.”

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