

MEDICAL IMAGING[®]

NEWS, ISSUES, AND TRENDS IN HEALTH TECHNOLOGY MANAGEMENT
REPRINT · DECEMBER · 2003

New Facilities Opt for Digital

A look at why two new outpatient centers chose to open as all-digital facilities by Renee DiIulio



New Facilities Opt for Digital

While many medical facilities struggle with the question of if and when to convert to digital imaging methods, those in charge of equipping new facilities are instead asking which of the available digital technologies to use and how many of each they should buy.

“Digital radiography [DR] is going to be the wave of the future,” says Michelle Pask, outpatient radiology manager for Printers Park Medical Plaza and Front Range Orthopedic (Colorado Springs, Colo). “Even though we knew it would be expensive, we didn’t want to invest in computed radiography [CR] knowing we would later have to convert to DR.”

Although all imaging managers might not share this opinion, a good case can be made for DR as an imminent standard. In addition to eliminating the need for film storage space and speeding the delivery of images, the improvements in workflow make both the technicians and the administrators happy. Whether used on its own or in conjunction with other imaging technologies, including CR, many facilities are deciding that the initial high cost is worth it.

Seamless Interface Improves Workflow

Dirk Anderson is the radiology and PACS manager for St Mary’s Hospital (Grand Junction, Colo). He says that the driving force for going entirely digital with the Pavilion Imaging Center, the new outpatient center located one-half mile away from the main facility, was to maintain efficiencies so that radiologists could capture and read images in both buildings. In addition, the elimination of file storage and an improved workflow were important ancillary goals. “Many managers look at money,” Anderson

explains. “But I, coming from a tech background, consider workflow.”

Of course, budget was a factor—but it wasn’t the deciding one. Kodak (Rochester, NY), the vendor that Anderson selected, offered a good price; more importantly, it also offered the same interface for both its CR and DR equipment. “From a tech perspective, having the same operator interface allows seamless workflow between the two technologies,” he says.

In addition to workflow considerations, Anderson selected the Kodak DR 9000 system because of its flexible U-arm; he chose the CR 850 and CR 950 systems because of their longer plate life. “Both technologies have their advantages,” says Anderson, stating that CR allows more flexibility in positioning and is cost-effective in using older equipment, while DR permits greater volume and offers strengths in resolution.

“We do more extremities using CR,” he says, although he adds that the U-arm on the DR 9000 does provide greater flexibility in positioning than other models, allowing the technician to shoot both horizontal and vertical images. “It’s possible to do an abdomen with the patient lying on the table and then move to the extremities,” he adds.

While the equipment often can manage more than one room, Anderson says that only one of the CR systems manages two rooms. “It was cost-effective for that unit,” he explains. “However, I didn’t find it possible for DR and chose not to implement multiple rooms very often.”

Procuring equipment for both technologies from the same vendor also permitted needed redundancy. “It takes time to get a repair person out here because of our location,” he notes.

“The technicians are now completely comfortable with the new technology and completely satisfied.”

—Dirk Anderson of St Mary's Hospital in Grand Junction, Colo, about converting to Kodak's DR systems

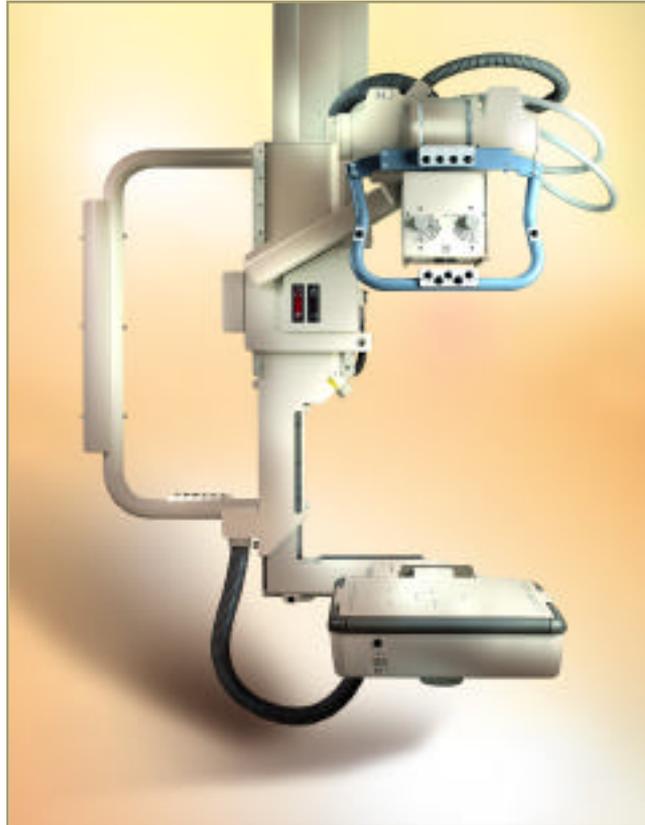
Hiring Only One

Located 250 miles from any other hospital in all directions, St Mary's is an important medical center for the region, drawing patients from Colorado and Utah. The 300-plus-bed facility is also the largest oncology center in Western Colorado. Many of these patients are seen in the new out-patient center.

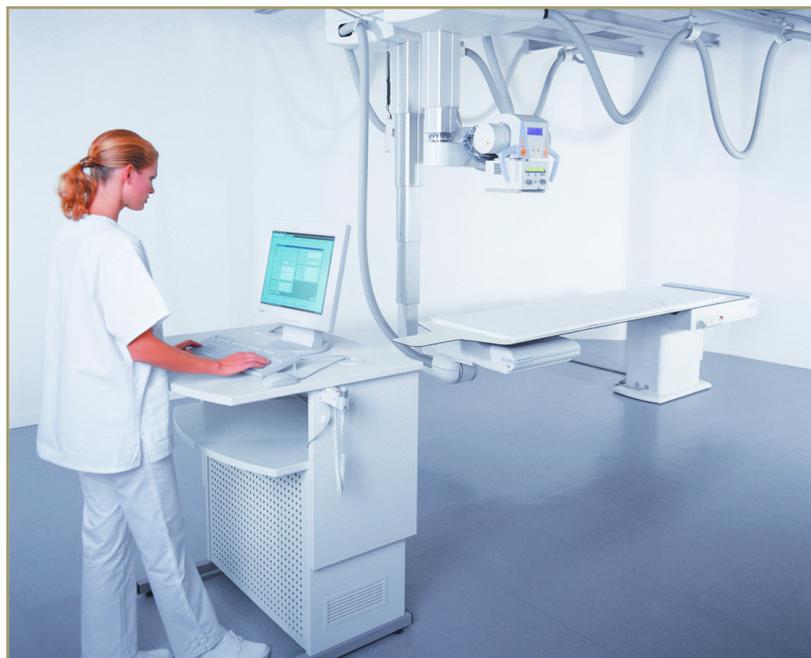
“At first, when operations are separated, it naturally gets less efficient,” Anderson says, particularly when the same number of staff is expected to run both facilities. However, with the digital technologies, a decrease in efficiency proved not to be a problem when the new facility opened. “We've added only one MRI tech and experienced a 17% increase in production,” he shares.

Smooth Transition

The hospital first went digital in November of last year, when it brought in the CR equipment; DR was implemented in February. The outpatient center opened in August. “The technicians are now completely comfortable with the new technology and completely satisfied,” Anderson says.



When building out its digital facility, St Mary's Hospital opted for Kodak's DR 9000 (left) for its flexible U-Arm. Printers Park uses two of Siemens' AXIOM Aristos FX systems (below), shown here in use with the RADIS workstation.



Having the same interface between CR and DR contributed to that success, he claims. Kodak handled the training, a task that would have been necessary no matter what system was chosen. It took several weeks to get everyone up to speed on CR, but the differences between CR and DR were so few that DR was mastered in just a day and half. According to Anderson, bringing students and new staff up to speed is equally painless and provides a real advantage.

The technicians at Printers Park Medical Plaza and Front Range Orthopedic would agree. According to Pask, many of the technicians working in these two outpatient facilities came from the inpatient facility, Printers Park Memorial Hospital, where they first started with conventional film technology. After moving to CR within the hospital and the later addition of DR, staff members don't want to go back, citing the improved workflow and enhanced images as reasons to continue moving forward—even after an initial transition to CR that Pask describes as “extremely painful.”

The first implementation of any new technology can be difficult, and this concept is especially true for professions previously computer-free. In fact, many of the technicians were “computer illiterate.” However, once that obstacle was conquered, further progress was easy. “The transition to DR was extremely smooth,” Pask remembers. Two vendor application specialists were on hand the week that the system went live, but no additional training has been needed.

One Vendor Sought

Similar to St Mary's, workflow was a major factor in the decision to go digital, particularly for Printers Park Medical Plaza. “When we opened the outpatient adjunct to Printers Park Memorial, the goal was not to build more business, but rather to get these patients out of the hospital,” Pask says. “Printers Park has the busiest emergency room in the area, and the outpatients would often have to endure long waits to be seen.”

The new facility, which opened in May 2001, needed to be equipped for all types of patient needs, including diagnostics, ultrasound, and nuclear medicine. The Front Range facility, which used conventional film before moving into new offices and simul-

taneously converting to DR, also shares a high volume; the private practice has 14 orthopedic surgeons using the equipment.

With a decision to implement digital technology comes the question of which vendor to use. Like Anderson, Pask wanted one vendor for the complete equipment range in the new facility, including CT and ultrasound. The vendor was selected considering all of these needs. “We wanted the same vendor for all of the equipment and based our decision on which company we wanted to supply PACS,” she says.

That vendor turned out to be Siemens AG Display Technologies. The DR systems in place include AXIOM Aristos TX, AXIOM Aristos FX, and AXIOM Aristos MX.

Though the PACS equipment was the deciding factor, Pask notes that the company's DR solutions offered a plus: “The grid is built onto the table, so rather than manually moving the setup, it can be done with a button on the control panel.”

Immediate ROI Delivery

Printers Park utilizes both CR and DR; Front Range is solely a DR facility. “CR is used in the flouro rooms,” Pask explains. “Its implementation was good but was not a big step forward. We were able to get rid of the film processor, but workflow didn't improve much. Instead of having to walk film, we had to transport the cassettes.”

With the implementation of DR, the facility already has noted a return on investment (ROI). Both facilities opened with smaller image libraries and fewer employees than would normally have been required, and both have had to devote fewer rooms to imaging.

Instead of the three rooms that Front Range would have needed for CR, the facility opened with two for DR; similarly, Printers Park needed only five rooms for DR rather than the six that would have been required for CR. Both have been able to reallocate the space to other revenue-generating areas. Indeed the improvement in workflow has been so great that the facility has had to add additional patient changing rooms. “We now have five patient-changing rooms outside of three exam rooms,” Pask says. “It takes longer for the patients to change their clothes than it does to have the exam.”

DR Software Not to Be Underestimated

The success of a digital implementation is not determined solely by the system itself. The software utilized is also an important consideration, possibly more so than the detector. Neither Pask nor Anderson cited detector concerns in their vendor selection, but both found software to be a valuable aspect.

Kodak offers optional image enhancement software that can be purchased along with its systems or added later. Anderson says he never considered this extra an option, and a Kodak representative noted that many customers who initially decide not to buy the software change their minds later.

Says Pask, “Don't ever underestimate the application of DR technology. If it's not showing the results you hoped for, you probably need more applications to build in all of the things you'd never thought of before.”

Words of Advice

As with the vendor decision, and even the decision about whether to go digital at all, the software choice is unique to each individual institution. Those who have been through it often have their own suggestions.

Anderson recommends choosing a vendor carefully and, if possible, using only one. “DR is a different modality. Different vendors have different algorithms, and, therefore, the images look very dissimilar. It can be difficult to get them to line up, making it a challenge for the doctors,” he offers. Potential buyers might want to consider this aspect before making a decision.

Pask advises that those considering the conversion to digital carefully consider their goals and budgets. “If you can afford DR, it's definitely the way to go,” she says. “CR is a middle step. Put your figures together and weigh the improvement in workflow. You might want to spend the money up front and skip the middle step rather than try to cost-save.” Sage advice from two very happy customers. ■■

Renee DiIulio is a contributing writer for Medical Imaging.

Reprinted with permission. “New Facilities Opt for Digital,” Medical Imaging, December 2003; Volume 18, Number 12; pages 31-33.