

managing the margin

...strategies for generating new revenue and controlling costs

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FEATURED FOCUS

Using Imaging to Increase Revenue

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Imaging is one of the largest and fastest growing segments of healthcare delivery. Estimates indicate that 400 million inpatient and outpatient imaging procedures were performed in 2000. What's more, diagnostic imaging revenues are forecast to more than double by 2010, from \$70 billion in 2000 to \$156 billion, according to the Health Care Advisory Board.

Although the impact of APCs, potential declines in payment levels, and shortages of radiologists and licensed technical staff may present some challenges, the medical imaging juggernaut is expected to continue for the foreseeable future.

How well providers understand and prepare for this continued growth in imaging services promises to be of significant impact to their bottom line.

Growth Factors

Fueling demand for imaging services is the continued growth and aging of the population and the development of new technologies and applications for medical imaging. Some technological advances decrease

utilization, such as computerized imaging that reduces the need for retakes and provides more accurate diagnoses. However, new technologies tend to add rather than subtract from demand for imaging, particularly when imaging is replacing more invasive procedures. Computed tomography (CT) scans, for instance, are increasingly being used for some diagnostic catheterizations and optical endoscopies.

Virtual colonoscopies have been found to be as effective or better than traditional colonoscopies in finding all but the smallest polyps in a study recently published in the *New England Journal of Medicine*. This virtual technology may encourage people who have avoided traditional colonoscopies to seek care, creating a whole new market, while also expanding the endoscopy business with referrals for follow-up procedures.

The high-end modalities, including CT, magnetic resonance imaging (MRI), and positron emission tomography (PET), are experiencing the most growth and are expected to continue to do so in the

future. Multislice scanners have decreased the computing time for CT, increased capacity, and improved diagnostic quality so that they are becoming the modality of choice for many conditions, particularly in the emergency department (ED). Full-body scanning and calcium scoring have broadened their appeal to prevention-minded baby boomers, and new cardiac applications will replace some invasive diagnostic catheterization procedures in the future. Although a contracting payment environment may start slowing growth, CT volume is expected to increase 5 to 10 percent per year.

MRI imaging will experience similar growth with its focus on musculoskeletal conditions and nervous system disorders. New applications will also increase demand, including diffusion MRI (especially for stroke), functional studies for brain activity, and cardiac studies that will start to replace the common nuclear stress test for patients. Patient-friendly short-bore MRIs with better resolution and faster speeds will increase access and demand for MRI studies.

With the recent increase in Medicare payment for PET, volumes of this modality have risen dramatically in the past few years and are expected to grow faster than those for any other type of imaging for the next several years. Originally the province of academic medical centers, PET technology is being rapidly deployed to community hospitals.

PET is primarily used in conjunction with the diagnoses of certain cancers, but interest in PET for cardiac applications is also growing. About 456,000 PET scans were performed in 2002, a 79 percent increase from 255,000 procedures the year before, according to a market report released by IMV Medical Information Division. Of these PET scans, 92 percent were oncology-related procedures and the rest were cardiology and neurology applications. In the future, PET volume is projected to grow at least 20 to 30 percent per year for the next several years to 1.5 million procedures by 2009, according to researcher Marvin Burns in the November issue of *Diagnostic Imaging*.

Interest in new 3-D and 4-D ultrasound capabilities, enhanced radioisotopes, bone health and bone mineral densitometry, and many other technological advances is creating additional demand for other imaging modalities as well, thereby reinforcing imaging's position as a leading revenue-producing service line for most health-care organizations.

Competing for Revenue

Hospitals and healthcare systems will need to continue to enhance and improve their position in the imaging market if they want to stay in the imaging game. The attractive margins to be found in imaging have and will continue to invite competition from entrepreneurial physician groups, especially radiologists, and other niche providers.

Hospitals have traditionally been the primary provider of imaging services. According to the American College of Radiology, about one-third of diagnostic imaging services in 2002 was provided to patients admitted to the hospital, one-third was provided in hospital outpatient facilities or the ED, and one-third was provided in freestanding centers or physician offices. According to SMG Marketing Group, physicians or private entities own about one-half of the freestanding centers, while the rest are owned by universities, governments, public companies, hospitals, and hospital partnerships.

Hospital-based providers miss opportunities to capture outpatient market share for several reasons. A traditional orientation to

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—IMV Medical Information Division

inpatient and emergency services can result in a lack of strategic focus on ambulatory imaging services. Outpatients often are frustrated by poorly accessible imaging departments located near the ED and a triage environment that typically leads to appointment delays as emergencies arise.

Hospitals also have been slow to think proactively about market opportunities outside the hospital and slower still to seize the initiative before competitors move in. Hospitals have typically been more concerned about the duplication of equipment and costs that may result from consumer-friendly outpatient imaging than they have about the potential incremental revenue and margin. Yet in markets across the country, outpatient-imaging centers are growing rapidly as patients demand improved access and convenience and as nonhospital providers enter the market. Many physicians also are looking at imaging services to improve their bottom line.

ProHealth Physicians, a 160-member primary care physician group based in Farmington, Conn., chose a proactive approach to imaging services in its market. It plans to add to its existing complement of ancillary services by developing several strategically

placed multimodality imaging centers in the coming year.

"This investment will enhance patient access, improve group oversight, and create medical management opportunities through the evaluation of physician and patient data," says Norman Robillard, the director of imaging for ProHealth. "All this, while affording ProHealth the opportunity to retain the revenue within the organization."

These types of competitive initiatives can pull volume out of the hospital or system and adversely affect revenue. Competition may come from specialty groups as well. Many orthopedic practices include MRI services as part of the service continuum, and oncologists are looking at owning PET equipment for freestanding, physician-owned cancer centers. For-profit providers are also expanding in the market, including providers offering full-body CT scanning and other single modality or full-service imaging centers.

Strategies for Imaging Development

Hospitals and healthcare systems need to position themselves to take advantage of growth market for imaging services and stave off competitive threats. Potential strategies include:

Improving access to high-tech modalities to expand imaging capabilities and revenue. MRI and PET modalities are technologies that frequently begin as a mobile technology. Mobile technology allows providers to expand imaging capabilities and secure new revenue streams that would otherwise be unavailable without purchase of a fixed unit.

The proportion of PET sales that is for mobile units is expected to remain around 20 percent of all PET units in the United States through 2009. Many providers are opting to expand their capabilities by combining PET/CT technologies, mostly with fixed units. Although about one-third of all PET scanners sold in 2002 had CT capabilities too, this proportion went up more than one-half in 2003, and prices have fallen since the introduction of these combined systems.

Integrating imaging with other service lines to improve service delivery and visibility. Integration of appropriate

Be Scanning Savvy!

Is fiscally smart more pressing than state-of-the-art? When performing the most sophisticated diagnostic procedures isn't of top concern, purchasing used imaging equipment may be an option.

How big is the potential for savings? Prices vary. However, an ultrasound probe that costs \$20,000 new has been known to sell for half that.

Case Study: PET Joint Venture

A proposed PET joint venture recently developed in the southwestern United States will allow a cash-strapped healthcare system to acquire new technology with the help of its participating physicians, considerably improve its oncology service-line capabilities, and ensure that appropriate patient referrals stay within the system.

Ownership: 50 percent healthcare system and 50

percent specialty physician group

Equipment: Lease of PET equipment for \$2.5 million to be placed in renovated space of existing imaging center

Projected Volumes: 700 to 800 scans/year

Projected Total Revenues: \$1.5 million

Return on Investment: 40 percent or more annually (after third year of operation)

imaging modalities with related service lines, such as women's health, oncology, orthopedics, surgery, or emergency services, is another strategy to increase imaging volume.

Women's imaging centers are an example of how reconfiguring imaging services can improve the bottom line. An attractive, multidisciplinary breast center that offers screening and diagnostic mammography, breast ultrasound, and stereotactic biopsy in a coordinated, patient-focused way will attract more market share than traditional hospital-based services. These types of specialty centers will also receive the more lucrative follow-up surgery and other procedures that might result. Other integration opportunities include:

- Bone densitometry and general and prenatal ultrasound in women's centers
- Radiography and MRI in orthopedic institutes or sports medicine centers
- PET and CT scanning in cancer centers
- Nuclear stress testing, cardiac ultrasound, and cardiac MRI in cardiology centers
- Interventional radiology and ultrasound in vascular centers

Developing accessible, patient-friendly outpatient imaging facilities.

Hospitals and healthcare systems should also consider the feasibility of developing separate outpatient imaging facilities to better address the needs of mobile consumers looking for convenient and patient-friendly imaging experiences.

Outpatient capacity accessible to parking but contiguous or proximate to the main imaging department can minimize staffing and equipment duplication while attracting new market share. Off-site imaging facilities can achieve even greater geographic market penetration, particularly when situated in an ambulatory care center with complementary services and physician offices that will help generate patient referrals.

Patient-friendly environments and high customer-service levels are key to attracting and retaining patients, especially in highly competitive markets. In 2000, Florida Hospital Celebration Health incorporated an elaborate beach motif throughout its Seaside Imaging diagnostic facility in Orlando. The extensive beach imagery included murals, piped-in wave sounds, and various props to provide a positive distraction for potentially claustrophobic MRI patients. Staff say the motif has helped reduce the facility's overall cancellation rate, resulting in financial savings. Also, the facility is completely digital, allowing immediate image viewing and faster results for patients and their physicians.

Partnering with physicians. Prudently structured partnerships with physicians can reduce the initial capital

investment needed for adding or expanding imaging capabilities and allow hospitals and healthcare systems to gain market share that the organizations otherwise might lose. Joint ventures with radiologists (barring potential restrictions on economic partnerships), can be a successful model for developing new imaging capacity and gaining market share, particularly for outpatient imaging. Such partnerships can also be an effective way of minimizing competition from one's own radiology group.

Medical imaging will continue to be a significant growth market in the future. Hospitals and healthcare systems will probably benefit from increased demand and new applications with little effort. However, with sustained attention to this service, imaging can contribute significantly to the financial position of the organization. ■

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