Diagnostic Imaging Centers for Hospitals: A Different Business Proposition for Outpatient Radiology

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Hospital-based radiology departments have struggled over the past decade to respond to the phenomenal growth in radiology demand, which may be expected to continue for the foreseeable future [1]. Not only is there high demand, particularly for cross-sectional imaging, but referring physicians and patients now expect expedited access for these radiologic services [2]. Hospital administrators also expect faster access for inpatient radiology as they attempt to reduce patient length of stay and cut costs.

Any lengthening of the radiology waiting lists is therefore frustrating to all stakeholders, including the radiology personnel who are charged with managing these demands. Although referring physicians are obligated to refer inpatients to hospital radiology departments, they may feel they have no option but to refer outpatients out of network to competing imaging centers if the hospitals' waiting lists are too long. From a clinical perspective, such referrals are far from ideal: patient reports and images will generally reside outside the hospitals' information system databases, reporting radiologists may work for different organizations, and patients may be scanned with variable imaging protocols. Furthermore, outpatient imaging can be very lucrative for providers who do it well (hence the competition from freestanding imaging centers), and hospitals that outsource imaging services risk losing significant revenue, particularly because it may be very difficult to persuade referring doctors to refer their patients back within network, even after backlog problems have been corrected.

One response from hospitals to the increased demand for radiologic services has been to add more capacity with faster machines. Some have also reengineered their work flow in an attempt to increase patient throughput [3]. Although these strategies may alleviate some of the immediate bottlenecks in radiology, they are unlikely to address a deeper problem, namely, that inpatient and outpatient radiologic services are essentially different businesses. A failure to recognize these differences will likely mean that attempts to increase and enhance outpatient radiology services within a hospital will fall short. Strategies aimed at improving services within hospital-based radiology departments are often geared toward the inpatient business, both because departments are physically located within the hospital and because there is great pressure to scan inpatients first. Consequently, outpatients often get the short straw, and their needs are not fully addressed.

Indeed, inpatients are continuously disruptive to outpatient imaging, particularly if both are scanned using the same equipment. Effectively, inpatients and outpatients must compete with each other for the limited number of available scheduled appointments. An urgent inpatient scan or patient from the emergency room will usually trump a scheduled outpatient. Furthermore, a hospital cannot anticipate how ill patients are going to be, and outpatients are therefore left at the mercy of this unpredictability. On bad days, outpatients may have to wait hours while sicker patients are scanned.

Hospital radiology departments are not physically suited to outpatient scanning either. First, many radiology departments are hard for patients to find within hospitals' labyrinthine environments. Second, their signage is either inadequate or unable to compete with signage for the hospital's multiple other departments. Although hospital-based radiology departments generally have outpatient reception and waiting areas, for the most part, these rooms are not light or roomy, because space is usually at a premium in a hospital. Once outpatients have passed the reception area, they are often interspersed among inpatients in the scanner holding areas. This experience can be quite traumatic for the average outpatient. Inpatients may be critically ill and in significant distress, some with multiple tubes and lines inserted into them and monitors beeping away. Imagine, for instance, a child who has been brought from a school classroom for an outpatient scan being confronted by an inpatient with a life-threatening illness, while medical staff members are frantically trying to scan the inpatient as quickly as possible. Given situations such as this, it can be difficult at times for radiology personnel, no matter how dedicated they are, to make their outpatient customers feel truly valued.

Referring physicians find backlogged radiology departments highly

0091-2182/07/$32.00 • DOI 10.1016/j.jacr.2007.03.011

frustrating, particularly when they try to make same-day referrals for outpatients whom they have just seen in their clinics. These referring doctors usually have to order scans through central scheduling departments, where schedulers are trying to juggle multiple other last-minute requests for both inpatients and outpatients. It is understandable that these overburdened schedulers cannot provide personalized service to their referring doctors. Ultimately, the referring doctors may have to call radiologists, almost as a favor, to have particular studies added to the schedule on a given day. Because doctors use radiology so frequently, the scheduling process, particularly for add-on patients, is frequently cited as one of the most frustrating experiences in their day-to-day work.

Entrepreneurs (including some business experts, some radiologists, and some hospitals) have recognized the inherent problems of hospital-based outpatient imaging and have taken full advantage of this situation by starting their own outpatient imaging centers. These entrepreneurs have come to understand that the outpatient radiology business requires a completely different strategy from inpatient radiology and have tailored their operations to enhance their existing business and attract new business.

Entrepreneurs often locate their stand-alone imaging centers with patients' convenience in mind. They build facilities near the suburbs, ideally close to major highways, with free and readily available parking. Most of these centers are designed to ensure maximal comfort for waiting patients; free coffee, comfortable furniture, and abundant reading material contribute to the ambience. Furthermore, the staff is generally trained (or should be) to genuinely value each and every customer. Some imaging centers even have patient coordinators who greet their patients at the door and escort them throughout their visits.

Because there are no inpatients to significantly disrupt the schedule, patients at freestanding imaging centers can generally be scanned on time, and they can therefore plan their days accordingly. Even if there are add-on patients who need to be accommodated, the schedule can be designed to predict these variances. Many imaging centers leave a few examination slots open each day with the knowledge that these will generally be filled with high-priority, last-minute requests. By reserving these few appointments each day, the centers can accommodate urgent requests from referring physicians with minimal disruption to previously scheduled patients. Referring physicians soon learn that they can rely on being able to get their patients scanned the same day and that their patients' experiences at the centers will probably be positive.

From a managerial viewpoint, operations within a freestanding imaging center are easier to streamline than those housed within hospital-based radiology departments. The work flow is generally less variable, so processes can be implemented to ensure maximal productivity. Scanning protocols can be standardized and tailored to outpatient imaging, thereby minimizing unnecessary sequences. Patients can be scanned with predictable regularity, and some outpatient computed tomographic scanners can handle 6 to 8 patients an hour [4].

Managers have also found that many working patients prefer to be scanned in the evening or on the weekend. In fact, Sunday is one of the busiest days for magnetic resonance imaging services at Massachusetts General Hospital's outpatient imaging centers. Savvy managers have also realized that the cost of operating scanners for extended hours is minimal compared with the potential revenue opportunities. Even with the implementation of the Deficit Reduction Act in 2007, efficiently operated imaging centers should continue to be financially successful [5].

Finally, entrepreneurially minded imaging center operators tend to understand what motivates their customer base and will usually employ a marketing team to ensure appropriate customer service [6]. The marketing team's role should not be misunderstood. It does not simply mean marketing representatives trawling through referring physicians' offices and offering throwaway pens or sports tickets. Effective marketing representatives frequently survey their customers, listen to customers' concerns, and then recommend changes to improve their product. Furthermore, in well-run imaging centers, all personnel, including radiologists, are taught that they are an essential part of the marketing team. Every interaction with their customers (referring physicians and patients alike) offers an opportunity to market their services and enhance their value proposition.

Hospitals should therefore understand that there are fundamental differences between their inpatient and outpatient customer bases for radiologic services. Different strategies are required for the different business lines. Rather than letting competitors cherry-pick their lucrative outpatient imaging revenue, hospitals should seriously consider offering outpatient imaging services away from inpatient scanners, and ideally away from the hospitals themselves. This strategy has the potential to offer greater value to their customers, referring physicians, and patients alike. Some hos-

pitals have found that outpatient radiology services are best performed in collaboration with radiology groups as joint ventures, whereby both the hospitals and radiologists (and other radiology personnel) are encouraged to grow the business for maximal patient value and financial return [2]. Although hospitals may be reluctant to share their profits with physician groups, hospital executives often find that their imaging centers are better either partly or wholly managed by radiologists who make it their interest to maximize revenue. Furthermore, a radiology group given this incentive will likely be able to attract the brightest new recruits, which further enhances the standard and credibility of the group. Ultimately, all stakeholders should benefit: the hospital, the patients, referring physicians, and the radiology department.

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