Strategies for the Promotion of Computer Applications in Radiology in Healthcare Delivery

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The objective of this paper is to identify current trends in the development and implementation of computer applications in today's ever-changing healthcare environment. Marketing strategies are discussed with the goal of promoting computer applications in radiology as a means to advance future healthcare acceptance of technologic developments from the medical imaging field. With the rapid evolution of imaging and information technologies along with the transition to filmless imaging, radiologists must assume a proactive role in the development and application of these advancements. This expansion can be accomplished in a number of ways including Internet based educational programs, research partnerships, and professional membership in societies such as the Society of Computer Applications in Radiology (SCAR). Professional societies such as SCAR, in turn, should reach out to include other professionals from the healthcare community. These would include financial, administrative, and information systems disciplines to promote these technologies in a cost conscious and value added manner.

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IN ORDER TO effectively develop marketing strategies for the new computer applications in radiology, we must first justify the additional costs involved. As radiology reimbursements decrease, it becomes increasingly difficult to justify the development and incorporation of these newer technologies. Profitability is often used as a criterion for healthcare investments.¹

A large number of economic analyses have been performed¹⁻³ in an attempt to justify the implementation of Picture Archival and Communication Systems (PACS). These have taken into account organizational changes that occur in and out of the radiology department.⁴

The most significant cost savings of PACS may be its beneficial effects on the delivery of patient care. PACS has the potential to increase practice efficiency, decrease length of stay, and shorten

outpatient visit times. These effects should have a substantial positive financial impact on the healthcare institution.^{1,5}

In order to effectively make the transition from film-based to filmless imaging, one must develop marketing strategies to ensure the investment will be profitable. One must realize that marketing radiology services is really the management of strategic relationships, because radiologists do not have direct access to patients and are therefore dependent upon these relationships for referrals.

In order to effectively develop marketing strategies we must first identify the specific needs of the customers who include referring physicians, patients, hospital administrators and payers. Each individual customer group has its own unique needs and interests. It is important to identify what these needs are and to develop strategies that specifically address them.

Marketing strategies to hospital administrators should focus on demonstrating the cost efficacy and productivity gains achievable with PACS, along with the potential for improved patient care. In addition, the hospital would be provided with "cutting edge" technology, which could be beneficial in the competitive healthcare marketplace.

Marketing strategies to payers and large employers would focus on the economic bottom line with the potential of cost reductions through reduction of staffing and supplies.

When marketing to referring physicians, issues of patient scheduling and report turnaround time take greatest importance. The benefits achieved through the direct interface between PACS and information systems should be conveyed not only to the physician but office staff as well. Other additional benefits of PACS that would be of physician interest would include enhanced image accessibility and the ability to provide direct consultations through teleradiology. For those larger referral subspecialty groups an additional option would be placing a computer monitor directly in their office for image access.

While new computer applications offer unique "high-tech" opportunities, we cannot forget the

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importance of the personal touch when marketing to the patient population. The relative ease of scheduling and prompt courteous service must remain the greatest priority. However, the technology can be used to advantage by using an Internet web site to electronically schedule exams, promote new developments within the radiology practice, offer educational programs, and provide interactive question and answer sessions on topical healthcare issues.

No marketing strategy would be complete without exploring the multitude of opportunities available on the Internet. By creating a web site, anyone can have direct and instantaneous access to your company. Educational programs can be developed specifically targeting the audience of interest. Since many web surfers are directed to a web site by a specific topic, programs can be designed dealing with topical issues such as osteoporosis or breast cancer when marketing an outpatient women's center. The use of web site educational programs should not be limited to the patient target group. Updates on medical imaging issues can be provided for physicians and delivered via e-mail. Didactic programs can be designed offering CME credits on selective topics germane to the imaging services being offered. One example would be use of vascular ultrasound and MR angiography for noninvasive imaging of arterial occlusive disease. In addition, radiology teaching files can be established illustrating specific disease entities and their imaging characteristics.

Alternative uses of Internet technology include online exam scheduling, e-mail appointment reminders, chat rooms with healthcare professionals, and e-mail alerts notifying local media and customers of new developments within your practice.

In addition to marketing these new computer applications to "customers", it is also important to promote within the radiology community itself. Newsletters, journal articles, meeting information, and educational programs can serve as promotional tools to the "uninitiated". Several unique educational programs already exist, such as the SCAR Expert Hotline, which is available via e-mail. This allows SCAR members to electronically submit questions to experts on a variety of topics, in the field of image management and communications.

Another important "customer" which has traditionally not been thought of as such, is the independent radiology group. Traditionally, the independent

small group was the norm in radiology practice, with the larger integrated subspecialty groups the exception, limited to large metropolitan areas and teaching hospitals. Recently, in certain parts of the country there has been a push towards merger and consolidation within the radiology community to achieve economies of scale, long term security, and pricing power when negotiating with managed care providers.

Towards that end, larger groups are beginning to focus on the smaller independent groups as potential partners, which can be looked upon as another customer of sorts. Marketing strategies need to be developed specifically towards this group, focusing on the newer computer technologies and what they have to offer to enhance the practice of radiology.

The technically complex integration between PACS and HIS/RIS has been the subject of discussion, largely limited to information systems specialists and radiology consultants. The timeliness of the technology was well illustrated at this year's RSNA Inforad exhibit entitled "Integrating the Healthcare Enterprise", which demonstrated the utility of PACS and HIS/RIS in the practice of radiology. As this technology becomes more integrated into the radiology mainstream, it will become critical for radiologists to understand and embrace these advancements in order to survive.

Many smaller groups do not have the technical or economic resources to take advantage of these newer technologies which offer potential improvements in radiologist/technologist productivity, physician consultation, report turnaround, business management, and education. Effective marketing strategies to highlight these opportunities may allow the larger groups to expand geographically, professionally, and economically while the smaller groups can be incorporated under the protective umbrella of the parent group. While this may seem somewhat intimidating at this time, the long-term inevitability of consolidation within the medical community appears certain. It is important for radiologists to view these turbulent times as opportunities, which allow us to strengthen our position for future development and growth.

It is imperative that professional organizations such as SCAR continue to take a proactive role in the education and marketing of new computer applications in radiology. Through such an outreach program, these technologic advancements

can be promoted. The ultimate goal is to continue research to advance future developments with the objective of improving the quality of healthcare in a cost conscious and value-added fashion. This can

be further facilitated by reaching out to other healthcare professionals such as hospital administrators, information systems specialists and financial officers.

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