Radiologist Manpower Considerations and Imaging 3.0: Effort Planning for Value-Based Imaging

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Our specialty is seeking to establish the value of imaging in the longitudinal patient-care continuum. We recognize the need to assess the value of our contributions rather than concentrating primarily on generating revenue. This recent focus is a result of both increased cost-containment efforts and regulatory demands. Imaging 3.0 is a value-based perspective that intends to describe and facilitate value-based imaging. Imaging 3.0 includes a broad set of initiatives addressing the visibility of radiologists, and emphasizing quality and safety oversight by radiologists, which are new directions of focus for us. Imaging 3.0 also addresses subspecialty imaging and off-hours imaging, which are existing areas of practice that are emblematic of inconsistent service delivery across all hours. Looking to the future, Imaging 3.0 describes how imaging services could be integrated into the framework of accountable care organizations. Although all these efforts may be essential, they necessitate manpower expenditures, and these efforts are not directly covered by revenue. If we recognize the urgency of need in developing these concepts, we can justify the manpower and staffing expenditures each organization is willing to shoulder in reaching Imaging 3.0.

Key Words: Imaging 3.0, value-based, manpower, strategy, accountable care organizations, adaptation

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INTRODUCTION

Radiology now seems to continually face expectations of improved health care quality at lower cost. This development is particularly conspicuous with specific events such as the Affordable Care Act. These expectations of higher quality at continuously reduced cost affect the operational and financial performance of radiology. As practices address shrinking margins by increasing per-radiologist throughput or increasing volumes, radiology manpower considerations are also affected. At the same time as radiologists are increasing their clinical productivity, they are also spending increasing uncompensated time improving the value of provided services [1]. If we can successfully describe the changing roles and activities of radiologists, we can help provide practice leaders with insight into their future manpower considerations [2].

TRANSITION FROM IMAGING 2.0 TO IMAGING 3.0

In the past 2 decades, imaging and the role of radiologists has undergone a transformation, at the same time as reliance on radiology has increased. This transformation can be described as a stepwise progression. The stepwise progression has been described as moving from Imaging 1.0, to Imaging 2.0, to Imaging 3.0™ [3]. Imaging 1.0 refers to the creation and refinement of the specialty of radiology into a mature discipline, with radiologists seen as valued consultants and experts, from the beginning of the 20th century through the early 1990s. Imaging 2.0 refers to the rapid growth in available imaging modalities and massive increases in imaging and images per study that took place after the early 1990s. This growth was contributed principally by CT and MRI. This dramatic growth in imaging volume with greater reliance by clinicians on imaging also resulted in the necessary adoption of new technologies that facilitated handling of the increased volume of reports, studies, and images. Facilitating technologies helped address new needs, and such technologies included Picture Archive

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and Communication Systems (PACS), voice recognition dictation systems, image postprocessing tools, and operational approaches that collectively led to increased productivity.

An accidental result of the need to deliver timely reports in the face of increased workload was that we also became progressively more invisible and unavailable to the very clinicians with whom we had forged particularly tight connections. The primary focus of radiologists became the imaging report, with volume productivity valued in a strictly fee-for-service environment. In addition, clinicians became able to look at their studies online or on PACS systems, and no longer served as essential partners in review of films. As we concentrated our focus on image interpretation and throughput, in many cases we slowly gave up time-absorbing roles and responsibilities that formerly allowed us to oversee imaging quality, safety, and appropriateness.

Imaging 3.0 redirects our attention to consider not only the essential need to generate reports, but also the need for radiologists to explain how we add value in the entire health care equation. With Imaging 3.0, radiologists will seek to be the indisputable central figures in delivering effective and efficient imaging care to patients throughout the care continuum. Imaging 3.0 seeks to account for contributions of radiologists before, during, and after imaging. With Imaging 3.0, radiologists will account for the added value we contribute as experts on imaging quality, radiation safety, and appropriate use of imaging—in addition to image interpretation—from the moment an imaging study is ordered until the referring physician and patient understand the recommendations. Given current payment trends, to better prepare for future payment systems beyond fee for service, we need to better define the total value that imaging provides to health care.

There are nonimaging responsibilities that will likely become a significant part of our roles and will require further strategic and scenario planning. Imaging 3.0 manpower considerations include managerial roles, in addition to defining the consistency of care we deliver, and increasing our clinical visibility. Managerial roles include: (1) the role of the departmental quality and safety radiologist; (2) alignment of physician and technical administrative management at the practice level, with greater participation of radiologists in departmental management; and (3) appropriate radiology representation in ACOs. Defining the consistency of care necessitates an understanding of: (4) proper allocation of subspecialized and general radiologist manpower at the practice level; and (5) 24/7 (ie, all-hours) radiology department coverage with final interpretations. Increasing clinical visibility includes (6) in-person imaging consultation services by radiologists. All these efforts will by necessity be the direct responsibility of radiology practices.

VISIBILITY AND CONSULTATION

Radiologists have become progressively less "visible" to clinicians. Many senior radiologists vividly and fondly recall a time when "film rounds" were routine, and consulting clinicians, both individually and in groups, would spend time on a regular basis reviewing patients' imaging studies with radiologists. These film rounds allowed radiologists to more publicly demonstrate their unique expertise. At these film rounds, considerable bidirectional information was exchanged between clinicians and imagers that led to improved diagnosis and treatment. These film rounds served as a two-way information exchange, giving radiologists an opportunity to demonstrate their clinical and radiologic expertise to clinicians, while also providing the radiologist with relevant clinical information that would otherwise be unavailable. The latter allowed the radiologist to refine their diagnostic acumen. Consequently, the value of the film rounds was apparent to participants and demonstrated the unique value of radiologists, not only in generating appropriate interpretations, but also in guiding the selection of appropriate imaging studies.

As productivity has increased in recent years to offset diminishing margins per study, many radiologists have disappeared into less public or conspicuous spaces to perform increasing amounts of work with fewer interruptions. Clinicians also face the challenge of decreasing reimbursement, as they also become more hurried, and perhaps less insistent at having film rounds with similarly hurried radiologists. At the same time, patients' imaging studies are becoming progressively more available, on PACS systems distributed throughout hospitals and on personal electronic devices outside of the hospital. Thus, radiologists may be seen as increasingly unavailable and inaccessible rather than as invaluable and essential. The natural result of such a process could well be that clinicians will perceive the radiologist function to be redundant with their own. As the memory of a favored radiologist partner recedes, there naturally may follow changes in the loyalty of clinicians to individual radiologists, and consequently the job security of individual radiologists or groups may suffer.

The increasing invisibility of radiologists to clinicians is accompanied by radiologists' typical disinterest in discussion time with individual patients. In part, spending "face time" with patients is not typically promoted, since such time, with the notable exception of certain specific instances, is not typically billed. The few times that radiologists "naturally" and directly interact with patients include interventional procedures, ultrasound examinations, and mammography; arguably, this valuable face time is not capitalized on consistently. Much of the rest of imaging practice does not naturally encourage close interaction with a liberal expenditure of time between patients and radiologists.