Ultrasound units have gradually become more portable over the years. This gives clinicians the ability to perform these examinations at the bedside, in the office and in the emergency room. The idea is that relatively untrained individuals (compared with ultrasound technologists or radiologists), whether clinicians, residents or medical students, are capable of providing an ultrasound imaging examination at the POC that is diagnostic and - equally as important - cost effective.

According to an article in the *Journal of the American College of Radiology* (JACR), *Self-Referral in Medical Imaging: A Meta-Analysis of the Literature* from July, the increased cost associated with a rise in imaging in a self-referral setting was approximately $3.6 billion. So, it was with significant interest that I read a November JACR article *Noncardiac Point-of-Care Ultrasound by Nonradiologist Physicians: How Widespread Is It?* and *Diagnostic Imaging* article *Radiologists Still Primary Noncardiac Ultrasound Users* reporting and discussing the increasing use of bedside or point-of-care (POC) ultrasound.

The November JACR article reported that between 2004 and 2009 there was a 21 percent increase in the overall utilization rate of noncardiac ultrasound. The POC ultrasound performed by nonradiologists amounted to 41 percent of all studies done in 2009. The increase in the studies interpreted by radiologists was 17 percent but the overall percentage of cases interpreted by radiologists decreased in those years from 56.6 percent in 2004 to 54.9 percent in 2009. While this decrease may be accounted for in a number of ways, certainly the significant focus over the past several years on improving appropriate utilization in radiology and imaging and the various methods of imaging preauthorization in general contributed to this decrease. Over the same time period, 2004 through 2009, there was a 28 percent increase in ultrasound cases performed by nonradiologists.

If we accept the idea, supported by a number of articles, that there is an increase in utilization when imaging is used by "self referring" physicians, making this imaging tool more widely available, indiscriminately, will likely increase overall utilization - both appropriate and inappropriate. This is clearly at odds with the spirit and intent of everything we are trying to change about our current healthcare model. If we are to accept the presence of this tool in a more widespread and easily accessible atmosphere, then I believe we need to address four specific areas that may improve cost effective patient care, enhance the diagnostic quality of the examinations and interpretations and help ensure appropriate utilization:

1. Training
2. Reimbursement/cost
3. Quality assurance
4. Cost effectiveness - improvement in prognosis or outcomes, shortening of length of stay and/or
financial savings to the patient and healthcare system. We should, through collaboration with our clinical colleagues design a coherent training program that is required before ultrasound examinations can be performed by physicians or others. We should establish policies concerning reimbursement for these examinations whether performed as part of a physical examination, for interventional guidance or as part of a more diagnostic examination secondary to a specific symptom or disease process. We should establish specifics regarding quality assurance that will protect patients from not only inappropriately performed examinations but also from inaccurately interpreted examinations.

Finally, we should document the cost effectiveness of these POC services by demonstrating that there is an improved prognosis or outcome, a shortening in the length of stay and/or there are financial savings available to the patient and the healthcare system by performing these procedures. POC ultrasound, like its counterpart currently being performed in the radiology department, is a tool. Appropriate use of this tool may lead to improved patient care. Inappropriate use will unquestionably increase inappropriate utilization and cost.

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