Ask if teleradiology is your friend or your foe

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Commercial and clinical benefits face off against threat of marginalization

Teleradiology provides an intriguing snapshot of the development of radiology. Its use reflects the changing world of clinical practice, technology, and service delivery. It challenges conventional models of care and is leading to a globalization of radiology. Is this a change for better or for worse? Teleradiology was first developed for military purposes, enabling x-ray images acquired at field units to be sent to specialist centers. Informed decisions on patient management and evacuation could be made remotely.

In the U.K., teleradiology was deployed in the late 1980s to support the transfer of neuroimaging results for immediate expert opinion. Head trauma patients, in particular, could then benefit from efficient and rapid decision making. Image transmission has generally occurred through a hub and spoke arrangement that linked neurosurgical centers (the central hub) with multiple district hospitals.

The technology was also used to link remote offshore communities with mainland hospitals. This enabled radiological opinion to be given more rapidly and maximized use of personnel. Early systems were hampered by slow transmission speeds and loss of image quality, but today massive data loads may be managed efficiently and securely. Networking between institutions with different IT systems can cause problems, but progress is being made toward vendor-independent integration.

The above suggests that teleradiology is a true friend—a friend of patients, that is. So is there a downside?

The private healthcare sector in the U.K. has recognized the commercial benefits of transmitting images for remote reporting, nationally and internationally. The traditional pattern of radiologic service delivery has consequently been challenged. Some would say that teleradiology has literally forced efficiencies within the state sector at the risk of losing imaging contracts. Radiologists have sought to affirm the importance of direct clinician contact in an effort to maintain local service delivery. Governance issues have led to double reporting and language checking, in some instances.

The issue of extending double reporting beyond mammography in the public sector has also been raised. The impact of teleradiology has gone way beyond the application of a technology to facilitate rapid image transfer.

The widespread use of teleradiology may cause radiology to be viewed as a commodity rather than a mature clinical specialty. If radiology can be shipped to reporting houses, where value is placed on cost containment and reporting speed, it is little different from services purchased over the Internet. If teleradiology is breaking up effective clinical links, surely it is a foe?

I believe that clinical radiologists should see teleradiology as complementary to their core activities. Hospital-based radiologists offering good quality and timely clinical management advice are at the center of care.

Teleradiology can be used to seek expert opinion, support clinical networks, and cover short-term service delivery issues.

The real power of teleradiology is the transfer of diagnostic images for expert opinion. We currently seek expert advice by posting queries on Internet discussion boards or by sending images to colleagues on CD-ROM or in compressed format via e-mail. The next step in the evolution of teleradiology must be to embrace the need for widespread, cross-vendor transfer of studies with efficient display on diagnostic workstations. Then we really will have entered the era of telereferral. We must embrace teleradiology and use the concept of telereferral to strengthen our working relationships with clinical colleagues.

Disclosures: