Teleradiology Ushers in New, Subspecialized Era

With nighttime teleradiology use a reality for half of the hospitals in the U.S., radiologists’ fears of commoditization are giving way to hope for more streamlined subspecialty reading.

Along with giving institutions access to a greater number of radiologists, teleradiology is finding applications in off-hours coverage and particularly in access to subspecialty expertise, said N. Reed Dunnick, M.D., Fred Jenner Hodges Professor and chair of radiology at the University of Michigan, Dearborn, and science liaison for the RSNA Board of Directors. “It allows us to send images to the most appropriate faculty, regardless of the location of the imaging study,” Dr. Dunnick said.

Between 50 and 55 percent of institutions now use some form of off-hours teleradiology service, estimated William G. Bradley Jr., M.D., Ph.D., professor and chair of radiology at the University of California, San Diego (UCSD). “There was a survey a few years ago by the American College of Radiology (ACR) that suggested the number was around 50 percent, though recent studies have found it’s a bit higher than that,” according to Dr. Bradley, a founder of NightHawk Radiology Service, based in Coeur d’Alene, Idaho, one of the nation’s first and largest teleradiology providers and the origin of the industry-wide term “nighthawk.”

Dr. Bradley projects that while nighttime teleradiology coverage will likely reach a plateau, outsourcing studies to subspecialists may become much more common.

Concern Still Exists
Despite the advantages that have been identified, the thought of widespread teleradiology use still unnerves some radiologists by conjuring images of unregulated readings by overseas practitioners. Dr. Bradley said that’s not the case for NightHawk and others in the field.

Sometimes our offshore teleradiology—a few of our radiologists read from Europe or Australia where it’s daytime during nighttime hours in the U.S.—gets lumped in with India, where doctors are willing to read for a lot less than we get paid,” Dr. Bradley explained. “But some of those doctors are not board certified,” he said, referring to required certification by the American Board of Radiology (ABR). “It may not be legal for them to read images.”

Dr. Bradley served on the ACR Board of Chancellors when it established its teleradiology resolution standards in 2006. “ACR says you need to be board certified, credentialed at the hospital and licensed in the state,” he said. “The resolution also speaks out against ‘ghost reading,’ where you might have one doctor who trained in the U.S. signing reports by 10 doctors who did not, without actually looking at the images.”

C. Douglas Maynard, M.D., a professor and chair emeritus of radiology at Wake Forest University School of Medicine in Winston-Salem, N.C., and 2000 RSNA president, wrote in an August 2008 issue of Radiology “Controversies” piece: “I am concerned that the improper use of technologies such as PACS and teleradiology ... will provide a mechanism by which radiologists will move from the desired role of consultants to the role of expert image interpreters.” In the article, Dr. Maynard cautioned that referring physicians
could cease to consult with radiologists before or during imaging examinations if radiologists are no longer physically present.

Dr. Bradley said he is also cognizant of the “dark side” of outsourcing, which might enable increased self-referral. “At the same time, it’s contributing to the perception by other physicians and the government that radiologists are overpaid or lazy,” he said. “That’s another discussion, but they only look at the cost of medical imaging. They don’t consider that we don’t do exploratory laparotomies anymore. We don’t admit patients for ‘observation’ like we used to. While the cost of imaging is going up, it’s probably saving money overall.”

With the availability of skilled subspecialists and the technological means to connect them, institutions should have the best of both worlds, said Anand P. Lalaji, M.D., founder and chair of Atlanta-based The Radiology Group. Dr. Lalaji promotes a hybrid model that combines remote and in-house imaging services. The model addresses problems like staff relationship voids, lack of subspecialty access, underutilization of physician extenders, turnaround time and rising costs, he explained in a recent press release.

“The theory at this moment employs a model of ‘whoever is available,’” said Dr. Lalaji. “We should use the technology to route the exam to a specific subspecialist 100 percent of the time, at least during the normal business day.”

Dr. Lalaji also recommends utilizing the services of radiologist assistants to help build staff relationships that may be lacking in a standard teleradiology model. As for cost, Dr. Lalaji said, “Radiologists’ salaries plus benefits are a fixed cost. There is direct savings by reducing the number of onsite radiologists and shifting studies offsite. The offsite reading cost is a very competitive ‘fee per study’ model. This saves the hospital from spending money to manage their radiologists and pay for occasional difficult musculoskeletal case to a teleradiology company,” he said.

Accountability becomes an issue, wrote Dr. Maynard, as the radiologist becomes less associated with the referring physician and the patient. Dr. Bradley recommends that all teleradiology companies implement quality assurance programs. “UCSD is working with NightHawk on having a random sampling of cases read by our faculty and compared to the actual report. QA measures not only allow radiology groups to compare quality, but just having the nighthawks know they’re being watched will probably improve the quality.”

As radiologists move forward with teleradiology in tow, concerns remain about losing the interpersonal communication that fosters what Dr. Maynard described as the “desired role of the consultant.” Dr. Dunnick advises that radiologists participate in the entire patient care process, including access, scheduling, safety, communication and examination appropriateness.

“Radiologists must ensure the smooth operation of the imaging facility,” said Dr. Dunnick. “We must remember that there is much more to radiology than interpreting the images.”

**Learn More**
- The article, “Radiologists: Physicians or Expert Image Interpreters?” by C. Douglas Maynard, M.D., is available at radiology.rsnajnls.org/cgi/content/full/248/2/337.
- The article, “Off-site Teleradiology: The Pros,” by William G. Bradley Jr., M.D., Ph.D., is available at radiology.rsnajnls.org/cgi/content/full/248/2/333.
- The Letter to the Editor, “Radiologists are Physicians, Not Commodities,” by William M. Lisberg, M.D., is available at radiology.rsnajnls.org/cgi/content/full/250/2/603.