

Subspecialty Teleradiology: Good or Bad for Medical Imaging?

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Teleradiology emerged in the 1990s as a major disrupter of medical imaging. No longer bound by the need to employ their own radiologists 24/7, hospitals could leverage the services of radiologists from other parts of the country — even overseas — to read their images.

More than a quarter-century later, sparked in part by the COVID-19 pandemic, subspecialty teleradiology is causing similar disruption. A growing number of health systems are turning to subspecialty teleradiology providers for round-the-clock reading help in neuroradiology, musculoskeletal imaging, and other areas.

This has sparked some discussion over whether the advantages of subspecialty teleradiology outweigh the disadvantages.

Evolution of Subspecialty Reads

The emergence of general teleradiology services some 30 years ago proved especially helpful to facilities located in rural areas and those without sufficient patient volume to warrant in-house overnight coverage. Radiologists who joined third-party teleradiology providers, meanwhile, enjoyed improved quality of life owing to greater autonomy in scheduling and work-from-anywhere capabilities.

“Traditional teleradiology is a distinct specialty and generally attracts people who [are] moving toward retirement, seeking lifestyle flexibility, or [ar-

en’t] interested in engaging much with other docs in the clinical setting,” says Lawrence N. Tanenbaum, MD, vice president and chief technology officer of Radnet, a provider of outpatient imaging services based in New York, New York.

Subspecialty image reading followed soon after but really began expanding about 12 years ago when nighttime final reads became standard operating procedure and there was an explosion of stroke imaging, says Samir Shah, MD, chief clinical officer of teleradiology and senior vice president of radiology at Envision Physician Services of Nashville, Tennessee.

“These factors pushed a need for more neuroradiologists at night,” Dr Shah says. “Then ... we saw more and more requests for pediatric subspecialty reads on neonatal films, as well as a general push for MSK [musculoskeletal] radiology expertise.”

Both general and subspecialty teleradiology services experienced a significant upswing in popularity as the COVID-19 pandemic took hold and many businesses, including healthcare systems, began implementing work-from-home arrangements.

“With the onset of COVID-19, remote reading of images suddenly got much more common,” Dr Tanenbaum says, adding that urban flight and mass retirements left many organizations in need of reading help. Third-party subspecialty teleradiology services, he says, helped to meet those needs.



Taj Kattapuram, MD, a diagnostic and interventional radiologist at Gundersen Health System, has worked in numerous practice settings over her career.



Lawrence N. Tanenbaum, MD, is vice president and chief technology officer of Radnet, which completes more than 9 million outpatient imaging procedures annually.



Samir Shah, MD, is chief clinical officer of teleradiology and senior vice president of radiology at Envision Physician Services, where more than 500 radiologists perform over 8 million annual reads, combining on-site radiology and subspecialist teleradiology

Thinking About Outsourcing? Some Things to Consider

Teleradiology services operate under a range of performance standards, agreements and contracts, and technology platforms that enable varying degrees of collaboration.

Hospitals looking to outsource should be sure to:

- Carefully assess the qualifications and experience of the teleradiology service’s radiologists;
- Request sample reports and documentation;
- Analyze the type and number of images intended for outsourcing; and
- Analyze the projected revenue of these cases against the costs of outsourcing.

Health systems also should not rule out making internal changes that could generate the intended results without outsourcing. “I caution people to try to do your best work with your current radiologists. Work with the docs and try to figure out if there’s a solution that will keep everyone happy,” Dr Kattapuram advises.

“With COVID, we saw in many ways that people do not have to be in house—physically present at the hospital site—to read imaging studies and get the workflow done,” adds Taj Kattapuram, MD, a diagnostic and interventional radiologist at Gundersen Health System in La Crosse, Wisconsin. “Without a commute, it saved people a lot of time. In terms of quality of life and

satisfaction, we saw a big happiness boost for a lot of radiologists.”

Dr Shah notes that the pandemic helped subspecialty teleradiology gain greater credibility with healthcare institutions.

“It was only after the pandemic that remote reading became fully accepted,” Dr Shah says. “And

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as teleradiology groups, it's taken us this long to ... have the right workflows in place that mimic on-site, daytime work to provide that optimal degree of subspecialization."

Now, he says, there's an increasing expectation for remote subspecialty image reading even during the day. Some hospitals in rural and other areas with limited access to advanced imaging consider subspecialty teleradiology services a necessity. Their general radiologists may not have the expertise to handle complex cases in the cardiac or neuro realm, for example, and outsourcing these reads is the most convenient, affordable option, he says.

For their part, Drs Tanenbaum and Kattapuram say complex cases constitute only a small portion of third-party interpretations.

"A really good general radiologist, especially in a rural setting, isn't going to see those 'crazy zebra' cases," Dr Kattapuram says. "They've learned the vast majority of things as a resident and it's sufficient." She adds that patients are better off being referred to the closest major academic medical center in such cases.

And then there are financial realities to consider. Payors determine reimbursement rates for imaging services, complicating the economics of subspecialty

teleradiology for many institutions. This, in turn, impacts teleradiology services themselves.

"The fundamental problem is that for many organizations reimbursements are low—getting ever lower—and margins are very tight. Practices can't outsource reading if the costs exceed revenues," says Dr Tanenbaum. This price pressure forces teleradiology salaries down, he adds. "How is a teleradiology concern going to recruit an 'expert' if they can't pay an appropriate salary? Volume is the key to teleradiology, but there isn't a lot of margin to retain the best people."

Forecasting the Future

Going forward, some say the optimal medical imaging approach will combine the versatility of general radiologists with in-person and remote subspecialty radiologists to handle cases spanning a wide range of complexity.

"We're at a crossroads right now with subspecialty teleradiology because we're seeing hospitals move to remote models, yet there's no question that the local radiologist is still valued by health system and by referring physicians. They're not going to disappear," Dr Shah says.