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Hospitals farm out radiology diagnostics

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Ever wonder who reads your emergency CT scan in the middle of the night?

The region's two largest hospitals, UMass Memorial Medical Center and St. Vincent Hospital, have medical residents — doctors in training — who read diagnostic images overnight and on weekends. The radiologists might be physically in the hospital, or they might be reading images in one central location for several affiliated hospital facilities.

Community hospitals, though, do not have medical residents, enough staff radiologists, or enough off-hours work, to justify keeping a radiologist in the building overnight.

For years, community hospitals solved this problem by keeping its staff radiologists on call. Often, the doctors would be awakened several times a night to read emergency case diagnostic images such as computerized tomography scans, or CT scans, magnetic resonance imaging, or MRIs, and ultrasounds.

For the past several years, though, community hospitals have outsourced this function to private companies, or have hired large teaching hospitals to have their doctors read these scans during off-hours. The outsourcing — called teleradiology, or remote radiology — uses a radiologist located off-site to read the image, and offer a preliminary diagnosis. This diagnosis is used to fashion a treatment for the patient until the morning, when the staff radiologist will review the image and the remote radiologist's diagnosis.

Harrington Hospital in Southbridge and its Hubbard campus in Webster, for example, have forged an affiliation with Beth Israel Deaconess Hospital in Boston to perform overnight readings of diagnostic images. Those images are actually read by radiologists working across the ocean, in Israel.

All of the Israeli radiologists are certified by the Massachusetts Board of Registration in Medicine, and are affiliated with Harrington. Being affiliated means the Israeli radiologists are staff members of Harrington's radiology department, even though they are in another part of the world.

"They're physically in Israel, but all their work and training has been done in the U.S.," said Dr. Max P. Rosen, executive vice chairman of radiology at Beth Israel Deaconess and head of the program that links Beth Israel to Harrington. He said that several of the radiologists in Israel, including the co-owner of the Israeli company, are former Beth Israel doctors.

"What's nice about this relationship is that everybody knows everybody," he said. "It's very personal." The time difference also allows for the Israeli radiologists to work during the day, he said.

The Israeli radiologists, working for a firm called Remote Radiology International in Israel, evaluate about 10 images a night for Harrington and Hubbard, and about 15 percent of all images produced by the hospital group, according to Dr. Rosen. The relationship between Beth Israel and Harrington has been in place for three years.

Most community hospitals in Worcester County, including Milford Regional and HealthAlliance, contract for off-hours radiology services with Minnesota-based Virtual Radiologic.

The company, which abbreviates itself as vRad, has found a profitable niche in the medical marketplace. The company provides off-hours radiology coverage for 20 percent of the nation's hospitals. Last year the company's radiologists read 2.7 million diagnostic images, earning vRad revenues of \$120 million and \$12.7 million in profits, according to the company's 2009 financial report.

Heywood Hospital in Gardner, Nashoba Valley Medical Center in Ayer and Worcester-based Fallon Clinic also use Virtual Radiologic. While UMass Memorial Medical Center — University Campus has residents read overnight images, its Memorial Campus has residents at Massachusetts General Hospital read their overnight scans. And MRIs generated at the University Campus overnight are read by Virtual Radiologic as well.

HealthAlliance once used a competitor of vRad, called NightHawk Radiology, based in Idaho. NightHawk's radiologists worked in special call centers in Vienna, Austria, and Sydney, Australia, according to Rick Mohnk, HealthAlliance's chief information officer.

According to a spokeswoman for vRad, here's how the company works: Hospitals from all over the country e-mail diagnostic images to vRad's operations center in Eden Prairie, Minn. From there, the images are routed by vRad to a board-certified radiologist who is viewing the images on a computer screen in his or her own home.

"vRad is a national practice with more than 140 radiologists who work virtually from work stations in their home, using technology developed by vRad radiologists," said Bronwyn Lepper, the company's vice president of operations. "These radiologists are located all across the country, so a radiologist in Florida may be reading an image that comes from a hospital located in New England."

vRad has a 99.7 percent accuracy rate, meaning that only a tiny percentage of cases are overruled by the hospital staff radiologist.

Dr. Joseph T. Ferrucci, chairman of the radiology department at UMass Memorial Medical Center, said remote radiology has pros and cons. It's a little more cost-effective for the hospitals, and diagnoses are ready in minutes instead of hours or days. Using remote radiology is a convenience for the hospital as well, he said, because it is hard to find radiologists willing to work nights and weekends. Hospitals can use remote radiology as a recruiting tool, touting a regular schedule as part of the employment package.

"The gray-hairs in radiology, like me, see this as a mixed blessing," he said. "You get speed, you get efficiency, but you lose that personal spark, and a little something is lost."

He is also concerned that radiology services are becoming so lucrative for private firms that, someday, private companies like Virtual Radiologic might make incursions into daytime image reading as well. And two, malpractice insurers would spike their rates if hospitals sent radiology offshore, he said.

"You want a doctor to worry about you," he said, "rather than some anonymous voice a thousand miles away."

A few years ago, some radiologists worried that their profession might be outsourced to a country like India, where there are a lot of doctors willing to work for wages lower than American doctors.

Frank Levy, an MIT economics professor co-wrote "The New Division of Labor" in 2005, which looked at how computers were changing the skill and labor markets. He said he debunked an "urban myth" that hospitals had already outsourced off-hours radiology to India.

Despite the possible cost savings, hospitals balked at the idea for two reasons, he said. For one, Medicare continues to refuse to pay for radiology surveys read by radiologists outside the United States. And two, malpractice insurers would spike their rates if hospitals sent radiology offshore, he said.

Readings done by the radiologists in Israel for Harrington are not covered by Medicare. The hospital pays for those. The staff radiologist at Harrington reads the image and then submits the service to Medicare for payment.

Teleradiology has become a huge industry, he said, attracting investment and gaining competitors. That means it's here to stay, he said.

Teleradiology, said Mr. Levy, "is a preview of coming attractions for what's coming in health care."

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