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White Paper Series

Examining topics affecting the recruitment and retention of physicians and advanced practice professionals

A resource provided by Merritt Hawkins, the nation's leading physician search and consulting firm and a company of AMN Healthcare (NYSE: AMN, the largest healthcare workforce solutions company in the United States.

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Radiology Recruiting Trends and Recommendations

Introduction

Merritt Hawkins is the nation's leading physician search and consulting firm and is a company of AMN Healthcare (NYSE: AMN) the largest healthcare staffing organization in the country and the innovator of healthcare workforce solutions.

As the thought leader in its field, Merritt Hawkins produces a series of surveys, white papers, speaking presentations and other resources intended to provide insight into physician supply and demand, physician compensation, physician practice patterns, recruiting strategies and related trends.

This white paper examines trends in the recruitment of radiologists, including current supply and demand projections, compensation in the specialty, the expanding role of radiologists and recommendations for recruiting these sought-after healthcare professionals.

Radiology: Definition and History

A radiologist is defined as a physician who uses various image-taking methodologies to diagnose and manage patients and provide therapeutic options. Physicians practicing in the field of radiology specialize in diagnostic radiology, interventional radiology, or radiation oncology. They also may certify in a number of subspecialties. The radiology specialty board also certifies in medical physics and issues specific certificates within this discipline.

Among the imaging technologies that comprise radiology are x-rays ("plain film"), computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), ultrasound, bone density scans and digital mammography.

The practice of using technology to take diagnostic images began with the detection and development of x-rays by Wilhelm Roentgen, a German mechanical engineer and physicist, in 1895. Roentgen was able to take the first x-ray, which was of his

wife, and subsequently became the first person to win the Nobel Prize in physics in 1901. He had experimented with passing electric currents through a tube and by doing so, was able to deduce how to turn this experiment into an X-ray.

The first person to receive an X-ray for medical purposes was a young American, Eddie McCarthy, who fell while skating on the Connecticut River in 1896 and fractured his left wrist. Originally, x-rays were captured on photographic plates but eventually images were transitioned to film. Today, many x-ray images are stored digitally.

Ultrasound started to be used in the 1950s, with "real-time" ultrasound machines coming online in the late 1970s. CT scanning, invented by Godfrey Hounsfield, came into use in the 1970s. Like many forms of diagnostic imaging, the use of CT scans has greatly increased, with approximately 80 million such scans taken in the U.S. each year, up from about three million in 1980.

The ability to use x-rays was transformational in medicine. It allowed for the diagnosis of fractures, bone cancer, tumors, emphysema, cystic fibrosis and other maladies. It quickly became a key diagnostic tool and has been one for well over 100 years, with several hundred million x-rays taken in the U.S. annually. Other forms of diagnostic imaging allow for pictures of soft tissue to be taken and for the viewing of 3-D images of the body. These techniques have become so important that few procedures or treatments for chronic, acute or emergent problems take place today without a diagnostic image being taken and interpreted.

Radiology Training

Radiologists follow the standard path of medical training by completing a bachelor's degree at a four-year college and subsequently obtaining a medical degree.

According to Study.com, "After graduating from medical school, an aspiring radiologist must complete four years of a radiology residency, which is a combination of specialty medical education and paid on-the-job training. Residents complete clinical rotations in different subspecialties of radiology, attend lectures, and conduct research. Some radiologists then go on to complete additional training so they can further specialize. For example, interventional radiology, which requires doctors to use catheters, wires and other probes during certain imaging procedures, involves 1-2 years of fellowship training following completion of a residency".

In addition, the continuing emergence of new technologies requires extra training so that equipment can be used safely and accurately. It's common for even advanced radiologists with many years of practice to take part in specialized training programs.

Licensure and Certification

A radiologist must be licensed to practice medicine, and licenses must be renewed periodically. Licensure can be earned by passing the **United States Medical Licensing Exam (USMLE)** or the **Comprehensive Osteopathic Medical Licensing Exam (COMLEX)**, and meeting any other state requirements. In addition, many radiologists are certified through the **American Board of Radiology (ABR)** or the **American Osteopathic Board of Radiology (AOBR)**. Board certification is optional, but requires continuing education to be maintained.

Career Information

A radiologist's day-to-day job duties might include interpreting information gathered through imaging techniques, communicating results with doctors and patients, writing medical reports, and explaining treatment risks, benefits, and alternatives to patients. Typically, a radiologist oversees a team of imaging technicians and assistants. Radiologists can stay current on the latest developments in radiology through online classes and other forms of continuing education.

Areas of Focus and Specialization

Radiologists have a variety of areas of focus and specialization, including:

Diagnostic Radiology

According to the American Board of Radiology (ABR), “A diagnostic radiologist uses x-rays, radionuclides, ultrasound, and electromagnetic radiation to diagnose and treat disease. Training required is five years: one year of clinical training, followed by four years of radiology training. The majority of trainees complete an additional year of training during a fellowship. A diagnostic radiologist who wishes to specialize in one of the five areas listed below must first certify in diagnostic radiology.”

- Neuroradiology
- Nuclear Radiology
- Pain Medicine
- Pediatric Radiology
- Vascular and Interventional Radiology

Interventional Radiology/Diagnostic Radiology

According to the ABR, “an interventional radiologist combines competence in imaging, image-guided minimally invasive procedures, and periprocedural patient care to diagnose and treat benign and malignant conditions of the thorax, abdomen, pelvis, and extremities. Therapies include embolization, angioplasty, stent placement, thrombus management, drainage, and ablation, among others. Training includes a minimum of three years of diagnostic radiology and two years of interventional radiology, leading to primary certification in interventional radiology/diagnostic radiology.”

Subspecialties include:

***Hospice and Palliative Medicine

*Neuroradiology

*Nuclear Radiology

*Pain Medicine

*Pediatric Radiology

Radiation Oncology

According to the ABR, "a radiation oncologist uses ionizing radiation and other modalities to treat malignant and some benign diseases. Radiation oncologists may also use computed tomography (CT) scans, magnetic resonance imaging (MRI), ultrasound, and hyperthermia (heat) as additional interventions to aid in treatment planning and delivery. Training required is five years: one year of general clinical work, followed by four years of dedicated radiation oncology training." Subspecialties include:

- Pain Medicine

Subspecialty Descriptions

Below is a description of various radiology subspecialties as defined by the ABR. Certification in one of the following subspecialties requires additional training and examination.

Neuroradiology

A specialist in neuroradiology diagnoses and treats disorders of the brain, sinuses, spine, spinal cord, neck, and the central nervous system, such as aging and degenerative diseases, seizure disorders, cancer, stroke, cerebrovascular diseases, and trauma. Imaging commonly used in neuroradiology includes angiography, myelography, interventional techniques, and magnetic resonance imaging (MRI). Two additional years – one year of a fellowship and one year of practice or additional approved training – are required.

Nuclear Radiology

A specialist in nuclear radiology uses the administration of trace amounts of radioactive substances (radionuclides) to provide images and information for making a diagnosis. Imaging that can involve nuclear radiology includes positron emission tomography (PET) and single photon emission computed tomography (SPECT) scans. One additional year of fellowship training is required.

Pain Medicine

A specialist in pain medicine provides care for patients with acute, chronic, and/or cancer pain in both inpatient and outpatient settings while coordinating patient care needs with other specialists. One additional year of fellowship training is required.

Pediatric Radiology

A specialist in pediatric radiology uses imaging and interventional procedures related to the diagnosis, care, and management of congenital abnormalities (those present at birth) and diseases particular to infants and children. A pediatric radiologist also treats diseases that begin in childhood and can cause impairments in adulthood. Two additional years – one year of a fellowship and one year of practice or additional approved training – are required.

Vascular and Interventional Radiology

A specialist in vascular and interventional radiology diagnoses and treats diseases with the use of various radiologic imaging technologies, including fluoroscopy, digital radiography, computed tomography (CT), sonography, and magnetic resonance imaging (MRI). Therapies include angioplasty, stent placement, thrombolysis, embolization, biliary and genitourinary drainages, abscess drainages, and others. Two additional years – one year of a fellowship and one year of practice or additional approved training – are required."

Work Settings for Radiologists

There are various work settings in which radiologists can practice. These include:

1. **Public and Private Hospitals**: Although radiologists may or may not be hospital employees, they often work within the hospital confines using the hospital's radiology equipment as well working with the radiology technologists on the hospital's staff.
2. **Medical Groups:** Radiologists can enter into partnerships with other physicians to form a medical group/clinic/private practice by way of a corporation, partnership or some form of a limited liability company.
3. **Private Solo Practice:** The private practice option with one physician remains an option but is increasingly rare.
4. **Teleradiology:** Beginning in around 2000, radiologists began to work from home or from other remote locations as Teleradiologists. These doctors work within a group, individually, or for an agency and conduct business apart from facilities at which the imaging occurs.
5. **Locum tenens:** Radiologists may choose to work temporary (locum tenens) assignments, usually through a staffing firm.

Radiology Supply, Demand and Demographics

Supply and demand for physicians in various specialties is subject to cyclical trends, and that is certainly the case in radiology, a specialty in which demand saw a significant spike some years ago, a subsequent sharp decline, and is now experiencing a demand acceleration.

Following is a demographic breakdown of the current diagnostic radiology and radiation oncology workforce, using statistics from the AMA's Physician Master File.

Diagnostic Radiology Demographics

Total Physicians	28,348
Total Physicians in Active Patient Care	20,970
International Medical School Graduates	2,179 (10% of active patient care)
Board Certified	19,941
Research	94
Administrative / Teaching	416
Last Year Residents	1,058
Female	5,334 (25% of active patient care)
Male	15,636 (75% of active patient care)
Age 45 and over	17,165 (82% of total physicians)
Age 55 and over	11,129 (53% of total physicians)

Source: AMA Physician Master File.

As these numbers indicate, over half of all diagnostic radiologists (53%) are 55 years old or older, compared to 42% of all physicians. Radiologists are relatively older, on average, than physicians generally and a significant wave of retirements in the specialty can be anticipated. One quarter of diagnostic radiologists (25%) are female, compared to approximately 35% of all physicians, while 10% are international medical graduates (IMGs) compared to approximately 25% of all physicians.

Radiation Oncology Demographics

Total Physicians	5,561
Total Physicians in Active Patient Care	4,404
International Medical School Graduates	576 (13% of all active patient care)
Board Certified	4,101
Research	33
Administrative / Teaching	79
Last Year Residents	187
Female	1,156 (26% of active physicians)
Male	3,248 (74% of active physicians)
Age 45 and over	3,272 (59 of all physicians)
Age 55 and over	2,156 (49% of all physicians)

Source: AMA Physician Master File.

As the numbers above indicate, radiation oncologists are older on average than physicians generally, are less likely to be female or to be IMGs.

Demographic breakouts like those above for other radiology subspecialties are not available.

Radiology Reaches the Top Three

Regarding the cyclical nature of physician supply and demand trends referenced above, it is interesting to note that approximately 15 years ago radiology was considered to be the most in-demand specialty in the United States.

In 2003, radiology topped the list of Merritt Hawkins' most requested search assignments as tracked in our annual *Review of Physician and Advanced Practitioner Recruiting Incentives.* Emerging technologies and favorable reimbursement structures drove what was then a strong buyer's market in radiology in which radiologists were in high demand and had many practice opportunities from which to choose.

Demand for radiology diminished over subsequent years due to a robust supply of residents entering the specialty, payment cuts for imaging services, and utilization suppression linked to both the 2007 recession and to managed care, as well as the growing use of both domestic and offshore teleradiology services.

In 2012, radiology dropped out of Merritt Hawkins' top 20 most requested search assignments altogether.

It returned for the first time since then in Merritt Hawkins' 2016 *Incentive Review* and built on its momentum in 2017, with a 100% increase in search assignments year-over-year. In the 2018 *Incentive Review,* radiology placed in the top four of Merritt Hawkins' most requested physician search assignments, following only family medicine, psychiatry and internal medicine, with number of search assignments increasing 65% year-over-year. In Merritt Hawkins' 2020 *Incentive Review,* radiology climbed to number three among our most requested physician search engagements, following only family medicine and psychiatry. In 2021, radiology ranked second among our most requested types of physician search engagements, behind only family medicine (nurse practitioner was our most requested search engagement in 2021 overall).

Renewed demand for radiologists was inevitable because imaging remains central to diagnostic and procedural work in today's healthcare system, in which very little transpires without a picture. The importance of radiology is enhanced with each technological advance (including artificial intelligence) that makes imaging techniques more varied and effective.

Combine this with improvements in the economy allowing for more elective procedures and the effect of population aging on utilization, and demand for radiologists was inevitably going to rise at some point. In addition, as referenced above, over 50% of radiologists are 55 or older and attrition is beginning to reduce the candidate pool.

Increased demand for radiologists is a symptom of the larger shortage of medical specialists in the overall physician workforce. In its June, 2021 study, the Association of American Medical Colleges (AAMC) projects a shortage of up to 124,300 physicians by 2034. This will include a shortage of up to 47,,000 primary care physicians but an even greater deficit of up to 77,000 specialists, among whom are radiologists (*The Complexities of Physician Supply and Demand.* AAMC. June, 2021).

The shortage of specialists will be driven in large part by population aging at a time when over 10,000 Baby Boomers turn 65 every day. According to the Centers for Disease Control and Prevention (CDC), people 65 years old and older account for 37% of diagnostic tests and procedures (including radiologic procedures) while comprising only 14% of the population.

A 2013 *Health Affairs* study projected that as the U.S. population ages, demand for radiology services will grow approximately 18% between 2013 and 2025 (*Health Affairs*. November, 2013).

Rising demand for radiology also is notable as it suggests that even with the widespread use of teleradiology, which allows for the distribution of imaging studies to radiologists nationally and even internationally, healthcare facilities are again seeking the assistance of recruiting firms such as Merritt Hawkins to help them find radiologists. Demand now is at the level where facilities are seeking both more traditional, on-site radiologists and those working as teleradiologists. Teleradiology has gained momentum recently due to technological advancements that improve quality and the ability of radiologists to work remotely.

Impact of COVID-19

The COVID-19 pandemic suppressed utilization of physician services in most medical specialties, including radiology, as a hold was placed on elective procedures in many areas. Patients have since regained confidence in the safety of hospitals, physician offices and other care settings as masks, vaccines and other safety protocols have been put in place. In many areas, a backlog of patients seeking elective and non-elective procedures and tests now is accelerating demand for radiologists.

Radiologist Practice Patterns and Perspectives

Every other year, Merritt Hawkins conducts a nationwide survey of physicians on behalf of The Physicians Foundation (www.physiciansfoundation.org), a not-for-profit grant-making organization dedicated to advancing the work of practicing physicians. The *Survey of America's Physicians* examines the practice the patterns, career plans and perspectives of today's doctors. Based on data from close to 9,000 physicians, it is one of the most comprehensive physician surveys undertaken in the U.S. Below are responses from 296 radiologists who completed the survey with comparisons to all physicians who responded.

1. What is your current professional status?

	All	Rad
Practice owner/partner/associate	31.4%	39.3%
Employed by a hospital	19.1%	19.7%
Employed by a hospital-owned medical group	17.4%	7.5%
Employed by a physician-owned medical group	12.6%	18.9%
Other	19.5%	14.6%

2. Which best describes your professional morale and your feelings about the current state of the medical profession?

	All	Rad
Very positive	7.0%	6.5%
Somewhat positive	37.7%	39.1%
Somewhat negative	37.4%	41.8%
Very negative	17.9%	12.6%

3. On average, how many hours do you work per week (include all clinical and non-clinical duties)?

	All	Rad
0-20	4.9%	5.1%
21-30	5.0%	3.4%
31-40	11.7%	8.5%
41-50	24.1%	26.5%
51-60	26.1%	36.1%
61-70	15.7%	11.9%
71-80	7.8%	6.1%
81 or more	4.7%	2.4%
OVERALL AVERAGE	**51.4%**	**50.8 hours**

4. Of these, how many hours do you work each week on NON-CLINICAL (paperwork) duties only?

	All	Rad
0-5	25%	56.6%
6-10	28.6%	28.1%
11-15	18.8%	7.5%
16-20	12.3%	4.1%
21-25	6.1%	1.7%
26 or more	9.2%	2.0%
OVERALL AVERAGE	**11.37 hours**	**6.3 hours**

5. Which of the following best describes your current practice?

	All	Rad
I am overextended and overworked	23.9%	26.2%
I am at full capacity	55.6%	62.2%
I have time to see more patients and assume more duties	20.5%	11.6%

6. To what extent do you have feelings of professional burnout in your medical career?

	All	Rad
No such feelings	5.7%	5.1%
Rarely have these feelings	16.6%	15.7%

Sometimes have these feelings	37.7%	39.1%
Often have these feelings	31.0%	31.6%
Always have these feelings	9.1%	8.5%

7. Is any of your compensation tied to quality metrics such as patient satisfaction, following treatment guidelines, compliance, "citizenship", error rates, etc.?

	All	Rad
Yes	47.1%	35.8%
No	39.5%	48.7%
Unsure	13.4%	15.5%

8. What percent of your TOTAL compensation is tied to such metrics?

	All	Rad
0-10	41.9%	44.3%
11-20	22.4%	22.6%
21-30	8.4%	4.7%
31-40	2.5%	2.8%
41-50	1.8%	1.9%
51 or more	4.2%	3.8%
OVERALL AVERAGE	**14.2%**	**13.4%**

9. On the whole, how would you describe the current state of relations between physicians and hospitals, many of which now would employ physicians?

	All	Rad
Mostly positive and cooperative	6.1%	3.1%
Somewhat positive and cooperative	25.6%	22.6%
Neither positive nor negative	21.8%	23.7%
Somewhat negative and adversarial	34.4%	37.7%
Mostly negative and adversarial	12.0%	12.7%

Source: A Survey of America's Physicians. The Physicians Foundation/Merritt Hawkins. September, 2018

Survey responses above indicate several characteristics of note regarding radiologists today. One is that they are more likely to practice in independent owner status than physicians generally. Over 39% of radiologists indicate they are private practice owners or partners compared to less than one-third of all physicians (31.4%).

About one-fifth (18.9%) of radiologists indicate they are employed by a physician-owned group, compared to 12.6% of all physicians. Over 58% of radiologists, therefore, are either practice owners/partners or they are employed directly by physicians, compared to 44.0% of all physicians.

Over one-fourth of all radiologists (27.2%) indicate they are employed directly by a hospital or by a hospital-owned medical group, compared to 36.5% of all physicians

The fact that a relatively high number of radiologists are independent practice owners or are employed by physicians can affect how radiologists are recruited today, a topic discussed in more detail below.

Overwork and Burnout

The Survey of America's Physicians indicates that the state of physician morale is a problematic one. The majority of all physicians responding to the survey (55.3%), indicate their morale is either somewhat negative or very negative, as do the majority of radiologists (54.4%).

Part of these feelings of low morale may be traced to overwork and burnout. The great majority of all physicians who responded to the survey (79.5%) indicate they are either at capacity in their practices or they are overworked and overextended. An even higher number of radiologists (88.4%) indicate they are either at capacity or are overworked and overextended. This is the case even though radiologists work an average of 50.8 hours a week, according to the survey, less than the average of 51.4 hours per week for all physicians.

The survey indicates that feelings of professional burnout are common among physicians, with 77.8% of all doctors reporting they sometimes, often or always have feelings of burnout. Among radiologists, the number is slightly higher at 79.2%. This is the case even though radiologists report spending considerably less time on non-clinical paperwork per week (6.3 hours) than all physicians, who report spending an average of 11.37 hours on non-clinical paperwork per week.

Non-clinical paperwork duties are identified as a significant source of physician dissatisfaction in the survey and are considered a contributor to physician burnout. Though radiologist experience less of this paperwork than most physicians, long shifts, the absence of call, increasing volumes, heavy emphasis on reducing turnaround times, reimbursement changes/reductions and the amount of focus required to interpret images (often without the direct patient interaction that sustains other types of physicians) may be contributors to the often poor morale and high rates of burnout among radiologists.

Quality/Value-Based Payments in Radiology

The *Survey of America's Physicians* indicates that physician compensation based on quality/value metrics is not yet the norm. Less than half of all physicians responding to the survey (47.1%) indicate that any of their compensation is tied to quality metrics such as patient satisfaction, outcomes measurement, etc. The number is smaller for radiologists (35.8%).

In many cases, radiologists do not interact with patients directly and so patient satisfaction cannot be measured. It also can be difficult to tie payments to radiologists to outcomes as they may not be recommending or supervising patient treatment plans and procedures but rather consulting with physicians who do. Volume in terms of number of studies read or relative value units generated, remains the most logical way to compensate radiologists through production-based formulas or through salary plus production-based formulas.

Radiologist/Hospital Relations

Physicians responding to the survey were asked to comment on the current state of physician/hospital relations. Over 46% of all physicians describe the relationship between physicians and hospitals today as either somewhat or mostly negative and adversarial, compared to only 31.7% who describe the relationship as either somewhat or mostly positive and cooperative.

Radiologists tend to be even less sanguine about the physician/hospital relationship than all physicians who responded to the survey. Over 50% of radiologists describe the physician/hospital relationship as somewhat or mostly negative and adversarial, compared to only 25.7% who describe the relationship as somewhat or mostly positive and cooperative.

Radiologists traditionally have worked closely with hospitals, often on-site using the hospital's equipment, and conflicts may arise over equipment quality, availability, schedules, and interactions with other physicians on the staff. In an era in which team-based care is strived for and physician/hospital integration and cooperation are deemed necessary to achieve cost and quality goals, the generally poor rating radiologists give the physician/hospital relationship is not a positive sign.

Compensation in Radiology

Each year Merritt Hawkins releases a report tracking the salaries and other incentives our clients offer to recruit physicians in a variety of specialties. Merritt Hawkins' annual *Review of Physician and Advanced Practitioner Recruiting Incentives* is entering its 28th year and includes data that now serves as a benchmark for healthcare facilities nationwide seeking to structure competitive physician recruiting packages.

Below are low, average and high radiology salary offers as listed in Merritt Hawkins' 2010 *Incentive Review.*

This data reflects ***starting salaries*** for radiologists not inclusive of signing bonuses, production bonuses or other forms of compensation. Merritt Hawkins' data therefore is distinct from other physician compensation sources, which typically track the overall compensation physicians earn and indicate as gross income on their tax returns. Salary offers shown have been broken out separately for radiologists and for teleradiologists for years 2016/17 and 2017/18. A reduction in starting salaries for radiologists from 2019/20 – 2020/21 can largely be attributed to the slow down in utilization caused by COVID-19. Current starting salaries for radiologists are trending back upwards.

	Low	Average	High
2020/21	$150,000	$401,000	$825,000
2019/20	$275,000	$423,000	$600,00
2018/19	245,000	387,000	550,000
2017/18	$309,000	$371,000	$650,000
2017/18 (Telerad)	$350,000	$375,000	$500,000
2016/17	$300,000	$436,000	$725,000
2016/17 (Telerad)	$400,000	$494,000	$600,000
2015/16	$275,000	$475,000	$750,000
2014/15	$150,000	$400,000	$500,000
2013/14	$225,000	$323,000	$500,000

Source: Merritt Hawkins 2021 Review of Physician and Advanced Practitioner Recruiting Incentives

In addition to salaries, the majority of Merritt Hawkins' clients offer radiologists and other physicians signing bonuses. Below are low, average and high signing bonuses for radiologists as tracked in the 2021 *Incentive Review*.

Signing Bonuses for Radiologists

Low	Average	High
$10,000	$23,235	$50,000

Source: Merritt Hawkins 2021 Review of Physician and Advanced Practice Recruiting Incentives

A number of other organizations also track physician compensation. Compensation numbers from these organizations are listed below.

Average Annual Compensation for Radiologists

Sullivan Cotter	$533,173
American Medical Group Assn.	$512,918
Medical Group Management Assn.	$512,162
ECG Management	$490,137
Merritt Hawkins	$401,000

Again, it should be noted that Merritt Hawkins tracks starting physician salaries not including signing bonuses or production bonuses, whereas the other organizations cited above track total physician pre-tax average annual income.

In today's market, compensation offered to radiology candidates must be competitive based on national standards. Compensation can be on a sliding scale based on the culture of the group. Those groups that are entrepreneurially oriented may wish to offer higher compensation for more work, while groups that emphasize lifestyle can offer flexibility in exchange for somewhat lower than standard compensation.

Radiology Recruiting Recommendations

Prior to four or five years ago, radiology was a comparatively easy position to fill with a relative balance between openings and qualified candidates. Increasingly, the balance has shifted with a greater demand for candidates than available supply for the reasons cited above and because teleradiology has become an attractive option for candidates, enhancing the difficulty of filling traditional on-site positions.

As in other hard to recruit specialties, it is important when recruiting radiologists to make the practice opportunity as appealing as possible and to control those factors which can be controlled, including compensation, schedule and practice style (by contrast, such factors as the opportunity's location, weather, crime rate, etc. cannot be controlled).

As referenced above, radiology remains one specialty in which the private practice model remains prevalent, and much of the demand for radiologists Merritt Hawkins sees comes from radiology groups, though also from academic medical centers. The majority of our clients are seeking radiologists with specialty training, with particular areas of need in interventional, neurology, mammography, and total body imaging. Within interventional, subspecialty candidates often are sought, particularly in neurology, to team with neurologists and neurosurgeons in the treatment of a growing number of elderly stroke victims.

Because demand for general diagnostic radiology remains high, many of our clients require candidates with specialty training to also practice general diagnostic radiology, often with a 50/50 split between general and specialty work. Rarely do practices offer settings with more than 60% specialty work. Even pediatric radiologists can be required to do some general adult work. This was not the case ten to 15 years ago, when radiologist candidates typically could request 100% specialty practices. The exception today is academic settings, in which one of the attractions for candidates is the availability of 100% specialty practices.

The Importance of Flexibility and Practice Tailoring

Traditionally, radiology practices have operated on an egalitarian model, with work responsibilities, income and vacation being evenly distributed among partners, notes Nisha Mehta, MD, writing in the April 14, 2017 edition of *Radiology Business*. There are advantages to this model, including its simplicity and the difficulties that arise when groups experiment with tailoring new openings to the needs of specific candidates. For example, offering part-time practice options can complicate daily and vacation scheduling, and may make full-time partners feel more of the administrative work has been shifted to them. However, new entrants to radiology, and to most other medical specialties, put a premium on lifestyle, family time and flexibility.

As Dr. Mehta states, "Although many groups would make the argument that they are looking to recruit people who are willing to work more, rather than less, these radiologists are in limited supply. Recruitment and retention of full-time radiologists with large call responsibilities will become increasingly difficult as the demographics of trainees change. The lack of part-time options or flexibility in scheduling is one of the most commonly cited factors in the decision of radiologists to shift to locum tenens or to teleradiology positions. As this trend is often blamed for undermining the private practice radiology group's ability to negotiate with hospitals, commoditizing radiologist skills and driving down reimbursement, groups should pay close attention to this new demographic."

It is worth citing Dr. Mehta in more detail, as follows: "We as a field need to become more creative and address changing demographics and physician burnout. We need to make it possible for people to work

varying amounts and recognize the needs of those who would trade a portion of their compensation for increased flexibility. As groups grow larger, the potential for these opportunities should increase. This would help groups with the recruitment of new physicians while also helping them keep senior partners who might be looking to scale back a bit."

This is in line with the maxim above about controlling what you can control. For example, most radiology groups offer generous time off, with eight to ten weeks of annual vacation being the standard range (down, however, from the 12, 13 and even 15 weeks that were offered when radiologists topped the list of Merritt Hawkins' most requested specialties some years ago). Vacation in groups, however, tends to be scheduled in one-week blocks to make scheduling easier. These blocks can be problematic for radiologists who would like a three-day weekend or who would like to take a day off here or there to attend a child's sporting event, recital, etc.

As Dr. Mehta observes, "By offering at least a portion (of vacation) as individual days off, radiologists could choose to work less days a week, and part-time positions could be more easily accommodated.
Job sharing doesn't have to only involve two people: it could be a combination of three or four people who make up an even number of full-time equivalents. Tailoring worklists such that certain assignments could be handled remotely would also allow for greater options in larger groups, including an expanding role for home workstations and the ability to customize work hours. The utilization of physician assistants can provide additional latitude. Many groups have found 'weighing' shifts to be helpful, heavily incentivizing those who are willing to work nights, weekends, and holidays. Those who don't want to take as much call should be permitted to outsource their calls to other radiologists in the group or even locum radiologists."

More groups also may wish to consider offering paid maternity leave, a short-term financial commitment that can pay off in both attracting and retaining female physicians.

Work Expectations, and Partnership

According to a July 20, 2016 article in the radiology publication *Aunt Minnie*, average number of relative value units (RVUs) generated per radiologist in the U.S. is 8,907, with interpretation of a chest radiograph designated as 0.2 RVU and a CT or ultrasound interpretation designated as 1.0 RVU. For a radiologist working 230 days a year, this equates to about 39 RVUs a day. In terms of studies read per year, 18,000 to 21,000 is common for relatively busy settings, equating to 78 reads a day based on 230 days worked per year. However, productivity expectations per radiologist will depend on the type of modalities being read and will vary from setting to setting.

The standard time to partnership in radiology remains two years, though this can be reduced to one year to make the opportunity more appealing, usually with asset only buy-in.

Academic Radiology Recruiting

There are nuances to recruiting radiologists to academic settings that should be considered, including:

*Academic medical centers are required to have fellowship trained faculty for each division within the department to educate residents and fellows. With the high demand for subspecialists nationwide, academic centers often feel the brunt of the subspecialist shortage and are increasingly challenged in filling these positions.

*Providing off hours coverage is a challenge because academic settings can be limited in their use of teleradiology. Teleradiology can only be used in non-teaching, clinical environments. In teaching environments, a radiologist must be present. Therefore, radiologists often are required to take more call in academic settings than non-academic settings.

*Subspecialists who are fellowship trained (common in academic settings) often do not want to take general call outside their area of expertise, so this can limit the recruiting ability of departments that require faculty to take general call.

*Historically, compensation for radiologists has been approximately one-third less in academic centers than in non-academic private practice settings and candidates have generally understood and expected this. However, because demand far exceeds supply for subspecialists, income has increased significantly in private practice and this has moved the needle in academics.

*Department Chairs in academics often must call upon institutional leadership to help fund the gap between what they can generally offer and what is necessary to attract academic physicians and retain them. As demand has increased, income offers have increased, and academic leaders continue to cope with this trend.

*Traditional academic recruiting practices, which tend to be highly structured, slow moving and tradition-bound, are evolving in the face of market realities. Academic centers are reassessing the financial offers they are making to candidates, including base salary and RVU-based production bonuses. While benefits such as pensions may be difficult to change, academic centers are reassessing:

-Scheduling, vacation, CME, sick time, holidays, etc. These aspects of the opportunity have to be competitive, particularly as competition with private practices for candidates has increased.
- Call has to be addressed and reasonable, using teleradiology where possible.
- Protected time. “Publish or perish” can only be the norm for academic centers in highly desirable areas. Those in other settings typically must offer protected research/publishing time.
- Candidate savvy. Radiology candidates are more informed than they used to be and they know the numbers when it comes to compensation and RVU requirements relative to income. They generally will select the most competitive offer.

CONCLUSION

In addition to the recommendations referenced above, it is important when recruiting radiologists to follow the general best practices for all types of physician recruiting. These include a thorough analysis of the opportunity to assess strengths and weaknesses, clear lines of communication, agreement on candidate parameters, appropriate resource allocation, responsiveness and the sense of urgency.

About Merritt Hawkins

Established in 1987, Merritt Hawkins is the leading physician search and consulting firm in the United States and is a company of AMN Healthcare (NYSE: AMN), the largest healthcare workforce solutions organization in the nation. Merritt Hawkins’ provides physician and advanced practitioner recruiting services to hospitals, medical groups, community health centers, telehealth providers and many other types of entities nationwide.

The thought leader in our industry, Merritt Hawkins produces a series of surveys, white papers, books, and speaking presentations internally and also produces research and thought leadership for third parties. Organizations for which Merritt Hawkins has completed research and analysis projects include **The Physicians Foundation, the Indian Health Service, Trinity University, the American Academy of Physician Assistants, the Association of Academic Surgical Administrators, the Maryland State Medical Society, the Society for Vascular Surgery, and the North Texas Regional Extension Center.**

This is one in a series of Merritt Hawkins' white papers examining a variety of topics directly or indirectly affecting the recruitment and retention of physicians and advanced practice professionals, including physician assistants (PAs) and nurse practitioner (NPs).

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