



# The Predictable Swarm: Staying on Top of Radiology's Cyclical Staffing "Bug"

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The credit earned from the Quick Credit test accompanying this article may be applied to the AHRA certified radiology administrator (CRA) human resource management domain.



## EXECUTIVE SUMMARY

- *Partners HealthCare System in Boston, MA, took some progressive and bold steps to address the recent staffing shortages in radiology. By addressing the shortage at the system level versus the individual hospital level, Partners was able to successfully recruit and support more than 80 new radiologic technologists from initial interest through graduation in 2 years. The recruitment effort helped reduce the utilization of temporary/agency personnel that cost the system more than \$6 million in 2001. The system utilized a multi-disciplinary team of professionals at many levels in the organization to achieve significant results in a relatively short period of time. Further, the organization channeled all available resources, including a grant from the US Department of Labor (DOL). The Boston Private Industry Council (BPIC), a local organization well known to the Partners HealthCare community benefits and human resources departments, managed the DOL grant.*
- *At least 64 of the first 80 graduates have accepted positions within Partners HealthCare radiology departments. The organization has further populated a database of more than 1,000 interested candidates, some of whom are currently in school and preparing for a future career in radiology, hopefully within the Partners HealthCare System. Partners HealthCare has managed to maintain a diversity rate of over 25% people of color by utilizing targeted recruiting efforts. Partners plans to continue to offer scholarships and other methods of support and career laddering for radiologic technologists in order to continue to meet staffing needs well in to the future. Partners HealthCare developed and implemented a "grow your own" strategy, and the system's leaders hold the philosophy that workforce development is a long-term investment requiring a flexible, permanent plan to stay ahead of the clinical staffing curve.*

Radiology administrators are "swarmed" by a multitude of challenges on a daily basis. Some of these challenges are totally new and driven by the continuously evolving technological environment that currently defines their chosen profession. Other challenges are recurrent, expected, and often all too familiar.

Consider the recent focus on the technologist staffing shortage "crisis." This is not a new subject. In fact, some radiology administrators lament the cyclical nature of this potential practice-crippler. The radiology workforce shortage "beast" seems to raise its predictable head on a 5- to 10-year schedule, much like the cicadas, who rise from the earth and loudly swarm parts of the east coast every 13 or 17 years—invited or not.

Radiology leaders have just made it through the staffing challenges of the past several years (2001-2004). Most are ready to cheerfully welcome what appears to be softening market conditions. However, US labor trend observers—including *Radiology Management* columnist Penny M. Olivi, MBA, RT, CRA—warn that the breath of relief should not be too deep and certainly not too long. In a recent column, Olivi predicts that the "worst staffing crisis ever experienced in radiologic technology will take place over the next 4 or more years."<sup>1</sup> Olivi cites many reasons for her prediction, including:

- inadequate educational options and flexibility despite the increased demand for technologists
- the rising age of the average healthcare worker
- a reduced willingness of experienced technologists to seek leadership positions
- increased educational requirements for leaders and educators
- the new radiologist assistant role as an option for experienced technologists

- the market-driven willingness of technologists to leave permanent positions for work with staffing agencies

Jerry Reid, executive director of the American Registry of Radiologic Technologists (ARRT), adds statistics to Olivi's predictions. According to Reid, a November 2003 American Society of Radiologic Technologists (ASRT) study estimates that at the present rate of growth in new radiologic technologists and, in light of the expected turnover and retirement of existing radiologic technologists, there will be a net gain of about 51,000 by 2010. The shortfall between the US Bureau of Labor Statistics' projected demand for 206,000 radiologic technologists in 2010 and the supply projected by the ASRT is roughly 24,000, creating a vacancy rate of approximately 12%. Although an improvement over the 15% vacancy rate reported by American Hospital Association (AHA) in 2001, it is far from a resolution of the shortage.<sup>2</sup>

The cyclical swarm of radiologic technologist vacancies will return. And, perhaps the next onslaught will be the worst. Some radiology administrators are using the downtime to address more pressing issues, such as which picture archiving and communications system (PACS) will provide the best value or how to gain increased market share with their temporarily fully staffed modalities. Others, however, are preparing their recruitment armamentarium for the next predictable "crisis." These visionaries recognize that while recruiting efforts may be temporarily placed on the back burner, they must not be allowed to cool down completely.

Partners HealthCare System, a not-for-profit network of hospitals, physicians, and health centers in Boston, MA, is keeping one successful recruitment strategy at the ready. Partners HealthCare consists of 7 acute care hospitals, including 2 academic medical centers—Massachusetts General Hospital (MGH) and Brigham and Women's Hospital (BWH). Also included are several community hospitals: Newton-Wellesley Hospital, Faulkner Hospital, North Shore Medical Center (Union and Salem Hospitals), and the Spaulding Rehabilitation Hospital network.

Several of these facilities have ranked in the *US News and World Report's* "Top 10 Hospitals" survey. Specifically, MGH made the publication's honor roll in 2004 (of only 14 hospitals selected nationwide), is in its 15th year in the top 10, and currently ranks 3rd in the United States. BWH also made the 2004 honor roll, and the hospital has been named to Solucient's 2004 top 100 hospitals list 10 out of the last 12 years. Newton-Wellesley Hospital has been included in Solucient's top 100 hospitals list 3 out of the last 4 years, and it has ranked in *Consumer Digest's* top 50 hospitals for patient safety. Finally, Spaulding

Rehabilitation Hospital was named the 8th best rehabilitation hospital in the United States by *US News and World Report*; in 2003, it ranked in the top 10 hospitals.

### **"Grow Your Own" Strategy**

The strategy is a "grow your own" workforce development program, which offers financial incentives and other means of support to attract new medical imaging students and encourage them to matriculate into local colleges and eventually into Partners employment as radiologic technologists.

At Partners HealthCare, several clinical and research departments within the network have voluntarily collaborated to standardize and improve services where appropriate and to share cost-cutting strategies and resources. One such clinical area is Partners radiology. The radiology physician leaders and administrative directors of the organization have worked as a formal team for more than 5 years. Together, the group has successfully reduced costs for equipment and supply purchases by utilizing group purchasing and contracting power, and has shared best practices across the system in the areas of patient care, quality, and innovation.

In 2001, Partners' radiology leadership decided to address the radiology staffing shortage, which was considered one of the most significant shared challenges of that year. The group considered all aspects of the staffing shortage. It was determined that the number of graduates from Massachusetts radiologic technologist programs had shrunk by 32% between 1995 and 2001. Specifically, the number of radiologic technologist graduates from Boston area programs was down by 62%. In fact, there were only 91 total graduates expected in the Boston area in 2001. Many of the 165 accredited student seats in eastern Massachusetts were unfilled, and colleges faced funding cuts threatening a reduction in those available seats. Meanwhile, Partners alone predicted a need for over 300 technologists between 2001 and 2006 based on technological advances, expansion of outpatient centers, staff turnover, and increased demand for all radiology services based on an aging population.

At the beginning of fiscal year 2002 (October 2001), the organization had employed approximately 460 full-time equivalent (FTE) radiologic technologists. At the same time, the system was experiencing an average 17.5% vacancy rate and 8% turnover rate. Additionally, Partners expected a 7.6% growth in imaging programs and services. These factors combined to forecast a predicted need of approximately 153 radiologic technologist openings for fiscal year 2002 (October 1, 2001-September 30, 2002). Clearly, the expected 91 local grads were not enough. And, as the local competition was fierce, there was no guarantee that the organization could recruit all of these.

Partners' radiology administrators created a recruitment and retention task force. The members of the task force, were charged with looking at all aspects of the staffing shortage and making recommendations to proactively address the situation as a system, rather than to continue to try to fight the issues at the individual affiliate level. By combining efforts, it was assumed that more attention could be drawn to the problem, while sharing resources (financial and human) to try to resolve it.

As a major Boston employer, Partners has a long-standing commitment to work with the mayor's office to improve the health and economic well-being of city residents, especially to provide economic opportunity for residents of the neighborhoods adjacent to Partners' academic medical centers. While the radiologic technologist shortage of 2001-2004 emerged as a significant healthcare labor force challenge, the organization's leadership felt it was important to connect workforce development efforts to its community commitments.

After much interhospital review and group discussion, the Partners radiology recruitment and retention task force made the recommendation that a system-wide outreach campaign and scholarship program should be initiated. By increasing the overall pipeline of qualified technologists in the area, the organization hoped to address the staffing shortage with a proactive long-term solution to replace the short-term reactive solutions such as the utilization of agency/temporary technologists and excessive sign-on and retention bonuses. Partners radiology was spending in excess of \$6,000,000 annually on temporary radiologic technologists alone. The organization's leadership quickly approved the recommendation.

As a result, the Partners HealthCare Medical Imaging Scholarship Program was created. Its success would require a great deal of motivation, investment and, perhaps most importantly, total cooperation between once fiercely competing institutions. The hospitals of the Partners network operate in a fairly small geographic area, where workforce capital is limited and all comers were considered fair game prior to the collaborative efforts that defined the scholarship program. It was not a rare circumstance for radiology administrators and managers to leave amicable cross-hospital team meetings only to return to the "hunt," luring each other's staff members with progressively attractive bait. It took a giant leap of faith on the parts of team members to realize that the promotion of the field in general and, in the end, the creation of a larger general pipeline would benefit all.

Members of the organization's recruitment and retention task force expected the scholarship program to require a great deal of hard work and dedication. What they did not realize was that the process would

be a continual learning experience and exercise in flexibility and change management. Three years later, innumerable adjustments to the program have been made. Most, if not all, of the program documents and guidelines have been redone countless times. Each scholarship student has provided a unique precedent to respond to and learn from.

The following tools and strategies are the outgrowth of 3 years of change. They are current, yet flexible. The organization intends to meet the next "swarm" of vacancies head on as the scholarship program can be flexed up and down as needed, rather than recreated as many have attempted to do in the past. A small continuous investment will keep Partners' hospitals ready. The following tools and lessons are offered so that other radiology administrators might learn from the Partners HealthCare experience and not be surprised or unarmed when, like the predictable cicadas, the vacancy "swarm" reappears.

## Getting Started

Any large-scale, financially challenging program requires the buy-in of executive leadership. Hence, the Partners HealthCare Medical Imaging Scholarship Program required the buy-in and collaborative spirit of 7 separate hospital radiology leadership teams, as well as the financial and philosophical support of the organization's corporate sponsors. In fact, the program marked the largest cross-collaborative effort seen to date at the organization. In addition to radiology administrators, leaders from Partners' human resources, community benefits, finance, legal, and other specialties from within the organization's corporate structure, as well as the individual hospital entities, joined forces to create and support a cross enterprise and cross-modality radiology staffing solution.

Each contributor was vital in the eventual success of the program. The lessons learned will be valuable as the system seeks future staffing solutions in other allied health fields. The cooperative model that has been established and the many long-term relationships built can be employed as the organization seeks to ensure expert staffing in all allied health areas well into the future.

The development of the Partners HealthCare Medical Imaging Scholarship Program was truly a lesson in interdisciplinary collaboration at many levels in the organization. Once senior management was on board, significant work had to be done to secure the support of all radiology front-line managers, supervisors, and clinical staff, as well as entity-specific human resource specialists and leaders. This was essential to coordinate the multi-faceted student recruitment process.

One strategy was to recruit entry-level incumbent workers within the hospitals, creating exciting career ladders. To this end, much had to be done to explain

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the program goals and secure the support of non-radiology supervisors and managers that would some day lose their staff member(s) by supporting their transition to the radiology profession. One response to help secure their participation was the possibility of the scholarship program being able supply some new replacement staff for these departments. This would prove to be helpful to both students and department managers, as some students seek entry-level hospital positions as they attend school.

Since the idea of a system-wide student recruitment approach was new, trust had to be established at all levels. Radiology personnel needed to assure human resource professionals within the system that they were planning a collaborative effort, not a competitive process. To this end, human resource generalists from all entities were included in all phases of the program and were asked to join the task force. While Partners hospitals do not typically support a centralized recruitment model, the scholarship program was presented as a special exception. The program was clearly defined as an outreach effort to build resources for future recruitment at the hospital level rather than an alternate technologist recruitment tool.

Finally, an inventory was taken to determine which hospitals had historical or established scholarship programs to avoid redundancy and to incorporate previous successes and lessons learned into the design of the new program. All agreed that the new program would take the place of existing programs to better coordinate efforts and pool all available resources.

### Financing the Vision

When the organization's radiology administrators formed the recruitment and retention task force, there was no doubt that the scholarship program would come at a high price. It was also the clear expectation of all involved that any costs associated would be readily justified. As previously stated, Partners radiology was spending millions of dollars on temporary "fixes," especially on agency staffing. Other costs of the staffing shortage were lost revenue due to deferred or lost volume, increased turnover due to stress, and increased salary packages driven by market conditions. Finally, it was assumed that reduced radiology access was adversely impacting patient length of stay, reducing revenue and impacting the quality of patient care.

The group decided to seek corporate funding to pilot the scholarship program. Two members of the task force prepared and presented a comprehensive business plan to the organization's corporate leadership. The plan forecasted a significant return on investment from the scholarship program. The proposal to offer scholarships and fund the overhead costs of a system-wide program, including the funding of a new FTE position (a radiology sourcing specialist) to

oversee the program was approved as a 2-year pilot project to be funded at the corporate level. Partners human resources approved the funding in order to test this strategy as a potential solution for other clinical areas experiencing similar recruitment struggles. The radiology sourcing specialist would report to Partners human resources and Partners radiology to facilitate program coordination between these key departments.

The approval of the radiology sourcing specialist position may well be the ultimate key to the organization's success in this workforce development effort. The person in this role was charged with the ultimate responsibility to educate and mobilize all resources within the system and the community to get the program off the ground and keep it moving forward. When the scholarship program was first discussed, the responsibility for action landed on task force members. The members were volunteers within radiology management across the system, united in the fight against staffing shortages. However, the vicious cycle of short staffing and limited resources reduced the volunteers' ability to truly dedicate the time and focus that the Medical Imaging Scholarship Program would require.

It was decided that the person in charge of the radiology workforce development efforts must be well versed in radiology in order to best promote the career choice. Further, the sourcing specialist would need to possess strong relationship building and communication skills in order to build a team from individuals that were previously unrelated or even competitive within the system. The individual would need to construct bridges as well as career paths.

The radiology sourcing specialist also needed to be an "entrepreneur," as the position was new and all aspects of the position had to be invented and reinvented. Initially, the position required a great deal of marketing and promotion. It later evolved into counseling, coaching, budgeting, fundraising, and other project management skills in addition to ongoing marketing and outreach. The person needed to become the "face of Partners radiology workforce development" in order to simplify the recruiting and support process. While accepting this responsibility, the individual would also have to maintain constant communication with all program organizers and participants to be sure that all services such as job shadows and recruitment events were scheduled in a timely manner and also to be sure that all involved in the program were given proper kudos and continuous feedback to optimize all aspects of the recruitment process. Also, the person would need to be prepared to handle and track up to 100 contacts per week (and sometimes more) from interested candidates when various public relations campaigns were at their peak.

One glitch in the job description for the sourcing specialist was grading it and determining an appropri-

ate salary. In order to recruit a person with strong radiology background, salary levels would need to be commensurate with radiology pay grades, which were not on par with human resources salary levels. Yet, in the end, it was decided that the radiology experience, while costly, was worth the investment. This decision seems to have been a good one.

Once a full-time individual was named to lead the charge, things quickly began to roll. The radiology sourcing specialist chosen was a former radiology manager well versed in all areas of radiology and very clear about the importance of the mission at hand.

### Surprise Funding Dollars

While system-wide funding of the Partners HealthCare Medical Imaging Scholarship Program was a start, it was not a completely new concept within the organization. Other programs and initiatives had been previously funded as pilots within the system. If a pilot program proved successful after a set amount of time, entities would choose to continue the program by pooling funds to support that program or initiative. What did come as a pleasant surprise, especially to the radiology administrators, was external funding from the US Department of Labor (DOL).

While hospital administrators often look internally to fund business expenses such as staffing and recruitment, the organization has a larger vision. Partners and its hospitals have a stated mission to serve their local communities and residents, not only as healthcare providers, but also as good neighbors. This mission led to a \$450,000 grant to help with the scholarship program. Just as the radiology clinical area was putting the final touches on the scholarship program plan, Partners community benefits department was negotiating with the Boston Private Industry Council (BPIC). The BPIC had previously received a healthcare skills shortage grant from DOL. The grant was designed to assist incumbent workers and dislocated workers in the Boston area to obtain the education and training necessary to secure professions within the healthcare industry that would provide family sustaining wages. The grant criteria (wage stipulations, target populations, etc) fit perfectly with the goals of the radiology scholarship program. Further, the BPIC had stringent timelines to meet, and since radiology was ready to go, a partnership was quickly realized.

The DOL grant helped fund the scholarship program, and it helped form a new alliance between Partners radiology and the BPIC. This alliance resulted in invaluable learning experiences and opportunities to meet new and different groups of potential recruits, previously unknown to the radiology task force members. The BPIC introduced radiology personnel to career centers for displaced workers, various community groups, local high school counselors, and youth

organizations. The alliance with the BPIC provided a jumpstart to the much-needed outreach and career awareness activities, while helping to fund all efforts. The lasting relationships that were formed will help to supply recruitment pools well in to the future.

### Funding a Long-Term Solution

By utilizing the initial seed funding provided by Partners corporate and the DOL grant, the Partners HealthCare Medical Imaging Scholarship Program got off to a banner start. Partners radiology was able to generate increased interest in radiologic technologist careers, fulfilling its goal of expanding the workforce pipeline. Additionally, targeted outreach efforts increased the diversity of recruits. By increasing diversity in employment, the organization can better match patient mix and continue to ensure culturally competent care. Other community benefit goals were realized, as many incumbent workers and unemployed or underemployed local citizens were led to new career paths.

More than 124 radiologic technologist students were recruited between October 2002 and May 2004. Of these, 81 graduated and all secured positions as



### Administrative Director, Radiology

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radiologic technologists—65 of whom were hired within the Partners network. It was an easy math equation to consider the program a success when comparing those hires with the cost of professional external recruitment, temporary staffing costs, and lost revenue from extended vacancies.

The next challenge was to keep the program afloat once the initial funding streams had expired. Furthermore, to remain a long-term solution, there had to be a flexible plan by which activities could be increased or decreased as necessary. The solution: A pay-as-you-hire strategy. After experiencing firsthand the benefits of the program, radiology administrators from all affiliates agreed to fund the program based on the number of graduates they hired. This kept costs in line with the actual value added per institution. The current administrative director of Partners radiology presented a new business plan to the radiology administrators committee. The plan outlined program costs and described the financial framework for the pay-as-you-hire strategy. It included reimbursement of scholarship costs, as well as a formula to share overhead costs based on the total annual volume of scholarship graduate hires. All monies that were returned to the program by affiliates would be kept in a pool to fund future scholarships and other radiology recruitment and retention initiatives.

The administrative director utilized vacancy data, including average length of vacancy expected; revenue per shift per technologist; traditional hiring costs; and the cost of hiring scholarship grads to present a compelling case for supporting the scholarship program (Figure 1). For every scholarship graduate hired at approximately \$16,900 per hire, the hiring institution saved \$53,600. The return on investment for employers was 317%. This return reflected immediate payback, as they paid only after a successful hire was made. A successful hire was determined to be the completion of a 90-day probationary period.

The pay-as-you-hire program was quickly approved by the administrators, along with a plan to manage the number of scholarships and amount of money funded per scholarship, thereby keeping the program flexible and directly tied to fluctuating staffing needs. Should the "swarm" of vacancies be seen on the horizon, the program can quickly ramp up to respond to the predictable "crisis."

### Maintaining Documentation

While creating career opportunities, address staffing needs, and improving diversity is an exciting and honorable mission; it takes more than an idealistic vision to make this pay off. And while it seems a simple concept to provide money for school in exchange for a future employment commitment, it did not take long for the Partners team to realize that

**Figure 1. Proposed pay-as-you-hire system.**

- Partners radiology, in close collaboration with the radiology departments, selects candidates and awards scholarships payable out of the scholarship pool.
- Ninety days after hiring a graduate, the hiring department will reimburse the scholarship pool for the cost of the scholarship plus an administrative fee to cover the overhead cost of the program, as well as replenish the default scholarship dollars not recovered.
- Partners radiology will be responsible for "mentoring" each recipient through the program, minimizing the default rate and collecting scholarship monies owed from candidates who accept jobs outside of Partners.
- Partners radiology will issue a quarterly report to the radiology operating committee (ROC), radiology administrators committee, and Partners finance covering all programmatic and financial activity.
- Annually, the ROC will assess and revise the administration fee as necessary.

Proposed initial "administrative fee" (with breakdown):

Annual Administrative Overhead:	\$166,000
10% default rate:	<u>\$ 41,000</u>
Total expenses:	\$207,000

Therefore, for the remainder of fiscal year 2003 and fiscal year 2004:

Fee per hire:	\$ 6,900 (assumes 30 hires)
Scholarship:	<u>\$ 10,000</u>
Total cost to hiring department:	\$ 16,900

*Note: Given the ramp up in graduates to a proposed "steady state" of 50 in fiscal year 2005, the administrative costs are projected to proportionally decrease to approximately \$4,500 per hire.*

Estimated return on investment on the pay-as-you-hire monies:

Partners HealthCare System, Inc:  
 $(\$70,500 - \$6,900) / \$16,900$  "asset" = 376% over 2.5 years (actually, the "assets consumed" are "zero" as the funds are replenished).

Hiring department:  
 $(\$70,500 - \$16,900) / \$16,900 = 317%$  with an immediate payback provided the costs are incurred after the benefit is derived.

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**The scholarship program involves significant financial investment on the employers' part and a major commitment of time, personal sacrifice and hard work for students.**

all Is must be dotted and all Ts crossed when attracting and contracting with individuals. The scholarship program involves significant financial investment on the employers' part and a major commitment of time, personal sacrifice and hard work for students. The fact that the academic program requires a minimum of 2 years to complete leads to a multitude of potential outcomes. The recruitment and retention task force—later renamed the Radiology Workforce Development (RT WFD) committee—quickly learned that funding the students did not provide a 100% guarantee that they would fulfill their work commitment to Partners upon graduation.

Several factors hindered eventual hires, including simple complications such as the fact that scholarship recipients were not guaranteed a clinical training assignment within the organization. Since students often stay where they are trained, this was one source of leakage that may have been predicted, but was initially overlooked. It would be unfair to non-scholarship students for the colleges to assign Partners-funded students solely to the organization's clinical training sites. Clinical assignments are made based on student preferences, technological variables, geographical considerations and other objective criteria. Recognizing that clinical assignments were out of their direct control, the Partners scholarship committee members decided to alter scholarship application materials, which were in their control. The applications were altered to reflect a preference for clinical students assigned within the system. Non-Partners clinical students were not eliminated from the scholarship review, but the clinical site criteria was one of many evolving guidelines used to help make difficult decisions when faced with many qualified applicants. All selections were and continue to be made with the number one priority being to secure exceptional future employees.

When first designing the scholarship application, RT WFD committee members utilized existing documents from organization affiliates and edited them to reflect the new system-wide approach. Brainstorming sessions were used to ensure that any potential situations were addressed. Selection criteria were written and adjusted several times. Next, existing promissory notes were reviewed and altered to fit the program.

Since these are the contracts designed to ensure that the students' education and employment commitments are clearly outlined and agreed to, they were also reviewed and edited by Partners' corporate legal counsel. The RT WFD committee members review the documents on an annual basis. They are often edited based on various unpredicted circumstances or for improved program documentation.

Initially, program designers assumed that the scholarships/loans would be awarded annually. When academic issues surfaced, this plan was altered. After the first semester, it was decided that scholarships would be renewed on a semester-by-semester basis, pending review and approval of academic grades and clinical progress reports provided by students. In order to initiate this new system, scholarship award letters were created outlining the system and reminding individuals of their commitment to perform well in school in order to be renewed. Other letters have been written and rewritten, primarily to respond to situational occurrences that have helped shape program policy. For example, while the loan forgiveness program was clearly intended to provide financial assistance for school in exchange for an employment commitment, initial documents were not so clear in stating that students may not get their first choice of employer.

After the first class graduated, it became apparent that many were not aware that they needed to apply to all hospitals within the organization, regardless of location in order to fulfill their commitment. Additional adjustments were made to clear up some confusion on employability of students. Students were initially under the impression that they were guaranteed employment within the organization as long as they completed school. If they were not hired, they did not need to pay back their scholarship/loans. Current contracts and application materials clearly state that individuals must meet the employment criteria of each entity that they apply to and that their employability was at the sole discretion of the employer. Partners is under no commitment to hire scholarship students that do not make the grade or who are not as good or better than other non-scholarship applicants.

All guidelines and transactions are clearly outlined and defined in writing for participants. Also, copies of each document are kept on file to provide much-needed proof should future problems arise.

A final note on documentation: When utilizing local and national funding streams, such as the DOL grant that Partners received, it is important to understand that there is a cost associated with that funding. Significant amounts of paperwork go with grant funding, and the cost of maintaining that paperwork should not be overlooked. Furthermore, most grants require matching investments—financial and human resources—and can be very costly to comply with these

requirements. Also, grants come with very stringent guidelines and regulations. It is important to carefully review all grant guidelines and be sure that the organization has the ability to comply before signing on. The organization was ready and able to meet all grant guidelines, and the benefits were well worth the extra work and expense.

## Evolving Processes

Even basic nuts and bolts procedures associated with the Partners HealthCare Medical Imaging Scholarship Program require constant modification. For example, the scholarship's initial amount was set at a \$6,000 maximum per year for each student. This amount was chosen based on BPIC funding, as well as the cost of tuition, books, fees, and other costs associated with school. The RT WFD group overlooked the varying costs associated with part-time programs, and this resulted in gross overpayment for several part-time students in the early stages of the program. Later, after some discussion with Partners' tax experts, the amount was reduced to \$5,000 per year to eliminate the potential tax burden on recipients. Employers are able to fund scholarships up to a certain amount annually (a \$5,250 maximum), as long as there is documented proof that expenses covered are directly related to school.

In addition to lowering the amount of funding per scholarship/loan awarded, all scholarship communication was altered to reflect the educational tax law, including the requirement that students keep all related documentation should a tax audit occur. Also, payments were initially made directly to students. This process changed after a few bad experiences with defaulters, and in accordance with the preferences of the organization's legal department, accounting department, and college bursars' offices. Payments are now made directly to colleges through an invoice system rather than on the student honor system. This has helped to simplify record keeping and streamline student payments. It has also helped to assure that money is going directly towards academic expenses and that students are not outside of financial aid guidelines.

The student payment system is just one example of the many process changes that have been made in the few short years since the Partners HealthCare Medical Imaging Scholarship Program came into existence. Similar to documentation changes, processes have changed based on the various new scenarios faced and new information received regularly by the RT WFD committee and the radiology sourcing specialist.

## Making Candidate Selections

Where does one look to find the next excellent radiologic technologist? In the first year of the scholarship program, a full-blown outreach campaign was possibly the most impor-



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### Department of Radiology

The King Faisal Specialist Hospital and Research Centre – Riyadh is JCIIA accredited and operates 577 beds with approximately 3,700 employees. Located in the capital of Saudi Arabia, the hospital provides a full range of tertiary, secondary and primary health care programs at its main campus facility, as well as the King Faisal National Children's Cancer Centre. The KFSHRC is the national referral center for Oncology; Gynaecology; Cardiac/vascular Diseases; and, Genetic Diseases. Affiliated with the King Saud University (Faculty of Medicine), the hospital's postgraduate education programs support both Residency and Fellowship training.

The Department of Radiology provides a complete range of diagnostic and therapeutic modalities in support of the tertiary programs provided at the hospital. All speciality areas of imaging and intervention are staffed by fully qualified consultants and professional technical staff. The department features 3 MRI suites, 4 CT suites, including one multislice CT unit, 3 Ultrasound suites, 2 Angiography, 2 Fluoroscopy, WBCT Center, and CT/WBCT unit being installed. The X-Ray modalities have been replaced with state of the art digital units, all equipped with the recently commissioned PACS technology. Additionally, there is a state of the art Nuclear Medicine section equipped with 5 gamma cameras, enables multitude of diagnostic and therapeutic procedures. The Department provides subspecialized consultant expertise in all areas of medical imaging as well as vascular and non-vascular minimally invasive therapy/interventional radiology. Other available facility include Teleradiology and 3-D lab.

We are seeking full time radiology professional staff to become part of our highly-specialized team of experts providing imaging excellence to our patients. Available positions are as follows:

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tant factor leading to the successful recruitment of students. The radiology sourcing specialist spent the greatest portion of her time developing broad contacts and seeking several vehicles for communication. Live presentations, radio broadcasts, television advertisements, and internal Partners Web announcements and newsletters were used to reach a vast audience of potential candidates. Also, as discussed earlier, the organization has and continues to capitalize on the relationships built with community-based organizations through the BPIC.

Outreach efforts directed at diverse populations have helped to increase career awareness in underserved communities. Partners has successfully met targets for recruiting a minimum of 25% of scholarship recipients from underrepresented populations. This has been a great accomplishment, as figures available at the start of the scholarship program pointed to the fact that a mere 3% of imaging technologists in the state were people of color. By improving the diversity of its workforce, a healthcare system improves its ability to provide better, more culturally competent care.

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**Several factors hindered eventual hires, including simple complications such as the fact that scholarship recipients were not guaranteed a clinical training assignment within the organization.**

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Career centers continue to serve as excellent sources for adult career changers. Additionally, career awareness presentations within the various hospitals have been hugely successful in attracting incumbent workers to the field. High school career days and various career fairs have also been utilized as effective marketing vehicles.

With funding from the BPIC and Partners corporate, 2 effective recruitment brochures were developed. One brochure targeted the general public and was geared to create career awareness and to promote the scholarship program. The second, multi-part brochure targeted new grads (and existing technologists) and displayed Partners as a system made up of several potential employers. Each employer was described in individual inserts and entity-specific details, such as radiology equipment and benefits information, were included. The brochures are professionally developed and attractive recruitment tools that have been well

received by inquiring candidates. As the program has evolved and success stories abound, word of mouth has become the chief mechanism for outreach, but the brochures and Web sites continue to be invaluable.

One note of caution regarding the outreach and selection of potential scholarship candidates: Under cover of "lessons learned," it is easy to reach many people and create a great deal of enthusiasm for medical imaging. The more difficult proposition is to reach the "right" people. In "crisis" mode, it is tempting to accept all motivated and enthusiastic applicants. The organization did make this mistake early in the program. Given the charge to get as many candidates into the system as soon as possible, RT WFD members went straight to the college campuses and recruited any active radiology technologist student that agreed to the post-graduation employment commitment. Next, they hit the clinical students at the Partners affiliates. What they missed was the review of academic and clinical progress reports before taking on more than 24 "future employees."

Radiology personnel also conducted informational seminars and career presentations to a wide variety of audiences. It was easy to blindly accept those enlightened by the message and enthusiastically push them towards the community college doors, regardless of whether they might truly be a good fit for the career. The sudden spark of interest and the rush to beat the perceived "crisis" led to several failed efforts. However, every mistake led to tighter recruitment practices, clearer communication, and better overall candidate tracking mechanisms.

In order to present the career fully to interested candidates, Partners radiology offers job shadows in all modalities. The job shadow truly shows a potential candidate what the career entails and gives them a chance to speak with professionals in the field about the pros and cons of the career choice. This activity has been extremely successful in helping individuals decide whether medical imaging is truly a good career choice for them. Job shadows also help interested candidates decipher the mysteries of each modality. Finally, job shadows offer the employer their first peek at a potential future candidate, and this, too, has been extremely valuable.

Screening potential candidates can be an arduous and complicated task. The RT WFD committee learned that utilizing individuals with varying perspectives and levels of knowledge and involvement is of utmost importance. Over time, the RT WFD created a scholarship review committee with representation from human resources, clinical education, and hiring managers from all affiliates. The scholarship review committee now meets to review all applications and choose finalists. The committee then works together to interview all finalists to determine awardees. By adding

the expertise of all stakeholders, the selection process has gained a level of necessary formality and created shared ownership for the success of the candidates selected. The varying perspectives help to clarify selection criteria and rule out individuals that may just not be right for the program.

The RT WFD committee outreach efforts have produced a database of more than 1,000 interested candidates at all levels of preparation and career readiness. Since the "swarm" of vacancies is currently pretty quiet, it might seem feasible to stop outreach efforts. However, understanding the cyclic nature of the staffing issue, Partners has decided to keep this aspect of the program flexible as well. While not actively seeking outreach opportunities at this time, the organization continues to answer requests for career education sessions at schools, career centers, hospitals, and other places where quality candidates may be found. The members of the RT WFD committee realize that they cannot afford to miss any opportunities to keep quality candidates in the pipeline.

## Mentoring

Mentoring is provided to Partners HealthCare Medical Imaging Scholarship Program candidates—from the time they first express interest through their final employment. The radiology sourcing specialist provides initial counseling regarding the various career options, as well as help in selecting appropriate college programs. She arranges job shadows and works with radiology personnel to guarantee that each candidate is given assistance and some individual attention throughout the process. This also includes honest feedback when radiology personnel or the radiology sourcing specialist think the candidate might not be a good fit. The radiology sourcing specialist is the link between all candidates and the various hospitals within the organization. She also works with college program directors and clinical instructors to help students in any way necessary to give them all the best shot at success. Through funding from the BPIC and DOL, mentorship has sometimes included providing paid tutors for scholarship students. The radiology sourcing specialist also stays in close communication with the candidates as they near graduation to help link them to the correct hiring managers and guide them through the job search.

Radiology is a gratifying, yet challenging, vocation. Most radiology professionals can quickly list what they love and hate about their jobs. Some have been in the field for decades and cannot imagine any other career choice. For a newcomer, however, the field, and hospitals in general, can be a frightening and mysterious new frontier. Healthcare professionals need to be sensitive to this truth and only they can spread the enthusiasm and generate the excitement to alleviate the fears of the next generation of caregivers. The RT WFD committee recognized this fact early on and all have worked to mentor and support the

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candidates that they have recruited. Radiology personnel throughout the system have gone above and beyond to provide mentorship and guidance to all new students and especially to the scholarship recipients.

Mentoring, coaching, and support are important not only for new students, but for new graduate hires as well. Many of the organization's hospitals offer formal and informal preceptor programs for new grads. Preceptorships are designed to encourage continued learning opportunities in a nurturing environment. It is hoped that these programs help to increase job satisfaction and assist in encouraging the long-term retention of new grads. While scholarship programs and outreach campaigns can successfully recruit new talent, it is up to the individual hospitals and departmental leadership to retain that talent. Only the employer can provide an environment where new technologists can thrive and grow.

### Recruiting New Graduates

In order to optimize the recruitment of new scholarship graduates, Partners has once again utilized the knowledge gained from previous mistakes and formulated a proactive, multi-disciplinary approach to the post-grad recruitment process. The RT WFD learned of several potential leaks that could reduce the successful recruitment of scholarship grads.

First, the timing of recruitment activities must be considered. Initially, scholarship graduates were expected to find positions within the organization on their own, and many started interviewing close to their graduation date. Unfortunately, many employers start recruiting students several months before graduation with career fairs, college visits and other proactive approaches. Partners made the mistake of assuming that scholarship graduates understood their work commitment and would not respond to other employers. This was a false assumption. When the shortage was at its height, several local competitors quickly learned of the organization's scholarship program and offered to pay back loans for students if the students committed to them rather than Partners.

Next, some students were lost when their clinical sites offered them positions. It is easy for students to remain at the institution where they trained as the familiarity of the institution and its equipment and procedures provides a comfortable first career step. Also, Partners learned that a bad clinical experience could work just the opposite.

Finally, while the scholarship/loan was an excellent attraction for new students, the salaries and sign-on bonuses offered by competitors were still effective in swaying their final employment decisions.

In order to counteract the above issues, the RT WFD committee needed to plan a multi-faceted approach to recruiting new grads. First, rather than leaving recruiting efforts to the individual entities with varied timing

and strategies, it was decided to host an annual organization-wide job fair for scholarship students. The job fair was organized as a united effort where representatives from each hospital (technologists, human resource specialists, and radiology management team members) could meet all scholarship students in one place to give the students a comprehensive overview of the varied career opportunities at each institution. Partners held 3 such events before getting it right. Factors such as date, day, time, location and promotional efforts needed several adjustments before finally hosting a well-attended, motivational event. And even while the last event hosted 66 senior students and led to several extended interviews and eventual hires, another lesson was learned. Feedback from students was that not all participants seemed to have enough open positions to offer them. It was later learned that many radiology representatives, especially those from the larger institutions, were discussing their individual radiology section needs rather than the overall vacancies available at their hospitals. While the various hospitals may have had several openings, the message was confusing and frustrating for job seekers.

Going forward, the RT WFD committee and the radiology sourcing specialist will meet with the various recruiting teams to brief them on attendees and offer some feedback to optimize future results. To address counter offers from competitors, more commitment reminder letters are sent early in the graduation year. The radiology sourcing specialist now helps to arrange interviews within the organization. Pre-employment job shadows are also provided to introduce candidates to all of the Partners facilities. By increasing the student's familiarity with the organization and the management and clinical teams within the network, it is hoped that students will feel more comfortable seeking Partners employment, regardless of the site of their clinical training. In an effort to address negative clinical experiences within the organization, a student survey was conducted and results shared with the management teams of all Partners facilities. This was not only helpful for internal quality improvement, but also as a demonstration to students that the radiology team was listening to them and cared about their well-being.

By regularly communicating with students and reminding them that the RT WFD committee and radiology sourcing specialist were prepared to assist them in meeting their employment commitment, the organization has been able to increase the number of students and graduates that stay in the system. Students about to graduate are instructed to coordinate all interviews through the radiology sourcing specialist. She facilitates interviews and job shadows, and provides background information to hiring managers as requested. The radiology sourcing specialist provides a much-needed link between candidates and employers. She helps broker a

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good match by listening to the needs of both and trying to find commonalities that will lead to a successful union. With the radiology sourcing specialist as the hub for recruiting activities, fewer individuals are lost in the shuffle. In the past, many scholarship graduates were interviewed at a Partners facility and were not identified as scholarship recipients. All facilities had agreed that scholarship students would be given priority placement (if they were equally qualified with other candidates), yet it was discovered that not all of them were identified as such and may have been lost.

Finally, the radiology sourcing specialist provides continuous employment updates for hiring managers and human resource specialists. These updates encourage the accurate exchange of information and supply current lists of available candidates to employers on a regular basis. This communication has also served to reduce the phenomenon of students accepting more than one position, leaving some employers unwittingly holding positions for months that eventually go unfilled when the graduates choose another employer at the last minute.

In summary, improved communication among all stakeholders has been the solution to most of the mistakes that previously had led to sub-optimal recruitment of scholarship grads.

### Creating a Default Collection Process

While continuously evolving processes and improved communication have led to a great deal of success with the Partners HealthCare Medical Imaging Scholarship Program, there is always some degree of default. To keep the program fiscally stable and to establish that the employment commitment will be enforced, a process for collecting on student loans was formalized. After 3 years, and varying degrees of success, there is now a 4-step collection process. The current system has been very effective collecting repayments from students who do not successfully complete their medical imaging program or who choose employment outside of the organization. The collection process is also utilized for those graduates who apply for work within the organization but do not meet employment standards. The latter is perhaps the most difficult to define and enforce.

In order to assure that the collection process could be equitably managed and that all steps in the process legal, Partners once again sought advice and guidance from the organization's legal team. A representative from Partners' office of the general counsel, the radiology sourcing specialist, and the administrative director of radiology worked together to create and adapt several documents and establish a consistent collection plan. The plan now consists of the following:

- An initial employment commitment reminder letter is sent from the radiology sourcing specialist and copied to Partners legal counsel office. The letter includes the total

amount of the payment due for participants who do not complete the program or are employed outside of the organization.

- A second letter, from legal counsel, states that the student's debt is now due and that he or she must contact the Partners lawyer to arrange payment.
- A third letter, from legal counsel, warns that the next step will be legal action if payment is not received or a payment plan is not approved through Partners radiology and legal counsel.
- Court action will be pursued.

The simple inclusion of the organization's legal counsel on collection communication, as well as the utilization of the organization's legal stationary, has led to improvement in the collection process. Also, by including legal counsel in the formulation of the collection plan, all are assured that the process will be equitable, fair, and above reproach.

### Utilizing Technology

The Partners HealthCare Medical Imaging Scholarship Program has clearly seen many changes. After 3 years and more than 80 successful graduates, the program feels like a success to all involved. However, in order to truly evaluate the success, a long-term tracking mechanism has been created. Further, as the staffing market softens and the program's activities slow down, there is a need to reduce the amount of time and human resources dedicated to the program. It was decided that a database could be utilized to track program results and to automate some functions that were being manually completed by the radiology sourcing specialist.

In order to create a long-term solution, the program processes needed to be streamlined and easily transferable to any staff member that may be held responsible for its management. The radiology sourcing specialist was solely responsible for many of the daily operational tasks involved in the program. With the program's activities slowing down as the market softens, the radiology sourcing specialist's role and responsibilities needed to be reviewed and downsized or shared as appropriate to reduce program staffing costs.

The endeavor of responding to inquiries and tracking interested individuals was a time-consuming activity that could be better addressed by utilizing readily available technology. It was decided to seek a Web-based solution to handle inquiries and distribute scholarship information. One tool, developed by the BPIC with DOL funding, is a career exploration Web site ([www.radiologycareersma.org](http://www.radiologycareersma.org)) designed to provide information on all medical imaging careers and academic options in one place. Professionals within Partners radiology, local colleges, and even scholarship students helped develop the Web site in collaboration with the BPIC staff and its Web consultants. The site provides detailed career informa-

tion and direct links to colleges. It also presents personal scenarios from several individuals at various stages in their medical imaging careers to highlight the many career options and to outline the steps required to succeed in the field. The Web site is now utilized by the radiology sourcing specialist to help direct individuals to a wealth of information. Referring potential candidates to the site leads to a significant reduction in the individual career counseling time required of the radiology sourcing specialist.

Additionally, the Partners radiology Web site ([www.partnersradiology.org](http://www.partnersradiology.org)) offers information on medical imaging careers within the organization. Interested candidates may download generic career information and scholarship applications by providing personal demographics. Demographics are then captured by a linked scholarship database for tracking all online inquiries.

The scholarship database was created with a consulting firm that specializes in data collection and organization, with funding through the BPIC. The council funded the project after recognizing that an automated tracking system could be utilized by many disciplines considering future workforce development projects.

The system is able to track an individual from initial inquiry through final employment. It documents an individual's interests, level of education, college program, funding sources, affirmative action information, and other relevant data and is able to generate excellent reports to monitor program success and point out areas for improvement. Furthermore, the database helps to track expense and revenue streams including the collection process for those students who do not meet their commitment and are, therefore, in loan default. The database generates various letters and performs mailing list functions.

Reports generated by the database can be used to promote program successes and document activities and have been used to maintain corporate and affiliate-specific program buy-in in all market conditions. The reports have also been used by the BPIC to fulfill DOL documentation requirements. Again, communication helps to keep the program alive. Readily available reports documenting employment outcomes, as well as outreach success and diversity statistics, are public relations tools that can generate program support. This information, when shared with network leadership, help to display the value of the scholarship program to the healthcare system, as well as the community in general.

## Preparing for the Future

Partners intends to use all of the flexible strategies discussed to maintain a permanent pipeline of qualified technologists to meet future staffing demands. The demands caused by the graying of America, the aging workforce and the projected growth in imaging services will not catch the organization by

surprise. The RT WFD committee will continue to analyze staffing conditions and match scholarship program activities as closely as possible to forecasted needs.

The organization will continue to work closely with local colleges offering medical imaging programs and try to support them in any way possible. Further, Partners has collaborated with the MGH Institute of Health Professions to help develop a fast-track post-Baccalaureate certificate program in medical imaging. The new program is the first of its kind in the United States, offering all academic coursework online and clinical rotations throughout the organization. Online courses help to meet the needs of busy adult learners while addressing the critical faculty shortage previously discussed. Faculty members have been recruited nationwide, and the institute has the benefit of working with radiology educators without the issues associated with relocation. The courses offered are at the graduate level and can be applied to future master's degree programs in such areas as imaging informatics. The institute accepted its first cohort of 13 local students in September 2004, and it hopes to expand its scope rapidly to accept students from across the country through online course work and an expanded nationwide network of clinical sites.

Partners is working to address all aspects of the radiology staffing crunch. When the next vacancy "swarm" hits, good planning and solid program infrastructure will allow a proactive and readily available response. While this may be considered a costly, unnecessary plan during soft markets, it is important to consider the expensive alternative of repeating the mistakes of the past. Cicadas visit on a regular 13- or 17-year cycle. Radiology experiences staffing crunches every 5 to 10 years. Is this truly a surprise? Or is it a predictable and manageable challenge? 🌱

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