

Innovative Ideas

How a radiation oncology department met its growing staffing needs

by William Holden III, MBA, RT(T)(R)

The Department of Radiation Oncology at Christiana Care Health System in Newark, Delaware, occupies approximately 21,000 square feet of space at the Helen F. Graham Cancer Center. Equipment includes three Siemens linear accelerators and one CT simulator. Additionally, the department operates three other sites, which house four more linear accelerators and another CT simulator.

We see more than 2,000 new patients annually. Each year, we complete more than 30,000 external beam treatments and over 500 brachytherapy treatments for patients from Delaware, Maryland, Pennsylvania, and New Jersey. Since 1998, the department has completed over 1,000 prostate seed implants. Our radiation oncology department is very active in clinical trials, with more than 50 patients accrued in 2005 to RTOG (Radiation Therapy Oncology Group) clinical trials.

Current front-line technologies include stereotactic radiosurgery, stereotactic radiotherapy, MammoSite, GlioSite, IMRT (intensity-modulated radiation therapy), HDR (high-dose-rate) brachytherapy, and IGRT (image-guided radiation therapy) with MVCB (megavoltage cone beam). In 2007, we will add robotic stereotactic capabilities.

New Technologies, New Responsibilities

With the adoption of these new technologies and equipment, our recruitment and retention efforts became a critical strategic initiative. We had to maintain adequate staffing levels of radiation therapists and dosimetrists in order to continue providing outstanding patient-focused cancer care with our state-of-the-art radiation therapy technologies.

That goal, however, is often easier said than done. Enrollment in the more than 900 radiologic technology programs in the United States are at full capacity, with more than 30,000 qualified applicants being turned away each year due to space and faculty constraints.¹ To meet our projected demand for radiation therapists and dosimetrists, our program would need to implement some creative recruitment and retention strategies.

Education is Key

Our first step, which we completed in May 2004, was to become a clinical education site for the radiation therapy program at the school of Allied Health Programs at Thomas Jefferson University in Philadelphia, Pa. Over the

past two years, this professional affiliation has resulted in the placement of six radiation therapy students and two dosimetry students at our clinical sites. Our program has since been able to bring two of these radiation therapists on as full-time employees. While we have not yet hired any of the dosimetry students from this program, we were able to train two very qualified individuals who were then hired regionally into two excellent cancer programs.

Once we had established a conduit for bringing new radiation therapists and dosimetrists to our program, we turned our attention to retaining these qualified staff. With our close proximity to renowned oncology programs in Philadelphia and Baltimore, we understood the need to establish an effective staff retention program. Our goals were simple: to prevent staff turnover, to enhance staff job satisfaction, and to achieve full staff engagement—a key indicator of successful organizations. Several initiatives were put in place; all of which remain very successful.

Innovative Retention Strategies

In 2000, we developed a tool for our managers to recognize individuals and teams on a discretionary basis for actions that support the program's mission and goals. The *Spot Bonus Award Program* recognizes individuals and teams for achievements such as:

- Successful completion of projects of significant complexity or value to the organization within an established time line and with full acceptance of results as demonstrated by user/customer feedback
- Significant, verifiable customer service and/or clinical improvement
- Significant, measurable, and verifiable cost reductions
- Significant, measurable, and verifiable revenue increases.

Recommendations for spot bonus awards can be made by management, employees, patients, and vendors on behalf of any employee. The department manager or director has discretion in approving and authorizing Level I awards in amounts ranging from \$50 to \$500. Level II awards, with cash awards from \$500 to \$5,000 require approval from the Vice President. This program and many others are based on a recognition model that supports our culture of rewarding individuals and teams for accomplishments and contributions.

Clinical ladder programs. In 2003, we developed a



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Level II Technologist Program for radiation therapists and radiologic professionals. In addition to providing growth and recognition opportunities, this clinical ladder program recognized expertise in specific radiologic modalities. In other words, this innovative program offered radiation therapists and other radiologic professionals an avenue for increasing their earnings by achieving established clinical criteria. Advancement criteria include at least two years experience in their specialty and at least one year at Christiana Care Health System.

Rules of Engagement

Understanding that the most successful organizations are ones whose employees are fully engaged in the workplace, our radiation oncology department has worked hard to empower staff in the decision-making process. In fact, the complexity of the technology used to deliver and plan radiation therapy treatments at our centers requires that our staff be a critical part of every treatment decision.

Key to this effort was the establishment of a patient care committee with representatives from each section, including radiation therapists, nurses, dosimetrists, and support staff. This multidisciplinary committee, which is chaired by a radiation oncologist, meets regularly to address operational and clinical issues that impact patient care and radiation oncology operations. Several initiatives that improved patient flow and staff engagement were implemented as a result of the efforts of this working group, including:

- Initiation of an advanced electronic access scheduling process for patient appointments
- An enhanced approach for nutritional screening of patients
- Development of work flow processes related to the initiation of departmental electronic patient records
- Use of electronic physician reminders for electronic image/portal review.

Overall our radiation oncology retention and recruitment efforts have been highly successful. During the



Our radiation oncology staff of 55 includes 7 board-certified radiation oncologists, 7 dosimetrists, 8 oncology-certified nurses, 18 board-certified radiation therapists, and various support staff.

Radiation Therapists At-a-Glance

- Radiation Therapists are educated in physics, radiation safety, patient anatomy, and patient care.
- Radiation therapists may review prescription and diagnosis; liaise with physicians and supportive care personnel; prepare equipment, such as immobilization, treatment and protection devices; and maintain records, reports, and files. They may also assist in dosimetry procedures and tumor localization.
- In 2005, the national average vacancy rate for radiation therapists was about 6 percent.¹
- About 4 percent of full-time radiation therapy positions are filled by temporary or per diem employees.¹
- About 31 percent of radiation therapy facilities paid sign-on bonuses to newly hired radiation therapists in 2005.¹
- Radiation therapists earn an average annual salary of \$72,000, ranging from \$58,000 to \$98,000.²
- Top reasons for leaving the radiologic sciences field: to find employment in another field, raising a family, and retirement.²
- The typical radiation therapy facility employs 4.9 full-time equivalent (FTE) radiation therapists.¹
- About 40 percent of radiation therapists work in not-for-profit hospitals; 20 percent in freestanding clinics or physician offices; 18 percent in for-profit hospitals; and 11 percent in imaging centers or outpatient imaging facilities.²

References

¹American Society of Radiologic Technologists (ASRT). *2005 ASRT Radiation Therapy Staffing Survey*. Available online to ASRT members at: www.asrt.org.

²American Society of Radiologic Technologists (ASRT). *2004 Radiologic Technologist Wage and Salary Survey*. Available online at: www.asrt.org/media/pdf/WSS2004_FullRept.pdf.

last four years, for example, we have experienced no voluntary turnover of radiation therapists or dosimetrists. Further, our program has been able to successfully recruit two dosimetrists and two radiation therapists at a very low cost to the program. Our recruitment program has not only succeeded in bringing new candidates into the radiation oncology profession, we have established a pathway for mentoring the next generation of radiation oncology workers. ☐

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¹American Society of Radiologic Technologists (ASRT). *Enrollment Snapshot of Radiography, Radiation Therapy and Nuclear Medicine Programs: Fall 2005*. Available online at: www.asrt.org.

Dosimetrists At-a-Glance

- Medical dosimetrists use their knowledge of physics, anatomy, and radiobiology to develop optimal radiation computer plans and perform dose calculations as directed by medical physicists and prescribed by radiation oncologists.
- Medical dosimetrists work with the radiation oncology team to monitor each patient's clinical progress and make changes as required.
- Medical dosimetrists are certified by the Medical Dosimetrist Certification Board.
- The typical radiation therapy facility employs 1.1 full-time equivalent (FTE) medical dosimetrists.¹
- There is a nationwide shortage of medical dosimetrists. The latest statistics show only 2,000 certified medical dosimetrists.²
- In 2005, the national average vacancy rate for medical dosimetrists was about 6 percent.¹
- Looking to the future, additional dosimetrists are needed across the country: 22 percent more in the Western region (Mountain and Pacific); 19 percent more in the Southern region; and 16 percent more in the Northeast and Midwest regions.³
- States with the greatest need include: Nevada, 40 percent; the District of Columbia, 44 percent; Illinois and California, 24 percent; Arizona, Florida, and New Mexico, 23 percent; Colorado, Maryland, Massachusetts, Mississippi, Pennsylvania, and Texas, 20 percent.³
- One reason for this shortage: a low number of medical dosimetry educational programs. In 2004, California, Georgia, Maryland, Massachusetts, Missouri, North Carolina, and Texas were the only states to offer medical dosimetry programs.²
- While additional medical dosimetry programs have opened since that time, these programs are expensive to create and operate. Schools are not likely to open and maintain a program without financial support.
- The few medical dosimetry education programs in the U.S. graduate only 12 to 15 students a year, while 78 to 80 new dosimetry positions become available in the country annually, according to Mark Reid, CMD, past president of the American Association of Medical Dosimetrists.
- Medical dosimetrists earn an average annual salary of \$79,000, ranging from \$75,000 to \$100,000.⁴

References

¹American Society of Radiologic Technologists (ASRT). *2005 ASRT Radiation Therapy Staffing Survey*. Available online to ASRT members at: www.asrt.org.

²American Association of Medical Dosimetrists. *Accreditation Financial Award Program for Medical Dosimetry Programs: Control Criteria*. Available online at: www.medicaldosimetry.org/files/AAMDASTROcriteria.pdf. Last Accessed Nov. 15, 2007.

³ASTRO Workforce Committee. *2002 Radiation Oncology Workforce Study*. Available online at: www.medicaldosimetry.org/files/2002ASTROSurvey.pdf.

⁴American Society of Radiologic Technologists (ASRT). *2004 Radiologic Technologist Wage and Salary Survey*. Available online at: www.asrt.org/media/pdf/WSS2004_AnnSal.pdf.