Recruiting, Retaining, and Engaging Radiologic Technologists During the Projected Staffing Shortage

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Radiologic technologists work in demanding, challenging, and at times distressing milieus. A substantial number of radiologic technologists and advanced imaging specialists will leave their present positions for other prospects.[1] Some have left the profession because of the COVID-19 pandemic.

Technologist shortages can have far-reaching and potentially serious effects, clinically and nonclinically, on radiology department operations.[2] Currently, there are high organizational costs for overtime and incentive shifts. The shortage of technologists has led to an increase in traveling technologists' wages.[2] Stress among the entire radiology team and hospital operations increases when there is a shortage of radiologic technologists. Patient care can be compromised, resulting in delayed treatment, and technologists can experience burnout under these circumstances.[2]

Challenges

Multiple causes contribute to technologist shortages, including the effects of an aging population and aging workforce, educator shortages, technologist burnout, career and family considerations, violence in health care, and evolving technology requirements.

Health Care Needs of the Aging Population

Population aging and public health expenditure dedicated to older dependent persons present challenges for radiology departments. Many patients today are living with multiple comorbidities. Advances in treatment options and care management have resulted in longer life spans for these patients, and as a result, the care of these individuals entails complex chronic care management.[3] More imaging services likely will be needed to support their care management. Follow-up imaging examinations also will be requisite as life spans continue to increase. This increased demand for imaging will further intensify the shortage of radiologic technologists.

Effects of an Aging Workforce

As demographic structures shift toward an aging population, greater pressure will be placed on the working age population, particularly those aged 55 to 64 years.[3] Similar to the patient population they serve, the radiologic technologist labor force also is aging. Many technologists are aged 50 years or older, meaning one-third of the technologist labor force could reach retirement age in the next 10 to 15 years.[4] The number of skilled imaging professionals retiring from the workforce is expected to occur during an unideal time. The technologist shortage will be at its height as a sizeable segment of the population will need more medical care such as advanced imaging examinations. When contemplating these challenges, a considerable restructuring of economic activity in the public and private sectors is needed to maintain high quality imaging services in the absence of solid and versatile policies.

Educator Shortages

Radiology education of technologists and radiologists is of principal clinical importance given the projected use of medical imaging in clinical practice. However, the

medical imaging profession also faces shortages of faculty members and clinical educators, which can translate into student matriculation limitations.[4] Several technical education programs completely suspended face-to-face academic activity.[5,6] This led to challenges for technical faculty to complete the radiologic technologic syllabus while ensuring teaching activities continued safely and effectively. As a result, online teaching platforms temporarily replaced didactic face-to-face lectures. Radiology educators also sought other strategies to incorporate interactive teaching sessions while adopting the online learning approach, as they were mindful of the confines this can have on students' clinical expertise. The migration to online methods has temporarily reduced the number of technologists eligible for graduation from an education program.[7]

Technologist Burnout

Because of existing workforce shortages, imaging professionals might encounter burnout. Common reasons for technologist burnout include extended shifts, high-stress work settings, lack of assistance, emotional strain, and compassion fatigue from patient care.[7] Factors contributing to fatigue among technologists include working long shifts, overnight shifts, and rotating shifts, as well as mandatory or voluntary overtime.[8]

In radiology, a term frequently used is *skeleton crew*, which means staffing is at the minimum number to cover a shift and is adequate unless shift volume increases.[9] This situation becomes problematic when the administration sees that the technologist team can function at this reduced level of staffing. This situation is best used during periods of predicted low examination volume and becomes a primary trigger for burnout when it becomes the norm.[7] Staffing levels need to increase to meet demand. Too often staff expansion is reactive instead of proactive.

Also contributing to technologist stress and burnout is the ever-changing guidance from the U.S. Centers for Disease Control and Prevention, which has forced organizations to change their pandemic response in real time. This can be confusing for staff members.[10] Lack of personal protective equipment also has a role, technologists might question the organization's commitment to the safety of front-line staff in the face of supply chain issues.[11]

Career and Family Considerations

Augmenting the shortage crisis is the fact that most technologists are women, including many women of reproductive age. These technologists might opt to reduce their working hours or exit the profession completely. Some might ultimately return; however, others might switch to a new career that offers more flexibility for raising a family. Approximately 25% of imaging departments had more women than men leave their organizations in 2021 because of family care obligations.[12]

Violence in Health Care Settings

Violence in the health care setting is another contributor to the technologist shortage. Currently, there is an ever-present vulnerability to emotional and physical abuse. This abuse adds to an already frenetic atmosphere,[13] decreasing job satisfaction and work effort. Emergency department radiologic technologists are at an increased risk because of their patient population.[14] The physical and emotional insults can negatively affect the well-being of imaging professionals.[15]

Working Conditions and Vulnerable Environment

Most radiologic technologists work in hospitals, outpatient care centers, physicians' offices, and medical centers where they are exposed daily to communicable diseases.[1] They might work evening, weekend, or on-call hours where there are opportunities for part-time and shift work. In addition to nosocomial infections from daily work, technologists undergo repetitive motions that can lead to musculoskeletal disorders.[16] Repetitively deploying patients into positions for imaging can result in overexerted muscle and microtrauma, particularly lower back injuries. An increasing number of patients who are obese adds to the physical stress of the technologist's job.[1]

Evolving Technology

The launch of the electronic medical record and other technological improvements also can affect technologists, especially older technologists.[17] Although some spheres such as informatics are thriving, this contributes to the shortage by drawing imaging specialists away from direct patient care areas. Also, some

technologists might struggle with newer technology and opt to leave the profession prematurely.[18]

Strategies for Recruiting and Retaining Technologists

During the next 10 years, organizations that embrace workplace flexibility and technology-driven adjustment will place themselves in an ideal position to limit the challenges from workforce shortages.[19] However, the projected technologist shortage likely will disrupt portions of the health care system, affecting those involved, especially patients. By taking steps to retain experienced technologists and ensuring technologist education is accessible for the generations that follow, department leaders can work collectively to address the challenges ahead. Simple solutions include higher salaries, better benefits, and improved work hours such as alternate schedules (eg, four 10-hour or three 12-hour shifts per week). Less physically challenging roles for older, skilled technologists also can be considered to keep them working longer. Other approaches to manage the potential technologist shortage include recruitment and retention strategies that foster employee engagement.

Recruitment Process

Recruitment and hiring strategies to counteract the technologist shortage include improving and simplifying the hiring process, using data to drive hiring decisions, providing resources to prevent employee burnout, and creating career paths and leadership development opportunities for radiologic technologists.[20] An efficacious recruitment platform publishes job postings on a wide range of job boards and social sites. These recruitment platforms allow applicants to easily find, share, and apply for career opportunities. The application process should be simplified. Complex paperwork should be eliminated so talent is not lost because of a confusing or lengthy application process. For a more robust hiring process, interviews should be scheduled automatically, and offer letters and onboarding packets should be created efficiently. Licenses and credentials should be validated quickly so offers can be sent promptly.

Effective recruiting also involves understanding the regional job market. This allows recruiters to make strategic hiring decisions. Data-driven determinations allow recruiters to evaluate how effective hiring methods are so that ideal candidates can be targeted despite being in short supply.[20]

Obtaining Feedback

Obtaining feedback about hiring methods is important. By using follow-up surveys of interviewees and new hires, recruiters can gain insight into why applicants picked 1 facility over another, which will better prepare recruiters for the next round of hiring. A check-in after the interview with candidates who decided against accepting a job offer can be used to gather feedback regarding the hiring process.[19]

Onboarding Process

Using a robust onboarding program to make new technologists feel welcome helps to reduce turnover rates.[20] An effective onboarding program can familiarize new technologists with their role, so they are less beleaguered in the first few weeks at a job, as well as increase job satisfaction, talent management, level of performance, and task efficiency.[21] Providing settings in which constructive peer groups can form, such as those that assist new technologists in getting to know current technologists, is helpful. These peer groups can help foster a sense of community. Technologists are perhaps more likely to remain at their jobs and to recommend their colleagues if they feel they are welcome and part of a community. In addition, the COVID-19 pandemic has made it more crucial for health care leaders to engage and integrate new technologists into an organization because the health care delivery system continues to be stretched.

To conduct a successful orientation program, understanding the attributes of new radiographers who primarily are people born between 1997 to 2012 (Generation Z) is crucial. Members of Generation Z are digital natives, proficient in sourcing information and communicating in the digital world through social media.[2] They are prolific consumers of digital media. Educators should capitalize on technology to conduct tutorials and discussions. In tandem, existing technological platforms, such as the online learning management system Canvas (Instructure), could be

applied to fit this generation's preference for the amalgamation of technology into learning spaces.[22]

Employee Referrals

Compensating current radiologic technologists for referrals is another way to restore the workforce. Technologists identify with and understand the issues most important to other technologists. Offering incentives for referrals, such as monetary compensation, can encourage current technologists in the workforce to bring in other technologists. Employees are a valuable resource and ambassador for an organization. If they find value in their jobs, the organization can become a magnet for top talent.[23]

Professional Development

Other solutions for effective recruitment can include prioritizing internal promotions, especially among senior and management roles, that allow technologists and technologist assistants to advance within an organization. Supporting continuing education for staff technologists by offering certification training and licensure support can have a positive effect on staff retention. In addition, encouraging imaging staff to pursue advanced degrees with incentives such as tuition reimbursement, pay increases, and periodic promotions assists in retaining the medical imaging workforce. Career seminars, in-service days, and individual career coaching can help radiology departments build a reputation as supportive employers. Engaging technologists in professional development and helping workers chart a clear career-advancement path can preserve employees' engagement.[21]

On-site program collaborations that work with local educational institutions, such as colleges and universities, to offer fast-tracked bridge programs for radiologic technologists are another creative solution to address workforce shortages. Offering on-site career and leadership development as a workplace inducement also helps entice and retain technologists considering long-term positions with career-expansion prospects. Investing heavily in these strategies allows organizations to lessen the shortage of technologists by cultivating innovative solutions for recruitment and onboarding.[22]

Promoting Diversity

Radiology departments have an increasing responsibility to expand diversity, equity, and inclusion efforts for their employees. These efforts also enable organizations to better serve patients and their families. There has been a recent emphasis on diversity, equity, and inclusion for businesses and organizations worldwide.[24]

Radiology job advertisements should clearly state that diversity is an essential goal for the institution. Talent acquisition should pursue several channels for recruiting diverse health care workers such as the organization's website, social media pages, and job boards. The organization's website is a compelling branding tool. Many applicants view this before they decide whether to apply. Diversity hiring can provide opportunities for radiology departments to create an inclusive workforce and develop a wider talent pipeline.[24,25]

Reengaging Technologists

Organizations that want to maintain employee engagement among their imaging professionals will need to be attentive and responsive to employees developing requirements.[25,26] A combination of a technologist's feelings of belonging at work, positive workplace relationships, and the sense that they would lose many valuable things if they resigned is essential for retaining radiologic technologists in today's workforce. Administrators seeking to keep their technologists engaged must give encouragement and offer commendations to technologist teams as well as individual members.

Conclusion

The potential technologist shortage in the United States, brought on by an aging population and an increase in chronic disease, coupled with the exit of technologists from the baby boom generation, has created a challenging situation. Many technologists might feel disillusioned with the way their institutions are handling the new realities of work and no longer feel able or driven to dedicate themselves to their jobs the way they did before the pandemic. In the face of novel challenges stemming from the pandemic, many health care workers might question the validity of their career as an identity. Technologists might be ready to explore

options that give them the meaning and control they find lacking in their current employment circumstances. Radiology recruitment leaders are working to find sustainable resolutions to handle this imminent crisis, as the need for radiologic technologists swiftly intensifies. Workplace diversity and inclusion should be a top priority for recruiters. Although fundamental policy changes and expansions will be needed on a large scale to handle the potential technologist shortage, organizations can begin implementing unique and novel approaches to recruitment and retention to find workable solutions to this challenge.

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