A Team Approach to Thriving in the Face of Workforce Shortages

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Breast imaging departments continue to feel the remarkable impact of workforce and supply chain shortages. The COVID-19 pandemic and a multitude of external strains continue to pose challenges for health care organizations. Recent studies show a rise in health care disparities and a decline in breast cancer screening during the pandemic. Along with the concerning declines in breast cancer screening and the urgency to expand quality imaging care, organizations are faced with decreasing profit margins that are prompting rising workloads and drastic cost-cutting measures. Staff burnout and disengagement remain at staggering levels, with breast imaging–related technologist workforce shortages spanning mammography, ultrasonography, magnetic resonance imaging (MRI), and nuclear medicine. Radiologists and technologists must work together as a team to promote a positive work culture, find reasonable and sustainable solutions and workflows, and offer long-term practice-level strategic improvements so they can thrive in the face of these challenges.

Although workforce fluctuation is generally cyclical, it has become increasingly common in the past few years. The Association of American Medical College's seventh annual analysis of physician supply and demand, published in June 2021, projected a shortage of physician specialists, including radiologists, to range between 10,300 and 35,600 by 2034.[1] At the time of this writing, approximately 20% of the roughly 1750 job postings on the ACR Career Center were breast imaging positions, a fairly consistent trend over the past year. The United States Bureau of Labor Statistics projected that jobs for radiologic and MRI technologists would increase 9% by 2030, with about 20,800 openings annually.[2] The Bureau of Labor Statistics also indicated that the increasing need for imaging services would increase the demand for technologists.[2] The American Society of Radiologic Technologists' recent survey showed an increase from 2003 to 2021 in the average number of budgeted full-time equivalents for the following modalities[2]:

- Mammography, 4.9 in 2021 (2.1 in 2003)
- MRI, 4.7 in 2021 (1.7 in 2003)
- Sonography, 5.0 in 2021 (2.6 in 2003)

According to a 2021 Area Health Education Centers survey report, the imaging modalities with the highest number of unfilled positions were radiography, computed tomography, MRI, ultrasonography, and mammography.[3] In 2009, a decade before the pandemic, the *American Journal of Roentgenology* published a study that forecasted an increasing supply-and-demand mismatch for mammography professionals unless more new practitioners joined the profession.[4] This study predicted that the supply of technologists would decline by about 22% from 2004 to 2025 and that the number of technologists per 100,000 women older than 40 years would decrease by about 40% from 2003 to 2025.[4]

COVID-19 Pandemic Impact

The pandemic has underscored and exacerbated the magnitude of health care disparities locally and globally, reminding the breast imaging community of the urgency to expand access to high-quality care. In June 2022 Dr. Stacey Fedewa and researchers from the American Cancer Society reported a 6% decline in breast cancer screening (2.13 million fewer women) from 2018 to 2020, with larger declines observed in Hispanic respondents and in people with lower educational attainment.[5] The director of the United States National Cancer Institute, Dr. Norman Sharpless, warned us of modeling results showing nearly 10,000 excess deaths due to breast and colorectal cancers in the next decade.[6] This trend is further supported by recent studies showing fewer patients presenting with stage I breast cancer and more patients presenting with stage IV disease,[7] an alarming trend that underlines the mission and importance of breast cancer screening held dearly by the breast imaging community.

The challenges of workforce shortages are compounded by multifaceted external pressures related and unrelated to the pandemic, such as supply chain shortages, health care landscape changes, financial struggles, the 21st Century Cures Act, surprise billing, and others. The August 2022 issue of the National Hospital Flash Report released by Kaufman Hall showed that margins in United States hospitals are among the lowest since the pandemic

began,[8] prompting health care organizations to increase workloads and cut costs. Private practice and academic radiologists are experiencing significant burnout worsened by the pandemic. In a study published in August 2022 in *Clinical Imaging*, Dr. Jay Parikh and colleagues found a staggering 33% prevalence of burnout among surveyed radiology leaders from the Strategic Radiology coalition of private practices,[9] similar to a previously reported prevalence of burnout among academic radiology chairs.[10] Even before the pandemic, 35.2% of radiologists at an academic medical center reported experiencing burnout, as noted by Dr. Catherine Giess et al.[11] Additionally, department-level initiatives aimed to combat and reduce burnout among radiologists did not seem to work, as Dr. Ivan Ip et al suggested in a study published in August 2022 in *Academic Radiology* in which self-reported burnout worsened or remained unchanged despite these initiatives.[12] "Quiet quitting," a phenomenon in which individuals reduce their enthusiasm at work and stick to the minimum expectations of their role, is trending on social media.[13] Pervasive burnout in radiology and the ongoing workforce shortages are likely to aggravate the level of disengagement and turnover at work, whether attributed to quiet activism, self-protection, or exhaustion. Contributions from all team members are essential for combating the dangerous implications of disengagement in health care, which could lead to undesirable outcomes such as declining image quality and compromised patient safety.

It is imperative that we thrive in solidarity and rise above all the doom and gloom in the news. Expanding on the Technologists' Column titled "Staff Shortages in Breast Imaging: Where Do We Go From Here?" in the Summer 2022 issue of *SBI News*,[14] this article discusses avenues for fostering professional engagement and fulfillment of breast imaging radiologists and technologists, along with strategies to tackle the increasing workload during this urgent crisis of staffing shortages.

Potential Approaches

Mentoring

In the aforementioned survey by Dr. Giess and colleagues, no significant difference in overall self-reported burnout was found between radiologists and nonradiologist peers, but radiologists were less happy and felt more undervalued at work.[15] Having a work mentor (whether a seasoned member of the breast imaging team or a peer mentor with relatable experiences) who is committed to connecting regularly, even with short greetings and quick, impromptu check-ins, may improve one's level of satisfaction at work. A mentor in a leadership position has the potential to increase the sense of being valued. Mentorship matters more than ever in academic radiology, given the competing demands of education responsibilities and academic scholarship compounded by the mounting pressure of clinical productivity and lack of academic time, all of which are exacerbated by the ongoing staffing shortages. Most faculty members who leave academia do so within the first year.[16]

Regardless of the practice type, our newly trained breast imaging radiologist and technologist colleagues are entering the workforce during a challenging time. This is a great opportunity to engage these individuals, who have a strong desire to be mentored at work and seek support, development, and encouragement. Traditional mentorship pairing can occur formally through department- or practice-level initiatives, such as a formal mentoring program pairing early-career faculty with senior faculty, as implemented by Dr. Miriam Bredella at Massachusetts General Hospital. Dr. Bredella's study found an increased sense of value and support in the department as well as career advancement among the mentees.[17] Mentorship building can also occur across disciplines and modalities. This may be particularly helpful in a setting in which cross-training could help staff members gain new skills and facilitate innovative roles. Examples include creating versatility with administrative and clinical coverage by staff members with dual roles and responsibilities and assigning tasks of lower acuity and skill level to nonradiologist, nontechnologist staff members. Seasoned technologists can mentor newly hired technologists, technology assistants, and radiologists. Breast sonographers can mentor mammographers and vice versa. Experienced radiologists can mentor technologists and other members of the breast imaging team. Most importantly, mentoring relationships have the greatest success when time is dedicated for personal interaction and partnership. This partnership may be as simple as brief weekly or monthly check-ins.

Artificial Intelligence

In a study published in August 2022 in the *Journal of the American College of Radiology*, 46% to 60% of surveyed radiologists from six practice settings in eight states planned to use artificial intelligence (AI) tools during mammography interpretations.[18] Most respondents considered improved cancer detection to be a top priority for AI in breast imaging. Robust vetting of AI-based decision support to meet radiologists' preferences is critical to its clinical adoption and implementation. In addition to being used for interpretation, AI can improve workflow, help technologists reduce repeat image acquisition and technical recalls, and improve technologists' confidence, efficiency, and accuracy in recognizing abnormalities, such as on screening ultrasound. Open conversations and messaging around AI tools among radiologists and technologists can foster proactive and balanced considerations through knowledge exchange and avoid deterring prospective hires.

Creative Scheduling

Feelings of "time poverty," or lacking sufficient time to fulfill responsibilities, are rampant, as reported by 80% of working Americans.[19] Ashley Whillans, author of the 2020 book *Time Smart: How to Reclaim Your Time and Live a Happier Life* and professor at Harvard Business School, said in an interview, "Time affluence, this feeling of having control and feeling like you have enough time on an everyday basis, can promote happiness."[19] In 2016 the ACR Commission on Human Resources recommended multiple actions to address radiologist burnout.[20] Given that

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adequate staffing, the number one recommended action, seems unattainable at this time for many practices, we should prioritize the remaining remedies, such as reducing prolonged stress, restoring a sense of control, and restoring lifestyle balance. Dr. Eric Brandser and Dr. Tushar Kothari described their "bunker-shift" strategy to restore radiologists' sense of control over clinical productivity and work-life balance and to overcome long-list anxiety syndrome in their recent article published in the *Journal of the American College of Radiology*.[21] Their strategy encourages offsite reading for breast imaging examinations not performed in real time, such as screening and MRI examinations. Creative scheduling in terms of flexible hours, shifts, and work sites can also be considered for technologists. Radiologists were more interested in telemedicine than were any other specialists even before the pandemic.[22] The trend has increased since the pandemic, as reflected by the remote and hybrid positions available on the ACR Career Center. Dr. Jonelle Petscavage-Thomas and colleagues demonstrated improved wellness among non–breast imaging radiologists who had the flexibility and autonomy offered by a hybrid work-from-home solution.[23] Breast imaging teams could consider leveraging patients' and technologists' preferences for proximity to breast imaging sites and using teleradiology for remote diagnostic evaluation. Communication among breast imaging team members is key to promoting effective collaboration and achieving high-quality patient care in this setting.

Information Sharing

Breast imaging radiologists and technologists work under a great deal of pressure due to time and staffing constraints. As a team, radiologists and technologists must be able to effectively recognize these pressures and have compassion for one another. A culture of open communication and regular, welcoming feedback, combined with routine structured mechanisms like huddles and debriefings, facilitates effective information sharing between radiologists and technologists. These elements help maintain camaraderie and reduce burnout during staffing shortages and are also critical to patient safety and quality care under the time pressures we face. Technologies to foster convenient information sharing, such as integrated messaging systems and universal work lists, can allow for quick communication and real-time awareness of examination status and patient status while also saving time by avoiding redundant phone calls, particularly in the setting of remote diagnostic imaging. With radiologists experiencing intense workloads, technologists who are directly interacting with patients can provide radiologists with relevant patient information to help reestablish that human connection and avoid depersonalization when forgetting the patients behind the pixels, an aspect of burnout.[24] Forums such as SBI Connect support community building and interdisciplinary discussions. Industry and health care organizations can collaborate in recruiting technologists or sharing traveling technologists.

Conclusion

In a recent white paper, the European Society of Radiology reminded us of the essential and multifaceted roles of radiologists as doctors, protectors, communicators, innovators, scientists, and teachers.[25] The breast imaging community has always been at the forefront of these duties and contributions, helping us stay engaged and prevent burnout. Now more than ever, it is also time to focus our attention on each other. Radiologists and technologists must work together as a team to boost camaraderie and find sustainable solutions in the face of significant workforce shortages impacting breast imaging.

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What's New in the News: A Team Approach to Thriving in the Face of Workforce Shortages (continued from page 10)

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Wellness Column: Back to Basics (continued from page 12)

as screening mammograms. If more than one breast radiologist is available, staggering lunch times is an easier solution. These simple but important changes will likely result in increased stamina and daily well-being of our staff. Moreover, they will also improve radiologists' performance.

The days of exalting physicians who put work ahead of their wellness should be a part of our past. Those in leadership positions should continue to aim for efficiency and productivity but not at the expense of radiologists' and technologists' well-being. Pairing with administrators to ensure our well-being is crucial to get past this COVID-19 crisis and the burnout epidemic that continues to worsen for physicians. If this is not the turning point, then what is?

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Canadian Corner: The Canadian Society of Breast Imaging (continued from page 13)

Table. Provincial screening access. Alberta (AB), British Columbia (BC), Manitoba (MB), New Brunswick (NB), Newfoundland and Labrador (NL), Northwest Territories (NT), Nova Scotia (NS), Nunavut (NU), Ontario (ON), Prince Edward Island (PE), Quebec (QC), Saskatchewan (SK), Yukon (YT). *Women can self refer after the first referral is made by the family physician. Reprinted with permission from *Canadian Association of Radiologists Journal*.[2]

Jurisdiction (Province or territory)	AB	BC	MB	NB	NL	NT	NS	NU	ON	PE	QC	SK	YT
Women aged 40–49 year can self-refer for a mammogram	X*	X				X*	X			X			X
Women can self-refer for annual mammograms	X*						X			X			X
All women are directly informed of their breast density	X	X	X	X			X			X			
Only women with BI-RADS D density are informed of their density					X	X			X			X	X
Only women with BI-RADS density D are invited for annual (instead of biennial) mammography					X	X			X	X		X	X

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