Empowering the Future of Nuclear Medicine: Advancing Education, Workforce Development, and Patient Care

Julie Dawn Bolin, CNMT, FSNMMI-TS

As the program director of the Nuclear Medicine Technology Program at GateWay Community College in Phoenix, Arizona, and a practicing nuclear medicine technologist at Banner University Medical Center in Tucson, Arizona, my passion has always been to promote access to education and health care, especially in rural and underserved communities. Through SNMMI-TS initiatives this past year, we are aiming to alleviate access-to-care issues by fostering education and health care opportunities in marginalized communities.

One of our focuses this year has been increasing engagement and outreach to key stakeholders—educators, accreditors, industry leaders, and partner organizations—to develop strategies that address the urgent need for a larger, more robust nuclear medicine workforce. The current landscape includes only 68 programmatically accredited nuclear medicine technology programs in the United States, with some states lacking programs entirely. This shortage of educational infrastructure directly impacts patient care, as communities with fewer qualified technologists experience gaps in access to essential nuclear medicine services.

To address this, the SNMMI-TS launched a major initiative during Nuclear Medicine Week by partnering with Telix Pharmaceuticals to provide $50,000 in scholarships for students entering nuclear medicine technology programs. Through the SNMMI-TS/Telix Entry-Level Nuclear Medicine Technology Scholarship, 5 students will each receive $10,000 to support their education and career aspirations. This initiative is aimed directly at addressing the critical need for skilled technologists, particularly in underserved regions where educational opportunities in nuclear medicine are limited. By increasing access to education, we are helping to bridge the gap in the workforce pipeline and ensuring that patients, regardless of location, have access to quality nuclear medicine services.

In addition to scholarships, the SNMMI-TS launched an outreach campaign called the Nuclear Medicine Ambassadors Program (Nuclear MAP). This initiative is designed to engage nuclear medicine professionals and students in grassroots efforts to promote the field of nuclear medicine to new audiences. Ambassadors have a range of options for participation—from speaking at local elementary, middle, or high schools about nuclear medicine careers to meeting with state or federal legislators to advocate for the importance of nuclear medicine technologists in healthcare. During Nuclear Medicine Week, October 7–11, 2024, we hosted our first weeklong Nuclear MAP event, and we were thrilled with the participation. Those who hosted a Nuclear MAP session were entered into a drawing to win a free trip to the 2025 SNMMI Annual Meeting in New Orleans, a further incentive to encourage outreach.

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Recognizing that sparking interest in nuclear medicine is just the beginning, we have also developed new resources to support students and recent graduates on their journey to becoming successful technologists. Our Student and Recent Graduate Task Force, in partnership with the Educators Committee, has rolled out initiatives like Pop-Quiz Monday, Tip Tuesday, and Student-Led Case Studies to provide continuous learning and support. Pop-Quiz Monday offers a fun, interactive way for students to test their knowledge, reinforcing their learning from nuclear medicine technology programs. Tip Tuesday delivers valuable resources and practical advice straight to students' inboxes, helping them enhance their educational experience. The Student-Led Case Studies initiative, in particular, offers a unique opportunity for students to present real-life cases to their peers in a continuing education setting, developing not only their clinical expertise but also their presentation and leadership skills. These initiatives aim to provide consistent, accessible, and necessary resources to help students and recent graduates thrive in their careers.

For technologists currently in the workforce, SNMMI-TS has made significant advancements in continuing education through the Brain TECH (Technical Imaging Multidisciplinary Education) series, funded by Eli Lilly & Company. This program addresses the gap between traditional continuing education and immediate online reference materials, specifically for PET brain imaging. The Brain TECH series includes fact sheets, short video vignettes, and case studies that provide quick and accurate information to technologists. These resources are designed to answer "how-to" questions in real time, making it easier for technologists to stay current with the latest practices and technologies. This resource, coupled with ongoing training, ensures that technologists remain well-equipped to handle the evolving demands of nuclear medicine.

Our Molecular Therapy Task Force has also been instrumental in curating high-impact, microlearning resources for technologists. These short videos (3–5 minutes in length) offer high-level overviews of critical topics such as ^{177}Lu administration and setting up theranostics clinics. The goal is to deliver learning that technologists can easily integrate into their busy schedules. Learning videos released to-date are outlined below, with more coming in the fall and winter of 2024–2025.

- Joby MacLean – Therapeutic Nuclear Medicine: The Children's Way
- Jay Smith – ^{177}Lu Administration
- Dmitry Beyder – How to Set Up a Theranostics Clinic
- Krystle Glasgow – Lessons Learned from the UAB Intensive

At the October 2024 SNMMI Board of Directors meeting, significant updates to the SNMMI-TS Scope of Practice were approved to better reflect the evolving role of nuclear medicine technologists in clinical practice. These revisions aim to provide clear and consistent guidance, ensuring that technologists are well-equipped to meet current industry standards and ultimately deliver high-quality patient care. One of the key changes addresses the integration of CT with PET and SPECT scanners, which has become standard practice. Previously, operating PET/CT and SPECT/CT scanners required cross-training between nuclear medicine and radiologic technologists, as these were viewed as separate modalities. However, today's nuclear medicine technologists are expected to handle these systems as part of their core competencies at the entry level.

The revised SNMMI-TS Scope of Practice acknowledges that the terms "hybrid" and "multimodality" are no longer accurate, as PET/CT and SPECT/CT imaging are now fully integrated and should be considered a unified system within nuclear medicine. Over the past 22 years, advancements in imaging technology have made this integration seamless, with all PET cameras and most SPECT cameras on the market now incorporating a CT component. This change has prompted updates to the nuclear medicine curriculum, ensuring that new technologists are fully trained to navigate these integrated systems proficiently from the beginning of their careers. By aligning the Scope of Practice with these technological advancements, the profession is better positioned to maintain high standards of expertise and patient care.

As we continue to address the significant workforce shortage and equip nuclear medicine technologists with the tools they need for success, the SNMMI-TS has established the Future of Nuclear Medicine Technology Strategy Group. This group is designed to create a clear, forward-looking vision for both the field and the SNMMI-TS. By collaborating with industry partners, educators, clinical technologists, stakeholders, and members, we aim to develop a comprehensive strategy that positions us to lead the way in advancing nuclear medicine. At this pivotal time, with key developments in therapeutics and imaging technologies, the SNMMI-TS is taking a proactive approach to ensure that technologists are prepared to meet the evolving demands of the profession. We are excited to lead this strategic effort and look forward to sharing more about these advancements and plans in the coming months.