

New Initiatives in Research and Discovery

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The Value Initiative is SNMMI's strategic plan for promoting effective and appropriate utilization of nuclear medicine, molecular imaging, and radionuclide therapy in order to provide the best possible care for patients. The plan includes 5 focal areas: quality of practice, workforce development, advocacy, outreach, and research and discovery.

In the research and discovery area, our overarching goal is to advance the development and approval of nuclear medicine and molecular imaging technologies, including therapies. Within that goal, one of our objectives is to identify areas of unmet need in which developing new agents will have high impact. To help accomplish that goal, we organized a theranostics conference.

Theranostics—the combination of a radiopharmaceutical imaging predictive biomarker with a paired therapeutic radiopharmaceutical agent—has emerged as a vital and fast-growing area within nuclear medicine. The first theranostic agent, radioiodine, has been in use for thyroid cancer therapy for more than 50 years. In recent years, successful theranostic agent pairs have been introduced initially for lymphoma, and more recently for neuroendocrine tumors and prostate cancer. Many researchers at the forefront of nuclear medicine believe that theranostics represents the key to the future of the field. Financial investments in the theranostic domain have been massive by historical nuclear medicine standards.

On November 8 and 9 SNMMI held the Theranostics Consensus Conference 2018, sponsored by the Therapy Center of Excellence and the Clinical Trials Network and hosted by the National Cancer Institute at its Bethesda, MD, campus. The 2-day event brought together more than 80 specialists and speakers, representing major stakeholders in the theranostics space, to develop guidelines for efficient clinical trial design targeting collection of necessary data for both successful regulatory filings and timely and reasonable reimbursement of theranostic agents. A report

documenting the outcomes of the conference will be made available in coming months.

Another key element in the SNMMI research and discovery strategy is to encourage and promote research in the field. To that end, we are completing development of a vision document outlining the role of precision imaging and therapy in cancer and neuroimaging, identifying unmet medical needs and priorities for investment. For example: molecular imaging can be better utilized to image the brain and developmental disorders in children; molecular imaging can help identify treatment options and assist in patient selection to help curb the opioid crisis; and a reliable neuroinflammation tracer could help treat dementia, drug abuse, and other diseases of the central nervous system. Once the vision document is final, SNMMI will use the information to match initiatives with funding from agencies and foundations.

Areas covered in the vision document include: oncology (Gary Ulaner, MD, PhD; Liza Lindenberg, MD; Katherine Zukotynski, MD); neurology (Alexander Drzezga, MD); cardiology (James Thackeray, PhD; Panithaya Chareonthaitawee, MD); radionuclide therapy (Wolfgang Weber, MD); and instrumentation advances (Arman Rahmim, PhD). The importance of big data and artificial intelligence also will be touched upon.

These initiatives are only the beginning. SNMMI is working aggressively to encourage and promote research and innovation in the field to create new tools and agents for patients and address unmet clinical needs, to further the discovery and validation of radiopharmaceuticals and instrumentation/algorithms for diagnosis and therapy, and to improve the quality of nuclear medicine trials and literature to support appropriate utilization.



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