As 2021 ends and I reflect on the work of the SNMMI Value Initiative (VI), I'm pleased with the continued momentum of our strategy to set standards and advance quality of practice, research and discovery, workforce pipeline, advocacy, and outreach for the field of nuclear medicine and molecular imaging. It is so exciting to see the growth of our field and elevated value of nuclear medicine and molecular imaging since the inception of the SNMMI VI.

In this issue, we cover the areas of dosimetry and PET myocardial perfusion imaging and we welcome a new VI Industry Board director, Mike Pintek, president of Cardinal Health. We also have several personal stories and reflections from former SNMMI President Terence Beven, MD, a therapy patient success story from Paul Gruenberg, and a profile of a woman leader in nuclear medicine, our own chair Terri Wilson, President of Blue Earth Diagnostics, A Bracco Company.

In examining our accomplishments, I'd like to take a moment to spotlight the incredible work we are doing in advocacy with the Centers for Medicare & Medicaid Services (CMS) and with Congress. SNMMI has worked hard on CMS’s Proposed Rule on PET issues and coverage of beta-amyloid PET, as well as coverage of monoclonal antibodies directed against amyloid for the treatment of Alzheimer’s disease. On November 2 CMS retired the broad non-coverage of non-oncologic PET (220.6); this allows for coverage at the discretion of Medicare Administrative Contractors (MACs). However, it does not retire existing NCDs for specific indications—including NCD 220.6.19–Positron Emission Tomography NaF-18 (NaF-18 PET) to identify bone metastasis of cancer and NCD 220.6.20–Beta Amyloid Positron Emission Tomography in Dementia and Neurodegenerative Disease. SNMMI urged CMS to retire both 220.6.19 and 220.6.20, arguing that there is sufficient evidence to allow coverage of both indications at contractor discretion. In addition, SNMMI sent a joint letter with the American Academy of
An Interview with Blue Earth Diagnostics President: Terri Wilson

What drew you into nuclear medicine; can you tell us a little about your path/career journey?

I would call it “love at first scan.” Nearing graduation, I realized my career path was not aligned with my passion to help cancer patients and that I needed an alternative. Radiology was my favorite assignment as a hospital volunteer, and the local hospital allowed me to spend a day with each modality to find the right fit. When I got to NM, the first scan was an MPI. After seeing cine mode of the heart I turned to the technologist and said, “Where can I learn this?” Three weeks later I’d moved and began the NM Program at the University of Missouri in Columbia.

My career began in a hospital with an early PET scanner. There are still patients that I think back on: the 22-year old metastatic melanoma patient, the lovely woman who requested my presence during her surgery, the first patient who did not have insurance coverage and paid out-of-pocket. I then opened a freestanding PET imaging center and subsequently joined industry – first in sales, and later with a focus on reimbursement.

You are now the President of Blue Earth Diagnostics – a prominent female leader in the sector. What helped support your advancement in the field?

Hands down it was the people and connections made along the way. I asked questions to the right people. As a young technologist wanting to move home to St. Louis, I asked one of the sales representatives about any open positions in the area, which led to the opportunity to open the PET imaging center. My first industry position came about in the same way. Once in industry, I have been very fortunate to have a long list of formal and informal mentors and sponsors. I have tried to learn everything I could from those I admire and have combined that with a passion for enabling access to imaging.

What do you see as being barriers we still need to overcome to get more women in positions of leadership? Or have we cracked the code?

“A Mom Mentor” list of women who had busy careers and great relationships with their children, and tried to learn from their experiences. They have helped me more than they know to feel successful at home and at work. To continue this positive cycle, the women leaders of parts of the three Bracco US entities (Bracco Diagnostic Imaging, ACIST, and Blue Earth Diagnostics) have created a women’s leadership program called EDGE (Empower. Develop. Guide. Elevate.), to enable career growth and create a network of support for each other. Our first cohort is nearing their capstone celebration and we are very proud of them!

I do not think we have cracked the code. When we are simply called leaders, with no adjective, then we’ll know we’ve succeeded.

How do you maintain a work/life balance? Or do you?

From my perspective, work/life balance on a daily basis is simply not achievable, so you must look at it differently. Sometimes it will tip towards work and sometimes to life, and that’s OK. Kids, parents, siblings, and friends need you – that’s life. Leaders can help

Continued on page 10. See An Interview with Blue Earth Diagnostics President.
Get to Know Mike Pintek, President of Nuclear & Precision Health Solutions at Cardinal Health

MICHAEL F. PINTEK, PRESIDENT OF NUCLEAR & PRECISION HEALTH SOLUTIONS – CARDINAL HEALTH

A few months ago, Mike Pintek assumed the role of President of Cardinal Health’s Nuclear & Precision Health Solutions business, succeeding Tiffany Olson. Former President Tiffany Olson had been at the helm for eight years and had announced her retirement, and if anyone was up for the challenge, it was Mike.

In addition to decades of experience across the healthcare and life sciences industries, he had spent the previous seven years in the business as Senior Vice President of Commercial Operations and Business Development. We recently sat down with Mike to find out how things were going in his new role and get his thoughts about the future of nuclear medicine and molecular imaging.

**Congratulations on your new role, Mike. You have a new view at the top of the house – how has it been going?**

It has been going well so far. I have deep respect for Tiffany and am privileged to step into this role. As you know, it is an exciting time to be in the nuclear medicine and molecular imaging industry, and I couldn’t be more excited about our industry’s outlook. I have been fortunate to work alongside our leadership team for many years and, at the end of the day, our mission remains the same as it always has been – helping ensure our customers get the doses they need, when they need them, for their patient care.

**How did your former role as SVP of Commercial Operations and Business Development prepare you to take over as President?**

Our Commercial Operations and Business Development organization is comprised of sales, product and services marketing, business development, and performance analytics. Having these teams report up through me helped ensure alignment across all customer- and pharmaceutical innovator-facing touchpoints. In this role, I also worked closely with our operations, regulatory and sourcing teams to drive collaboration toward our shared business goals as we were working together with a ONE TEAM approach. I believe this broad experience within Cardinal Health has helped me make the transition into the role of President fairly seamlessly. I am also excited that Chad Busch has stepped into my former role to lead the Commercial Operations and Business Development team. He is an excellent leader, and I am looking forward to seeing where he takes the team next.

**You mentioned that it is an exciting time to be in our industry. What do you mean?**

We are seeing so many changes right now in the nuclear medicine and molecular imaging space, it is almost unprecedented. Companies are expanding and diversifying, and new players are entering the market to meet the industry’s changing needs. All these changes and significant investment are occurring due to the tremendous growth happening in our space. We are moving from an industry heavily focused on diagnostics to an industry focused on improving precision medicine through theranostics.

At Cardinal Health, we continue to build out our Center for Theranostics Advancement in Indianapolis to meet the unique needs of these pharmaceutical innovators. At the Center, we work with pharmaceutical innovators who are developing novel radiopharmaceuticals, and we help them develop, scale, manufacture, commercialize and distribute them through the nation’s largest radiopharmaceutical network. In my 30 years in the healthcare and life sciences industries, I don’t think there’s ever been a more exciting time. We are on the cusp of something great!

Continued on page 10. See Get to know Mike Pintek
Practical Dosimetry and the Future of Molecular Radiotherapies

DAVID MIRANDO, SENIOR CLINICAL ENGINEER—MIM SOFTWARE INC.
YUNI K DEWARAJA, PHD, RESEARCH PROFESSOR—UNIVERSITY OF MICHIGAN
AARON S NELSON, MD, CHIEF MEDICAL OFFICER—MIM SOFTWARE INC.

You and your patients can achieve personalized and accurate dosimetry for Molecular Radiotherapy (MRT), also known as Radiopharmaceutical Therapy. All you need are the right tools.

The Need for Practical and Accurate Dosimetry
Will your patients experience radiation-induced toxicity or tumor response during the course of MRT? Are they receiving suboptimal injected activities because of “one size fits all” fixed-activity treatment schemes?

These are the kinds of questions that personalized and accurate radiation dosimetry promises to answer. A long-used biomarker for external-beam radiotherapy (EBRT) planning, it has become increasingly used for treatment planning and response prediction for $^{90}$Y microsphere therapies. Evidence is mounting for the utility in MRTs as well, as fixed-activity schemes have been shown to lead to highly variable absorbed doses and patient responses.

After all, just as for EBRT and $^{90}$Y, MRTs such as $^{177}$Lu-DOTATATE and $^{177}$Lu-PSMA can be considered radiation delivery devices. The radioisotope ($^{177}$Lu) determines the type of irradiation, and the targeting molecule (DOTATATE or PSMA) determines the location of the irradiation. But the cell-killer is radiation, and it should be quantified, just as it is for nearly every other population at risk due to radiation exposure.

The future of MRT dosimetry depends on a central question: Can it be performed regularly on a wide scale in a way that doesn’t compromise accuracy? If so, hospital administrators will have comfort knowing resources are being used efficiently. Likewise, patients and physicians alike will gain crucial insight into these therapies, and dose-response relationships can be expected to follow in quick succession. The future of patient-specific planning will be jump-started.

The single most powerful advantage of MRT over other systemic therapies is in its potential for informed personalization.

Voxel-level dosimetry provides crucial information, such as tumor uptake heterogeneity, in addition to mean absorbed doses. But its adoption has been constrained by resources and logistical issues, including access to quantitative SPECT/CT scanner time, new tumor and organ segmentation needs that can require substantial time commitments, and dosimetry processing requirements.

MIM SurePlan™ MRT has been helping sites drastically reduce the clinical requirements for dosimetry by including AI-based auto-segmentation tools and support for quantitative SPECT reconstruction with existing SPECT/CT cameras, in addition to integrating automation into every facet of its design. This remains a primary focus for continued development.

Single SPECT/CT Dosimetry
The University of Michigan (U-M) and MIM Software have partnered

Continued on page 8. See Practical Dosimetry.
Cardiac Positron Emission Tomography (PET) Myocardial Perfusion Imaging (MPI) is considered a powerful non-invasive imaging tool available to assess the extent and severity of coronary artery disease (CAD) in patients with both known/documented as well as unknown disease. In addition, it provides the ability to perform myocardial blood flow (MBF) of the entire coronary circulation which has been demonstrated to be useful in the assessment of microvascular and triple vessel disease. Microvascular disease is known to be highly prevalent in women and patients with cardiometabolic risk factors. The demand for patient access to Cardiac PET MPI continues to increase, and in 2019, the Advisory Board projected the 5-year growth of Cardiac PET MPI to be over 60%.

According to the American Society of Nuclear Cardiology (ASNC), and the Society of Nuclear Medicine and Molecular Imaging (SNMM), Cardiac PET MPI is a preferred test for patients who meet appropriate use criteria for reasons including 1) High diagnostic accuracy, 2) Improved consist high quality images, 3) Lower radiation exposure, 4) Shorter imaging time compared to conventional SPECT Imaging, 5) Ability to perform myocardial blood flow quantitation, and 6) Improved risk stratification. Further, ASNC/SNMMI suggest Cardiac PET MPI is the recommended test for patients who meet appropriate use criteria and; 1) Prior stress imaging studies considers equivocal or inconclusive, 2) Body habitus that may affect image quality (obesity, large breast or implants etc.), 3) High risk patients; diabetes, chronic kidney disease, multi-vessel or left main disease, 4) Young patients with known CAD in whom repeat testing will be required over their lifetime, and 5) Patients in whom myocardial blood flow quantitation is required.

The addition of absolute MBF to relative perfusion images improves both risk stratification and identification of multi-vessel coronary disease over relative images alone. Myocardial flow reserve (ratio of stress/rest MBF) measurement is a key clinical application and diagnostic tool that assists in; 1) Functional assessment of intermediate stenosis, 2) Detection of critical stenosis and specific coronary artery stenosis 3) Localization monitoring of coronary flow after revascularization procedures, 4) Quantifying post infarct blood flow, 5) Assessing coronary graft patency, and 6) Post heart transplant surveillance (CAV).

Continued on page 12. See Transforming Cardiac PET.
PET Scan Imaging is Crucial for Diagnosing Alzheimer’s Disease

Eliminating Barriers to Access is Key to More Timely and Accurate Diagnosis

ARTICLE PROVIDED BY ELI LILLY AND COMPANY

There is no single test consistently used to diagnose Alzheimer’s disease, and today there is often no diagnosis, an incorrect diagnosis, or a very late diagnosis. Alzheimer’s is a fatal, debilitating disease that robs an individual of who they are, and the web of the disease extends much further, burdening loved ones with gut-wrenching decisions and financial costs.

It’s also one of the most prevalent diseases: more than six million Americans are living with Alzheimer’s dementia, while another five million are undiagnosed. Inconsistent methods of diagnosis lead to a larger impact on both the effort to find a cure, including limitations on clinical trial participation, and on whether a person may be eligible to take advantage of opportunities to slow the progression of the disease with current treatments.

Alzheimer’s disease is especially common among women and communities of color, who are more likely to experience the symptoms of Alzheimer’s—including memory loss, confusion, and difficulty concentrating—but who lack a formal diagnosis. Compared to non-Hispanic Whites, Black Americans are twice as likely to develop the disease. UsAgainstAlzheimer’s projects that on our present course nearly 40 percent of Americans living with Alzheimer’s will be Black or Latino by 2030. Diagnosis among minority groups is also delayed, with fewer people diagnosed in the earlier stages of the disease.

Right now, a reliable Alzheimer's diagnosis cannot be made by clinical assessment alone. The good news is that there are tests that can identify the underlying pathology of Alzheimer's Disease. The problem is that these tests are not always available or reimbursed by Medicare or other insurance.

Positron emission tomography (PET) radiotracers are the only FDA-approved tests to identify patients with the two hallmark pathologies of the disease: amyloid plaques and aggregated tau neurofibrillary tangles. In Alzheimer's disease, amyloid plaques can begin accumulating in the brain up to 20 years prior to the onset of symptoms1. The availability of these two novel diagnostics can assist clinicians in making a diagnosis for their patients who are suffering from symptoms of cognitive decline. Now that there are amyloid targeted disease-modifying treatments available, it’s even more critical that physicians have access to these types of diagnostic tools to help identify the right patients who may benefit from these types of therapies.

One large U.S. study (IDEAS) found that nearly 36% of people diagnosed with Alzheimer’s disease by dementia specialists had no evidence of amyloid plaques on PET scans of their brains. And, about half of patients (52%) seeing dementia specialists, but not diagnosed with Alzheimer’s, had amyloid in their brains. The IDEAS study also showed that an amyloid PET scan changed how physicians managed patients in more than 60 percent of cases, whether they had mild cognitive impairment or dementia2.

Unfortunately, barriers in the Medicare payment and reimbursement system are compromising patient access to these precision diagnostics, and potentially disease-modifying treatments. A Government Accountability Office report highlighted how these policies limit recruitment of ethnically and clinically diverse patient groups in Alzheimer’s disease research. The report states: “According to the organizers of the IDEAS Study, as of November 2020, four of the six hospitals initially invited to participate in the study have declined to do so. The study organizers said that those hospitals, which had all participated in the original IDEAS Study, declined to participate because the packaged payment would cause them to incur a financial loss for each procedure performed. This may pose a challenge because, according to the study organizers, hospitals associated with academic institutions have much of the expertise in recruiting ethnically and clinically diverse groups into such trials.”

In an essay for STAT News, Jim Taylor, a retired financial analyst, described the “gnawing uncertainty” as he watched his wife, Geri, show signs of the disease for two years before doctors were able to confirm she had it. He wrote: “Had Geri not entered [a] clinical trial and received [a] critical amyloid PET scan, we might still not have a definitive diagnosis…While an Alzheimer’s diagnosis is never easy, she and I no longer have to struggle with uncertainty about her disease.”

For more than 30 years, Lilly’s scientists have been working to develop treatments for Alzheimer’s. We want to make sure future breakthroughs are available to anyone who could benefit. We urge the Centers for Medicare & Medicaid Services to consider changes to existing coverage and payment policies for PET scans that enable early and accurate diagnosis and provide

Continued on page 8. See PET Scan Imaging.
Please tell me about your journey through treatment.

Diagnosis: Prostate Adenocarcinoma. First Diagnosis established: March 18, 2015. Gleason Score: Prostate Grade 3+3 - Score 6. Initial PSA Level: 1/20/15 — 90.42. 5/8/15 — 84.55. I rigorously examined all treatment options. I was the poster boy for conventional prostatectomy, radical prostatectomy, CyberKnife, radioactive seed implants, IMRT, and proton therapy. I interviewed 100+ patients to determine their treatment experience and post quality of life issues. I finally chose proton therapy commencing June 2015—October 2015 in combination with androgen deprivation therapy (Lupron). Dosing Interval: every 3 months. 1st Injection: 06/2015. Last Injection 01/2016.

While undergoing this treatment protocol I hired a personal trainer with whom I designed a cancer work out program approved by my oncologists. I literally exercised after every proton treatment, no matter how enervated I felt. I was committed to fortifying my immune system to cope with any emerging symptoms. Post Proton and Lupron 6/1/16 PSA = .25. Then the PSA started to rise (See chart below)

In 2016 my oncologist strongly recommended that I resume taking Lupron and forms of chemotherapy. I declined because the Lupron side effects were too compromising, and I never considered chemo a viable option. While on Lupron I felt like my core was stripped out. I felt like a dead man walking. Ultimately, I decided that I would sacrifice years of life for quality of life. All this under the allopathic pressure of “you will have a near term ignominious and painful near-term end if you don’t follow our proven ‘standard of care’ guidance.” I then veered to alternative healing paths. I spent a year in Santa Fe pursuing Ayurvedic treatments, including acupuncture with herbs, and a dramatically altered diet—no sugar or carbs, only protein, fresh vegetables, and fruit. I lost 25 pounds, felt robust, and remained asymptomatic, but my PSA numbers kept rising. In October, 2019 I underwent Dr. John Feller’s prostate cancer detection and treatment program [desertmedicalimaging.com/prostate-cancer-program](http://desertmedicalimaging.com/prostate-cancer-program), which uses MRI to guide biopsies of the prostate and MR-guided Focal Laser Ablation to detect and remove tumors on an outpatient basis. The procedure was highly successful, and Dr. Feller and his team believed he was able to ablate/remove all the cancer in the prostate. However, I knew that the cancer had jumped the prostate capsule and metastasized into my hip and three lymph nodes. At the time Dr. Feller recommended that I pursue Lu177/PSMA for the cancer in some nodes as well as lower vertebrae.

What did you find out about nuclear medicine?

Employing my due diligence skills, I commenced a deep dive into nuclear medicine. I first unearthed and contacted Genesis Healthcare in Australia, specifically Nate Lenzo, Group Clinical Director (Theranostics) at GenesisCare. Nate was a font of relevant information. He is an early pioneer in the field and well respected by his colleagues. Initial take aways: highly targeted precision guided approach, far less side effects, plus a high degree of data supported efficacy. I considered going to Australia provided I could work with him. This proved to
on a collaborative grant to develop a highly practical treatment planning platform for $^{177}$Lu-DOTATATE. The grant is ambitious, seeking to improve every aspect of the dosimetry process and generate dose-response information that can feed into future treatment planning.

One of the early accomplishments of this partnership has been the release of clinical single timepoint dosimetry tools within MIM SurePlan MRT, the first of their kind in a commercial platform. These tools further reduce the barriers to patient-specific dosimetry. Patients who have to travel far no longer have to return for scanning multiple times, SPECT/CT scanner time is preserved, and reimbursement may be easier.

While multi-timepoint SPECT/CT dosimetry remains the ideal “gold standard” method, the clinical constraints may vary from patient-to-patient, or from week-to-week. Having access to single timepoint and multi-timepoint dosimetry tools within the same platform provides the flexibility to achieve the best dosimetry possible for any circumstance.

The release of these tools was the culmination of testing showing that absorbed doses generated using a single SPECT/CT are accurate for $^{177}$Lu-DOTATATE. That is, the differences between single SPECT/CT and multi-SPECT/CT methods may be acceptable for dosimetry-guided treatment. Support for other therapies is planned.

**Practical Dosimetry Has Arrived**

When combining single SPECT/CT techniques with AI-based auto-segmentation and automation built into every step of the MIM SurePlan MRT dosimetry process, a clinical workflow emerges that's highly attainable and flexible for any institution with the right imaging equipment. At the SNMMI 2021 Annual Meeting, MIM Software and U-M showed how such a system can lead to absorbed dose calculation with just five minutes of manual input.

As absorbed dose and outcome data from an increasing number of patients is available, it will be important to pool this information within and between institutions to generate robust dose-response and dose toxicity relationships. The sooner this information is available, the sooner patients will benefit from optimized and personalized MRT.

Look out for *The Journal of Nuclear Medicine* supplement scheduled for release in December 2021 titled “Radiopharmaceutical Dosimetry for Cancer Therapy: From Theory to Practice,” which will provide additional practical information to help you best incorporate dosimetry into your practice.

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**REFERENCES**

I was pleased to be among those participating in the recent video conference during which the leaders of the Value Initiative gave a historical review and status report on their activities.

Since its creation in 2017 as part of the SNMMI strategic planning process, and despite the difficulties presented by the COVID pandemic, progress in structuring the program and creating areas of responsibility is very impressive.

I would like to congratulate all those responsible for planning and creating the structure of this undertaking. It is an appropriate time for SNMMI to re-examine our priorities and to focus our resources to achieve the goals which have been identified. This reminds me of prior efforts, including the strategic planning process undertaken by SNMMI and ACNP in past years, and the successful Bench to Bedside campaign conducted by SNMMI (when we changed our name) under the leadership of Dr. Peter Conti. I also applaud the inclusion of industry, other medical organizations, government bodies, patients, and funders in the process.

The emergence of new diagnostics and theranostic agents in oncology present a great opportunity to enhance the importance of Nuclear Medicine as part of the framework of patent care as it exists today. This is a time of significant scientific contributions to the body of knowledge embraced by nuclear/ molecular imaging and therapy, including new radiopharmaceuticals, devices and other products that promise continued growth. This promise is underscored by the recognition given to all these activities by nuclear medicine professionals (a diverse group of physicians, scientists, and technologists), industry, related medical organizations, government agencies and patients. All of this points to an exciting near future for our specialty.

The structure and committees vital to the success of this endeavor and their membership have been published this year and are referenced in this article but I will describe the significant functions of each.¹

**Quality of Practice:** These activities reflect SNMMI’s past and present dedication to quality. QA is an integral component of the Value Initiative. It provides the underpinning for all of the research and development now in progress.

**Advocacy:** Continues to be a vital component of all phases of the project, including patient access issues, payment coverage, the support of product development, product approval process, legislation, and public/professional awareness.

**Research and Discovery:** This important area has been tasked with the early identification of promising products/procedures in the pipeline, and work to expedite clinical trials and the approval process. These responsibilities have been delegated to appropriate councils and committees of SNMMI including Committee on Radiopharmaceuticals, Clinical Trials Network, PET Center of Excellence, and the Brain, Cardiovascular, Pediatric Councils, among others.

**Workplace, Pipelines, and Life Long Learning:** As volume of work increases, we must anticipate commensurate increases in the workforce, and those individuals must be trained to manage the newly emerging products and techniques these entail. Program directors and early career professionals share a mutual interest in meeting these goals.

**Outreach:** In addition to SNMMI’s traditional outreach to other professional organizations we must target groups who are stakeholders in current areas of interest, including work groups for cancer imaging, brain imaging, prostate, neuroimaging, and patient advisory boards. We must understand the expectations of oncologists so we can design strategies that address those needs. This would serve to demonstrate value to other stakeholders; patients, providers and hospital administrators and executive committees.

**Organizational Strength and Stability:** This oversight remains the responsibility of the SNMMI Board to support this undertaking while maintaining its standard of excellence in management, meetings, communications (including JNM), finance, membership, and external activities such as ERF. All this creates a need to continue to indentify and encourage new leaders and prepare them to meet the challenges entailed by all of the exciting opportunities before us.

**Other thoughts: Centers of Excellence:** The concept has its template in the PET/CE effort that has been successful in bringing increased utilization and more equitable reimbursement for new procedures and radiolabeled compounds. I do suggest that the center concept be expanded to include more sites, not all of them academic. This would permit more Nuclear Medicine physicians to participate in the clinical trials. This would serve to expedite data collection and underscore the contributions of physician participants.

In this age of scientific investigation and research is

*Continued on page 11. See Transformative Leaders.*
Neurology and the American Geriatrics Society urging CMS to retire the beta amyloid PET NCD.

In Congress, we have been busy meeting with Congressional offices and raising awareness about the benefits of nuclear medicine and molecular imaging. Introduced on July 16, 2021 (H.R. 4479), with sponsoring Representatives Scott Peters (D-CA), Bobby Scott (D-IL), Neal Dunn (R-FL), and Greg Murphy (R-NC), and on August 4, 2021 (S.2609), with cosponsor Representatives Donald Payne (D-NJ), Guy Reschenthaler (R-PA), Tim Burchett (R-TN), Raja Krishnamoorthi (D-IL), Markwayne Mullin (R-OK), and David McKinley (R-WV), the Facilitating Innovative Nuclear Diagnostics (FIND) Act would separately pay for diagnostic radiopharmaceuticals with an estimated mean cost per day of $500+ (inflation-adjusted). During 2021, SNMMI met with 33 House and Senate offices.

All of these efforts are strongly supported by our SNMMI members, SNMMI Board of Directors, SNMMI President, Dr. Richard Wahl, our visionary partners in the field, and outstanding staff members of SNMMI who have been working tirelessly and relentlessly even during the COVID pandemic.

As we move into 2022, the Value Initiative’s work will continue to help us come together and advance the field. We plan to hold a Therapeutics Conference in March in New Orleans and additional scientific meetings on artificial intelligence and barriers to access. Stay tuned, and thank you so much!

Satoshi Minoshima, MD, PhD
Chair, SNMMI Value Initiative 2.0
Professor and Anne G. Osborn Chair
Department of Radiology and Imaging Sciences
University of Utah

With so many changes, how can we best work together to meet the needs of patients?

I think collaboration with industry trade groups is incredibly important, and SNMMI plays a key role here. From the Value Initiative Board and the Annual Meeting, to webinars and CEs held throughout the year, we need to continue learning from each other.

We need to work together to promote awareness of our field and reinforce the value of nuclear medicine and molecular imaging with policymakers. We need to advocate for access, coverage and reimbursement for patients. We also must continue our outreach and education efforts with physicians and clinicians. Working on these priorities will help ensure we are doing what is right for patients.

You have held many leadership roles over the years. Is there any advice you would give someone who is just beginning their career?

There are a few key pieces of advice I have used over the years as I have developed teams:

• Be inquisitive, keep an open mind and be prepared to learn something new every day
• Push yourself to grow and take on assignments that stretch you, even when you are not the expert
• Surround yourself with diverse top talent and always remember that leadership is about working with others to help them be successful in achieving a larger vision
• There is always a solution to every problem
• Bring your best self to work every day
• And most importantly, enjoy the journey!

6. And finally, where do you see the field five years from now?

We are on the exciting cusp of fulfilling the promise of nuclear medicine for multiple cancers through advanced molecular imaging and therapy. We have the opportunity to elevate the visibility and value of what we do in NM, and we need to start now. In five years, I hope that we have used this opportunity to create a future where we are standard-of-care in the minds of treating physicians and payers so that all eligible patients can benefit.
be a non option because of the onset of COVID. I told him I had stumbled upon Dr. Richard Baum who was practicing Theranostics in Germany. He enthusiastically endorsed Dr. Baum and supported me tracking him down and following up with him post haste. I connected with Dr. Baum and have been treated by him 5 times. I was stage 4+ when he first treated me in May 2020. As of October 2021 most of my metastatic lesions are gone or greatly reduced. He saved my life. I am forever and proudly indebted to him.

Why is it important for people to know about nuclear medicine therapies?

If I had known about Theranostics when I was first diagnosed, I would have chosen this diagnostic treatment path over any other protocols currently available. It’s the least invasive, with the least side effects, with proven efficacy. The adage “we see what we treat and treat what we see” is compelling and readily understood. Without question, personalized precision oncology and moreover individual bespoke precision medicine is what will save the most lives. It’s coming and I will do everything I can to recommend it and “pay it forward” to as many people like me, who were told to get their affairs in order.

What would you want to tell regulators or legislators about the value of your treatment?

I am and will continue to promulgate that Theranostics will and should be the new, and deservedly so, affordable, payor covered “Standard Of Care”.

Any advice for companies, doctors or other patients when it comes to Radio-Pharmaceutical Therapies?

Embrace Theranostics. Be early adopters. It’s a tsunami in the making. Ride the wave.

there still a place for serendipity? I have found this to be helpful in my life and practice. I recall the discovery of the remarkable distribution of Technetium in rats by Dr. Paul Ford. I also recall being excited by the possibility of labeling PSMA, when it was introduced in pathology as a special stain for prostate carcinoma, to permit its use in imaging. Similarly, I remember when it was observed that Tc-colloid localized in lymph nodes. I point these out as instances where useful information was there before us but it took many years for the translation of these observations to be realized. Sentinel node and PSMA prostate carcinoma imaging could possibly have been available much sooner. Is there a place in the SNMMI structure where such observations could be collated and reviewed by out-of-the-box thinkers so that similar opportunities would not be delayed or lost?

I appreciated being included in the call. I have maintained a strong interest in Nuclear Medicine since the first day of my pathology residency in July 1957, when I was among a small group of “promising” residents from multiple programs at Charity Hospital New Orleans invited to the opening of the new Nuclear Medicine Department. This SNMMI project has certainly served to re-ignite my interest and my confidence that the specialty is again blessed with great opportunities, if we pursue them with the enthusiasm they deserve. All of these objectives deserve our best efforts. Ultimately, the success of this undertaking will be judged by how all these developments impact patient outcomes.

I have noticed that a number of the Value Initiative’s leaders have made donations to the project. Perhaps, we the membership of SNMMI should consider following their lead as an investment in our future.

REFERENCE

The higher extraction fraction of PET tracers allows for more accurate assessment of MBF compared to standard Single Photon Emission Computed Tomography (SPECT) tracers.

N-13 ammonia has the highest extraction and retention rates of the currently available FDA approved tracers, extraction is close to 100% at rest and stress, 0.95 – 0.99 and 0.50 – 0.90, respectively. In addition, it also has a high spatial and contrast resolution. These properties provide consistently high-quality diagnostic studies regardless of patient size and gender and more reliable MBF quantitation. However, until recently N-13 ammonia was not practical for use outside of mostly academic institutions because of the high invest needed and the short 9.98 min half-life required an on-site cyclotron. Ionetix Corporation has removed this barrier with its innovative unit dose solution and compact ION-12SC Cyclotron, making N-13 ammonia accessible to all facilities including smaller hospitals, private practices and independent diagnostic testing facilities.

The Ionetix ION-12SC Cyclotron is a 12 MeV, superconducting cyclotron that accelerates protons to produce millicurie levels of positron emitting isotopes to be used to produce PET radiopharmaceuticals. It offers simple, fast N-13 ammonia production for just-in-time dose manufacturing, and the ultra-compact footprint allows it to be installed in sites where most other cyclotrons are not possible (Figure 1 & 2). The Ionetix solution includes oversight of all regulatory compliance, construction and installation, and operations of the cyclotron, and the ION-12SC Cyclotron’s start to dose time is only 10 minutes and allows for convenient, reliable and ample supply of N-13 ammonia even in high patient volume facilities providing sites with an alternative high quality PET tracer for use in their Cardiac PET Imaging program.

REFERENCES
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2. www.advisory.com/blog/2019/02/cv-imaging
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- Committee on Medical Internal Radiation Dose (MIRD)
- Committee on Procedure Standards
- Committee on Quality Assurance (Phantom)
- Committee on Radiation Dose Assessment Response (RADAR)
- Dose Optimization Task Force
- Oversight Committee for Guidance Documents
- Quality and Evidence Committee

Domain 2: Research and Discovery
- Committee on Radiopharmaceuticals
- Clinical Trials Network
- Center for Molecular Imaging Innovation & Translation
- PET Center of Excellence
- Therapy Center of Excellence
- Brain Imaging Council
- Cardiovascular Council
- Correlative Imaging Council
- Pediatric Imaging Council
- Physics, Instrumentation and Data Sciences Council
- Radiopharmaceutical Sciences Council

Domain 3: Workforce Pipeline
- Future Leaders Academy Task Force
- Academic Council
- Program Directors Committee
- Qualified Training Program Task Force
- Early Career Professionals Committee

Domain 4: Advocacy
- Committee on Government Relations
- FDA Task Force
- Committee on Coding and Reimbursement
- Third Party Payer Subcommittee
- Committee on Radiopharmaceuticals

Domain 5: Outreach
- Committee on Outreach
- Breast Cancer Imaging Outreach Working Group
- Brain Imaging Outreach Working Group
- Prostate Cancer Outreach Working Group
- Neuroendocrine Tumor Outreach Working Group
- Patient Advocacy Advisory Board

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