CEO Summit and Panel Discussion: The Potential, Promise, and Value of Radiopharmaceutical Therapy

Friday, June 11 | 6:15-8:15 pm EDT

This informative discussion focuses on system-wide ways to improve patient access and clinical outcomes, including how we can ensure the right and most patients have access to the best possible therapeutic outcomes, and what lessons we can learn from the past to ensure new therapies get from bench to bedside more effectively.
Thank you to everyone who participated in the interviews; key stakeholders around the patient were represented.

**Physicians**
- Dr. Phillip Koo (Radiology / Nuclear Medicine)
- Dr. Dan Lee (Nuclear Medicine)
- Dr. Jonathan McConathy (Radiology / Nuclear Medicine)
- Dr. Sandy McEwan (Radiation / Nuclear Medicine / Oncology)
- Dr. Satoshi Minoshima (Radiology / Nuclear Medicine)
- Dr. Jonathan Strosberg (Medical Oncologist)
- Dr. Richard Wahl (Radiology / Nuclear Medicine)

**Industry**
- Blue Earth (David Gauden, Dr. Dan Stevens, Terri Wilson)
- Cardinal Health (Tiffany Olson)
- ImaginAB (Ian Wilson)
- Isotopia (Eli Shalom)
- Jubilant (Sergio Calvo)
- Lantheus (Dr. Sohail Chaudhry, Melissa Downs, Ira Goldman)
- NorthStar (Stephen Merrick)
- Novartis (Mike Rossi)
- Siemens (Jim Williams)
- Telix (Chris Behrenbruch)

**Patient Advocacy**
- Cindy Lovelace (The Healing NET Foundation)
- Josh Mailman (NorCal CarciNET)
Radiopharmaceutical therapies are an opportunity for the growth and relevance of Nuclear Medicine

### Global Nuclear Medicine Market, 2013-2025

<table>
<thead>
<tr>
<th>Year</th>
<th>Radiotherapeutics</th>
<th>Other Diagnostics</th>
<th>FDG/PET</th>
<th>99m TC</th>
<th>PET Equipment</th>
<th>SPECT Equipment</th>
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<td>1.1</td>
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Source: (radiotherapeutics and radiodiagnostics) 2019 MEDrays Intell Nuclear Medicine World Market Report
Source (equipment): Siemens
What are the main **opportunities** for radiopharmaceutical therapies from a NM perspective?
Improving patient outcomes, strengthening NM’s role, and growing the overall market are seen as the main opportunities for Nuclear Medicine.

Radiopharmaceutical therapies are a completely novel way of targeting systemic cancer.
Medical Oncologist

For us, the real opportunity is to use this once-in-a-decade-type of opportunity to re-shape our specialty. However, we have to adapt …It changes the delivery model from a service provider to a part of patient management.
Radiologist / Nuc Med

What are the main 
**opportunities** for radiopharmaceutical-therapies from a NM perspective?

As the therapies become more complicated then nuclear medicine is by far most competent to administer doses. Almost no one else has any training in radiation drugs. It is nuclear medicine’s to lose.
Radiologist / Nuc Med

I am enthusiastic about radio-pharmaceutical therapies because they will improve patient outcomes.
Radiologist / Nuc Med

Number of men with prostate cancer dwarfs NET … Lutathera is good for NET, but prostate is a larger opportunity.
Radiologist / Nuc Med

Most importantly, Lutathera is paving the way for other therapies in the future. It is a roadmap how to commercialize and deliver other therapies.
Radiologist / Nuc Med / Oncologist

Radiotherapies is where we came from. It is how nuclear medicine started 80 years ago with radiiodine. Now it’s NET and prostate, and possibly expanding to others.
Radiologist / Nuc Med
What are the main risks and/or threats for radiopharmaceutical therapies from a NM perspective?
Other specialties taking over and driving adoption, having enough qualified personnel, and a perception of high cost are seen as the main risks to Nuclear Medicine.

**Threat is other specialties want to do it.** I already see a push from gastro-enterologists and urologists. Med Oncs are used to using radiation, so could be trained. There’s actually an opportunity here to work together. Radiologist / Nuc Med

**The biggest risk is a catastrophic toxicity event.** Cannot overmarket it and have it used by everyone. Radiologist / Nuc Med / Oncologist

**Reimbursement on the physician fee** is a big risk. Physicians need to participate more with professional fees. My worry is that a typical nuc med doctor thinks it’s too much work for the reimbursement and easier to just read scans. Radiologist / Nuc Med

**They’re often thought of as expensive, but what is expensive?** We need to focus on value, on quality vs. cost. When compared to other alternative therapies, it’s in the same ballpark. Radiologist / Nuc Med

My key concern is that **if NM doesn’t drive the adoption of radiotherapies, someone else will.** These therapies will be used, but they shouldn't be lost to those who treat patients. CEO

**What are the main risks and/or threats for radiopharmaceutical-therapies from a NM perspective?**

Nuc Med is often seen as a service provider. Rad Oncs did well in taking ownership of patients. Rad Onc is now a black box. A referring physician knows that patients will be followed by them for years. Radiation Oncologist

There needs to be **enough workforce** to apply therapeutic technology. Does NM have enough? Right now, no. Radiologist / Nuc Med

**Personnel is the rate limiting factor.** Prostate demand may be an order of magnitude greater. I’m nervous how we’re going to handle it and we’re an academic center. How will it be done in the broader community? Radiologist / Nuc Med
What are the top actions to drive radiopharmaceutical therapy adoption from a NM perspective?
Strong education and training (both internal and external), partnerships, and clinical trials are seen as the top actions for Nuclear Medicine.

If money is invested in proving efficacy, then good reimbursement can be obtained.

CEO

Those trained in NM have to drive this, but others will need to administer as well (under the right conditions with the right training). Can we make it easy enough for providers to safely administer this? That will be key.

Radiologist / Nuc Med

We need to develop more data to show the effectiveness of RPTs. Even for thyroid we don’t have rigorous data as compared to other specialties. Although there’s a lot of data over time, there hasn’t been a lot of follow-up. We need to have the gold standard trials to have a seat at the table.

Radiologist / Nuc Med

We need to better understand clinical trial design. All residencies should include training in clinical trial design, and courses need to be created for people who are already doing it. And they have to be serious.

Radiologist / Nuc Med / Oncologist

Multi-disciplinary care already happens. We need multi-disciplinary clinics with Urologists, Rad Oncs, Med Oncs, NM, etc. Then we can really move into therapy. We have to offer practices that support therapies, but also with a diagnostic background.

Radiologist / Nuc Med

What are the top actions to drive radiopharmaceutical-therapy adoption from a NM perspective?

We have to get trained up to be able to interpret these types of images. We’ll see things that we’ve never seen before.

Radiologist / Nuc Med

Opportunity for NM is to take ownership. We need oncology training. Med Oncs need training in NM therapies. Start creating year-long fellowships.

Radiologist / Nuc Med / Oncologist

Change needs to be in training. How do you treat a patient with stage 1 disease? Stage 3? Training needs to be from patient management and how to interact with other specialties. Then to really be credible, you need to manage side effects and speak an oncologist’s language.

Radiologist / Nuc Med

NM needs to adopt the role of a nuclear oncologist. Step into role of management of specific diseases. Need to educate ourselves. Make it clear how our drugs fit into the care of a patient. Can’t assume RPTs are the right tool in every situation. Need to sit and talk with oncologists.

Radiologist / Nuc Med

We absolutely are the right ones to do it, but we protect out turf by being the most knowledgeable on radiotherapies, not by prohibiting others.

Radiologist / Nuc Med
The SNMMI is actively addressing the identified areas of action

**Value Initiative: Advancing Targeted Medicine**

Through its Value Initiative, SNMMI is providing the strategic vision and roadmap to address these changes, demonstrate the true value of the field, and elevate nuclear medicine and molecular imaging—increasing its value to the medical community, regulators, patients, and the public.

<table>
<thead>
<tr>
<th>Quality of Practice</th>
<th>Research &amp; Discovery</th>
<th>Workforce Pipeline &amp; Life-Long Learning</th>
<th>Advocacy</th>
<th>Outreach</th>
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<tr>
<td>Chair: Dr. Gary L. Dillehay&lt;br&gt;Vice Chair: Dr. Heather Jacene</td>
<td>Chair: Dr. Richard L. Wahl&lt;br&gt;Vice Chair: Dr. John Sunderland</td>
<td>Chair: Dr. Frederick D. Grant&lt;br&gt;Vice Chair: Dr. Christopher J. Palestro</td>
<td>Chair: Dr. Munir Ghesani&lt;br&gt;Vice Chair: Dr. Cathy Cutler</td>
<td>Chair: Dr. Vasken Dilsizian&lt;br&gt;Vice Chair: Dr. Giuseppe Esposito</td>
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The goal of this domain is to ensure that the SNMMI members are known for high-quality, value-driven performance, and delivery of patient-centered nuclear medicine practice.

The goal of this domain is that SNMMI advance the development and approval of nuclear medicine and molecular imaging technologies, including therapies.

The goal of this domain is to ensure that SNMMI will continue to innovate and collaborate to retain and expand the diverse pool of qualified professionals working in the field, making the society the epicenter of all things related to nuclear medicine.

The goal of this domain is to promote awareness among policymakers about the NM/MI field. Paramount in this area is cooperative work with other organizations and outreach with regulatory agencies and the legislature.

The goal of this domain is to ensure that patients and the medical community recognize the value of nuclear medicine, molecular imaging and radionuclide therapy.