Opinion and debate

The changing landscape of nuclear medicine

El escenario cambiantes en Medicina Nuclear

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Background

When we embarked on our careers a decade ago, there was renewed interest and numerous opportunities for a career in Nuclear Medicine. We were attracted to the variety of procedures in the field of Nuclear Medicine: PET had just come to the clinic, presenting a great deal of promise and a revival of job opportunities. However, recent changes in the medical care paradigm and reimbursement have dictated that while the future of Nuclear Medicine is bright, the future for Nuclear Medicine physicians is uncertain.1

Recent analysis from the Society of Nuclear Medicine and Molecular Imaging (SNMMI) 2012 Task Force reported out that while Nuclear Medicine persists as a primary specialty that is evolving into a broader-based discipline of molecular imaging with partnerships and collaboration as necessary, Nuclear Medicine being advanced by dual-certified professionals who practice the broad-based discipline of molecular imaging is imminent.2

Challenges with the current job market and its impact on training programs

At the recent SNMMI Annual meeting in Miami Beach, FL in 2012 concerns about currently dismal job market were centerstage and these impressions were essentially unchanged from the annual meetings in Salt Lake City, UT in 2010 and San Antonio, TX in 2011. In various sessions, many speakers emphasized that job availability was cyclical and would likely run its course. Many current United States (US) job opportunities are only open to dual-certified American Board of Radiology (ABR) and American Board of Nuclear Medicine (ABNM) Nuclear Radiologists, and an increasing number of current Nuclear Medicine physicians in clinical practice are being replaced by Nuclear Radiologists. The main reason for this preference for Radiologists is to have a “one stop” shop for the radiology and nuclear medicine reads, where one physician could conceivably contribute across many imaging modalities, and potentially have a greater impact on the relative value units (RVUs) per physician in the practice. Whereas previously, interdisciplinary collaboration between Nuclear Medicine and Radiology with its well-recognized advantages and disadvantages was considered indispensable and optional.3 With the introduction of PET/CT, and recently PET/MRI, and many new tracers in research and development, a new training pathway fusing the physiologic orientation of nuclear medicine and the anatomic orientation of radiology is necessary. At the same time, acknowledging somewhat lower competitiveness of Nuclear Medicine physicians in the job market, many current Nuclear Medicine residency programs are considering closing their doors, while others are decreasing their complement of residents. A few other training programs are only accepting Nuclear Medicine residents that they deem would be competitive in obtaining a radiology residency after their Nuclear Medicine training. Still other remaining programs are now only open to Radiologists for further training in Nuclear Medicine.

Similarly at the 24th Annual European Association of Nuclear Medicine (EANM) Congress meeting in Birmingham, UK, in 2011, sentiments of a decline in perceived marketability of a Nuclear-only physician were cited in the European Nuclear Medicine market. A major feature of the congress was an emphasis on the young generation of Nuclear Medicine physicians, and the popular Highlights Lecture was delivered by three young Nuclear Medicine physicians who have shown great potential in clinical practice as well as a high promise in contributing significantly in research and development.4 Due to the ongoing ‘Eurozone Crisis’ increasing unemployment is affecting all fields, including healthcare and Nuclear Medicine. Purely clinical positions in both private and public health sectors are being reduced due to the restructuring of facilities, a reduction of overhead spending and slashing of other fixed business costs, which translates into fewer new hires and the existing instability in the job market.

Recently, in the US, the Accreditation Council for Graduate Medical Education (ACGME) Radiology Residency Review Committee’s (RRC) Nuclear Radiology training program curriculum has been rewritten to be virtually indistinguishable from the ACGME Nuclear Medicine program residency requirements.5 The ABNM, SNM and ACGME Nuclear Medicine RRC are in discussions with the ACGME regarding the overlap in training curricula goals. Similarly, the European Society of Radiology (ESR) has also revised and published their “European Training Charter for Clinical Radiology” where molecular imaging and other nuclear medicine techniques have been comprehensively integrated into diagnostic radiology residency training, and an option to sub-specialize in Molecular Imaging is offered during the last 2 years of the 5 year curriculum.6,7 Even though ESR and EANM have been working well together on educational initiatives, it is unfortunate that the EANM was not consulted in the development of a curriculum that essentially renders independent Nuclear Medicine training redundant. The European Union of Medical Specialists, Monospecialist Section of Nuclear Medicine and the European Board of Nuclear Medicine (UEMS/EBNM), who define the basic principles in the field of training of European Nuclear Medicine specialists and guarantee the highest standards in the field of Nuclear Medicine, were also not involved in the development of the ESR curriculum. It is becoming abundantly obvious that open dialog and clear communication between experts is crucial to the future of Nuclear Medicine as a field, and will translate into optimal patient care.

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Possible career paths for Nuclear Medicine physicians

Options and practice opportunities for the recent graduate of a Nuclear-only training program are limited. Some graduates pursue additional Molecular Imaging training in clinical nuclear medicine, PET or research fellowships in the EU or US. For EU graduates, US fellowships provide a culturally and academically stimulating experience for overseas trainees who would like to become more fluent in the English language or become more familiar with US Medical Practice, or eventually transition to practicing clinically in the US. For US graduates, pursuing fellowships in the EU is much less common. In the EU, the most popular solution is that recent graduates have sought training in an additional discipline, thus ushering in a new era of double “hybrid” specializations, and often with fields other than Radiology. Unlike only a couple of years ago, current European job opportunities are increasingly open to trained specialists in more than one field, and Nuclear Medicine imaging is evolving into a hybrid Radiology and Nuclear Medicine specialty. Hybrid imaging training seems to be the future in the US as well, and opens up a wealth of clinical job opportunities.

Another tempting option for recent European Nuclear-only graduates is to pursue Industry job in Europe and abroad. Among the most obvious benefits for European physicians in Industry are the very competitive Industry position salaries when compared to clinical jobs in Europe. Research-oriented US Nuclear physicians have also started to seriously consider and explore Industry careers.

In Industry, there are a plethora of non-traditional practice opportunities due to an ever increasing need to unlock the promise of personalized medicine. With recent shifts in dynamics of clinical practice, Industry might be a practice setting where Nuclear Medicine physicians are perhaps given greater preference to, and are able to have a higher impact, than Radiologists (Fig. 1). Another reason why Nuclear Medicine physicians are well-matched for Industry positions is because of the relative parity in Nuclear Medicine physician salaries with Industry standards of compensation of the clinical research physician. Similar to clinical practice, the vast majority of physicians working in Industry are Internists specialized in Oncology, Cardiology, Endocrinology or Nephrology, and physicians in similar Industry roles fall into the same general salary range or bands.

Of note, most companies, and even different business units within a company, have their own unique culture. Oftentimes in the clinical practice setting, physicians view themselves as the leaders of the team, where they place orders and the staff carries out these orders. In Industry, Physicians assume an equally important role. The Imaging Physician’s role in Industry is very similar in that the Imaging Physician often leads one or more project teams, and effectively delegates and monitors the work performed by all project team members.

The corporate world tends to promote long-term professional development and physicians in Industry feel that they gradually may lose touch with clinical practice. Although some employers offer entry-level positions for the uninitiated Nuclear Medicine physician venturing out in a career in Industry, one must usually demonstrate previous exposure to Industry practices during their training or subsequently in practice in order to be successful in obtaining Industry positions. Another reason for an Imaging Physician to get adequate exposure to Industry “best practices” is that generally physicians like to be confident in their ability to practice medicine within the bounds of their expertise. Physicians prefer to be poised to deliver and succeed in tasks that they set out to do, and Industry is no exception.
Even within the Pharmaceutical and Biotechnology companies and CRO roles, there are many opportunities in a physician pursuing a career in running trials on a drug product in pre-clinical (Discovery/Research/Translational Medicine), Clinical Development, Safety/Pharmacovigilance, Medical Affairs, and post-approval or “Marketing” teams. Additional roles include working for governmental and large research organizations (Fig. 1).

Conclusion

The daily practice of Nuclear Medicine is changing, and Nuclear Medicine physicians are adapting to the current fiscal environment and practice needs. Beyond traditional clinical practice, working in non-traditional positions in Industry, large governmental and private research organizations afford great prospects for the Nuclear Medicine Physician to broaden his/her horizons. Nuclear Medicine physicians are extraordinarily trained to excel in Industry positions because most molecular imaging procedures fall within the realm of nuclear medicine.

Ethical adherence

All institutional ethical standards have been adhered to in association with this publication.

Conflicts of interest

There are no conflicts of interest associated with this publication.

References