



TRACERS

The American Board of Nuclear Medicine

2014
Issue 2

A Member Board of the American Board of Medical Specialties

4555 Forest Park Boulevard, Suite 119 • St. Louis, Missouri 63108-2173 • Telephone: (314) 367-2225 • E-mail: abnm@abnm.org • Website: www.abnm.org



Message from the Chair
Janis P. O'Malley, M.D., Chair

The meeting of change.
[More Details](#)

Message from the Executive Director
George M. Segall, M.D., Executive Director

A Tribute to Henry Royal, M.D, ABNM Executive Director Emeritus. [More Details](#)



Associate Executive Director's Message
MOC 2015
J. Anthony Parker, M.D., Ph.D.
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Burden of MOC for ABNM Diplomates.-[More Details](#)

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MOC Exam Enhancement
Kirk A. Frey, M.D., Ph.D., MOC Committee Chair

ABNM to provide a 2015 MOC exam study guide.
[More Details](#)



Message from the President of the SNMMI Academic Council
Jon A. Baldwin, D.O., M.B.S.
President, SNMMI Academic Council

SNMMI Academic Council sponsors session on Combined Residency Training at upcoming mid-winter meeting. [More Details](#)

Alphabet Soup
Bennett S. Greenspan, M.D., M.S.
Department of Radiology, Georgia Regents University

What Are, and Should Be, the Roles and Interrelationships of Our Professional Organizations, and How Do They Impact Education in Nuclear Medicine? [More Details](#)



SNMMI Newsline: The ABNM: Past, Present, and Future
Henry D. Royal, M.D., Executive Director Emeritus

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SNMMI Newsline:ABNM Diplomate Workforce
J. Anthony Parker, M.D., Ph.D.
Associate Executive Director

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2014 Issue 2

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FUTURE EXAMINATION DATES

- In-Training Examination:
Week of January 26-31, 2015
- Certification/ MOC Examination
Week of October 5-10, 2015
application period begins in April of 2015

QUICK LINKS

- [ABNM Website](#)
- [ABNM Board Members](#)
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BOARD OF DIRECTORS

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COMMENTS/FEEDBACK

The ABNM welcomes comments from diplomates and residents regarding issues raised in this Tracers or any other issues affecting the practice of nuclear medicine or certification processes.

Please email your comments to George M. Segall, M.D., Executive Director, American Board of Nuclear Medicine (gsegall@abnm.org)





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Message from the Chair

Janis P. O'Malley, M.D. Chair



Janis P. O'Malley, M.D.
Chair, ABNM

The recent summer meeting of the American Board of Nuclear Medicine in South Carolina was a mixture of both the sweet and the sad for me. As I move into the role of Chair of the ABNM, I am excited to be working even more closely with our incredible new Executive Director, George Segall. However, we have now fully transitioned our ED position, and Henry Royal will no longer be sitting across from me in these meetings or on the other end of the line on our weekly conference calls. People often say it is an honor to work with Henry, but it has been more than that- it has been an incredible education. I think people watching the Board work from the outside can have no idea how hard Henry has worked to constantly urge progress in our specialty and to defend it with his great knowledge and diplomatic insight. I won't go on because, fortunately, this is not a eulogy, and we will still be able to ask his advice without the use of a Ouija board!

We were thrilled to welcome our newest Board members (Drs. Dan Pryma, Erin Grady, Joanna Fair, and Heather Jacene) into full service. They are great additions, bringing a wealth of ideas and experiences to the group. As our diplomates face continued challenges to their practices, it is refreshing to include the perspective of younger professionals. Discussions at the meeting included ways to help our diplomates stay relevant in their practices, improve the MOC exam, making it more user friendly and applicable to every day work, and how to make the MOC SAMs (Self-Assessment Modules) process simpler.

Lifelong learning and Self-Assessment (LLSAP) is the second of four parts of Maintenance of Certification. Self-Assessment is an important part of learning because it informs a physician where his or her knowledge may be weak by comparison to peers, and indicates where self-guided focused learning may be helpful. The ABNM requires physicians to earn a minimum 5-year average of 25 CME AMA Category 1 credits per year, including 17.5 credits related to Nuclear Medicine, of which 8 credits must be self-assessment. Physicians may use their discretion as to what areas fall under the Nuclear Medicine umbrella. For example, critical topics in areas such as correlative imaging with MR or CT would certainly be correctly listed under Nuclear Medicine.

The ABNM accepts SAMs qualified by any member board of the American Board of Medical Specialties (ABMS). The ABNM website includes links to the SAM provided by SNMMI, RSNA, and ACR. In addition, the ABNM now accepts AMA PRA Category 1 Credit™, types 2 (enduring materials) and 3 (journal-based articles) for self-assessment credit, referred to as SA-CME. This category includes journal articles approved for CME credit, even if the articles have not been explicitly approved by ABNM or other ABMS member board, for self-assessment.

The ABNM is also developing a list of Key Articles to identify core knowledge for trainees and practicing physicians. The articles will also serve as the basis for approximately 30% of the content of the ABNM Certification Exam, and the Maintenance of Certification Exam. Additionally, the Key Articles will provide an opportunity for physicians to earn self-assessment credits from home or office, which will be especially helpful for physicians who do not have the time or the institutional financial support to attend professional meetings.

The ABNM is also working to improve the system whereby physicians earn self-assessment credit through attendance at live meetings. The requirements for earning self-assessment credit from ABNM are different than the

requirements for earning CME credit from an ACCME accredited organization. ABNM, for example, requires documentation of participation in a self-assessment educational activity, but does not define a minimum performance level, nor require physician-specific data from the organizer. ABNM is working to streamline the process for physicians and organizations to make self-assessment more valuable as well as more efficient and these changes should soon be evident.

Finally, ABNM continues to work closely with many other groups to strengthen our specialty and the prospects of our diplomats. This includes continued discussions with the ABR, exploring ways we might work together to accomplish these goals. Although times remain tough for all of us, I am glad to report the ABNM remains solid and viable, able to help serve as a voice for those we represent.



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Message from the Executive Director

A Tribute to Henry Royal, M.D, ABNM Executive Director Emeritus

George M. Segall, M.D., Executive Director



George M. Segall, M.D.
Executive Director, ABNM

Henry retired from the ABNM in March 2014, after serving six years as a Director, from 1993-1999, and another ten years as Executive Director, from 2004-2014. Henry guided the Board through several major changes as Executive Director.

2004-2005

When Henry became Executive Director in 2004, the board was transitioning from an organization that conferred once in a lifetime certification to an organization that supported Maintenance of Certification (MOC) requiring two-way communication between the board and all certified physicians throughout their professional careers. 2004 was the second year that the ABNM certification exam had been given by computer. Previously the exam was given only at three sites in the United States, but now the exam was being given at over 200 testing sites. It was also the second year of the MOC exam. All of the exam preparation from beginning to end was now being done at the ABNM office.

In 2005, the ABNM administrator Gloria Gorden, who had expertly supported the Board for several years, resigned. This set off a chain of events that resulted in moving the ABNM office from Los Angeles to St. Louis and rebuilding the whole infrastructure to support the Maintenance of Certification program. Cindi Ade was hired as the new Administrator, and was invaluable in helping modernizing the office by converting from handwritten files to digital storage of data. Henry, and his wife Christine, also made a change, moving from their home in the suburbs to a town home within walking distance of the ABNM office and Washington University.

2006-2007

In 2006, the ABNM launched a new website to support implementation of MOC in January 2007. The ABNM developed secure web pages that diplomates could use to document their participation in MOC.

2010

In 2010, the My MOC section of the ABNM website needed to be revised. Henry, who had no formal training in website development, became a quick learner. No one at ABNM had programming skills, so the task was outsourced, but the website development company did not understand MOC. This compartmentalization of knowledge led to many long hours of back and forth communication, but the major revision was completed by the end of 2010.

2011

In 2011, the Affordable Care Act (ACA) was enacted by Congress, which provided an incentive for physicians who participated in MOC more frequently than required by their specialty board. Henry was responsible in getting the ABNM recognized as one of the ABMS member boards that was qualified to submit MOC participation data to CMS, and he has been the Board's expert on PQRS.

2012-2013

The work of the board was growing and becoming more complicated. In 2011, Henry and the board determined that an Associate Executive Director (AED) was needed. Tony Parker, M.D, Ph.D., who was a previous board Director as well as Chair, was selected after a national search. Henry and Tony made a perfect team, and it's hard to image one person doing all the work that Henry formerly did alone. Around the same time that Tony became AED, Cindi retired as Administrator. Maria Watts was selected as the new Administrator, and has continued to manage the daily operations expertly and efficiently.

Despite revisions to the ABNM website, it became clear that the needs of the board and the needs of diplomates required a whole new digital platform. Henry, working with Tony, once again went to work to develop a completely new website that was launched this year.

Throughout the years, Henry was responsible for the fiscal operations of the board. When he became ED in 2004, no one had looked at the ABNM business plan for the previous 34 years. Henry developed a business plan in 2005, which has resulted in a very strong current financial position.

Henry has been an exemplary leader, as well as a visionary. He has made high quality patient care the central mission of ABNM through the setting of the highest professional standards. Although Henry has retired from the board, the work he has done will continue to advance Nuclear Medicine for many years to come.



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Associate Executive Director's Message MOC 2015

J. Anthony Parker, M.D., Ph.D., Associate Executive Director



J. Anthony Parker, M.D., Ph.D.
*Associate Executive Director,
ABNM*

As described in the last tracers (Message from MOC Committee Chair) the American Board of Medical Specialties (ABMS) has provided the member Boards with goals for the MOC process for the next 5 years ([Standards for the ABMS Program for Maintenance of Certification \(MOC\)](#)). The good news is that there will not be any big changes; although there has been some shift in emphasis. This shift in emphasis has been reflected in a change in the names of 3 of the parts of MOC. At the summer meeting, the ABNM voted to adopt the new names:

- Part 1 – Professionalism and professional Standing (formerly, Professional Standing)
- Part 2 – Lifelong Learning and Self-Assessment
- Part 3 – Assessment of Knowledge, Judgment and Skills (formerly, Cognitive Expertise)
- Part 4 – Improvement in Medical Practice (formerly, Practice Performance Assessment)

The change in Part 1's emphasis will be the inclusion of professionalism learning. The ABNM is planning to address this requirement through a professionalism learning activity. Another emphasis will be patient safety. The ABNM will be providing patient safety modules which can be used to fulfill this requirement.

The ABMS is sensitive to the burden which MOC places on Diplomates. One of the 2015 goals specifically addresses this issue:

"Each ABMS Member Board will work to enhance the value of its Program for MOC and the experience of diplomates engaged in its Program including taking actions to increase the Program's quality, relevance, and meaningfulness and with sensitivity to the time, administrative burden, and costs (monetary and other) associated with participation."

To minimize burden, the new requirements for professionalism and patient safety learning will provide Part 2 credit. The total credit requirement will remain the same. In addition, the ABNM now accepts [AMA PRA Category 1 Credit™](#), types 2 (enduring materials) and 3 (journal-based articles) for self-assessment credit. Enduring materials and journal-based articles are referred to as SA-CME. Activities called self-assessment modules, SAM, SA-CME, or type 2 or 3 AMA PRA Category 1 Credit™ all count toward the yearly 8 self-assessment credit requirement in Part 2 of MOC.

The ABMS is encouraging its member boards to experiment with new methods of fulfilling the Part 3 requirement. The ABNM would like to make the MOC exam more useful for learning and less anxiety provoking for diplomates. The article by Dr. Frey describes an enhancement to the MOC exam which is intended to improve the learning by providing a study guide for the exam. Studying for the exam will be another method of earning Part 2 credit. Furthermore, since a portion of the questions on the exam will be taken from articles in the study guide, we hope to lessen anxiety about the exam. We will also be watching what other boards are trying seeing how we can apply successful methods to our MOC exam.

The Multi-specialty MOC Portfolio Approval Program (<http://mocportfolioprogram.org>) provides a mechanism for an organization such as a hospital to obtain Part 4 approval from many of the ABMS Boards for group quality improvement projects. The ABNM is engaged in becoming one of the participating Boards. If your organization participates in this program, the advantage for you as an individual is that you automatically obtain Part 4 credit for institutional quality improvement projects in which you already participate.



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Message from MOC Committee Chair MOC Exam Enhancement

Kirk A. Frey, M.D., Ph.D., MOC Committee Chair



Kirk A. Frey, M.D., Ph.D.
*MOC Committee Chair,
ABNM*

In an ongoing effort to improve the value of MOC to our diplomates, the ABNM is planning to enhance the MOC exam in future years. We have identified a number of key articles which contain important concepts for the practice of Nuclear Medicine. These include recent topical reviews of established procedures as well as manuscripts describing recently-adopted clinical procedures. The Board will use these articles as the basis for questions on the certifying and MOC exams. The target will be to have approximately 30% of the MOC questions derived from these articles. The Board will make the reading list available on the website, and will attempt to emphasize references that are publically available, without cost for access.

The list of articles will provide a resource for both diplomates and residents. It will identify core content which the Board believes is important for practicing clinicians. It can be used as a study guide to supplement textbooks and other resources. Knowing that a significant component of MOC examination content will be taken from concepts described in these articles

could reduce some of the anxiety we all feel about taking secure exams.

E-mail Reminders about Gaps in MOC Requirements

The ABNM will commence sending e-mail reminders to our diplomates about gaps in MOC requirements. If you are more than one year behind or if your next scheduled exam is less than 2 years away, we will send reminders every two months. You may take the MOC exam up to 2 years early without affecting the date of the next scheduled exam. If you are caught up and your exam is in more than 2 years, you will only receive an annual reminder. If you do not wish to receive the reminders every two months, you can opt out of frequent reminders on the ABNM website. We will still provide you with an annual notification.



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Message from the President of the SNMMI Academic Council

Jon A. Baldwin, D.O., M.B.S.

President, SNMMI Academic Council



Jon A. Baldwin, D.O., M.B.S.
*President, SNMMI
Academic Council*

The Academic Council's primary mission is to promote education, research and patient care related to Nuclear Medicine, provide expertise in the training and education of undergraduates and graduates in Nuclear Medicine, and provide a forum for members for discussion of issues and problems of mutual interest and concern within the Nuclear Medicine community, as well as an informal exchange of ideas and programs.

To this end, the Academic Council has sponsored many education-related topics at the SNMMI annual and mid-winter meetings. Examples include a presentation by Richard Gunderman, M.D., on the "Philosophy of Effective Teaching," a session on "Teaching the Modern Generation of Trainees in Changing Times," and numerous presentations on ACGME-related topics. We have hosted an Item Writers Workshop, hoping to allow attendees to become more proficient in the very difficult task constructing good SAM and board-type questions ("items").

At the upcoming mid-winter meeting in San Antonio, a nuts-and-bolts session entitled "Practical Information for Combined Nuclear Medicine & Radiology Residencies" will be given on Friday, January 23, 2015 from 6:30 to 9 PM. Additional presentations on combined residency training are planned for the future. I hope you will consider attending this session—this topic is of crucial importance for the specialty going forward. I would also ask that if you are not already a member of the Academic Council, that you consider joining. For the cost of a few fancy cups of coffee (\$15), you can help enhance the offerings we put forward at future meetings.

See you in San Antonio!



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Bennett S. Greenspan, M.D., M.S.
*Department of Radiology,
Georgia Regents University*

Alphabet Soup

Bennett S. Greenspan, M.D., M.S.

Department of Radiology, Georgia Regents University

What Are, and Should Be, the Roles and Interrelationships of Our Professional Organizations, and How Do They Impact Education in Nuclear Medicine?



Advancing Molecular Imaging and Therapy

What Are, and Should Be, the Roles and Interrelationships
of Our Professional Organizations, and How Do They
Impact Education in Nuclear Medicine?

Bennett S. Greenspan, MD
Dept. of Radiology, Medical College of Georgia at GRU
SNMMI MWM Palm Springs, CA February 7, 2014

Disclosure

- No relevant disclosures

Professional Organizations of Importance for Education in Nuclear Medicine

- Objectives:
- Identify how the different professional organizations impact education in Nuclear Medicine and how they are interrelated.

Professional Societies in Nuclear Medicine

- Nuclear Medicine -
- Society of Nuclear Medicine and Molecular Imaging (SNMMI) www.snmmi.org
- American College of Nuclear Medicine (ACNM) www.acnmonline.org
- American Society of Nuclear Cardiology (ASNC) www.asnc.org
- World Molecular Imaging Society (WMIS) www.wmis.org

Professional Societies in Nuclear Medicine

- SNMMI - nonprofit professional organization that promotes the science, technology and practical application of NM and MI
- Core values:
 - Excellence in pt care
 - Ethical behavior and integrity
 - Respect for all people and ideas
 - Fostering inquiry and reflection
 - Visionary leadership
 - Excellence, professionalism and collaboration
 - Life-long education

Professional Societies in NM

- SNMMI - 19,000 members, 2900 physicians
- Education
- Annual Meeting
- Mid-Winter Meeting
- Online lectures
- Webinars
- Case studies
- Journals: JNM, Molecular Imaging

Professional Societies in NM

- SNMMI
- Continuing education
- NM Review course
- Self-Assessment modules
- Online lectures
- MOC – SAMs, Practice Performance projects
- CE Center
- CME Gateway
- Journals

Professional Societies in NM

- ACNM - Founded 1972
- merged in 2009 with ACNP (founded in 1974)
- Annual Meeting – clinical material, leadership, mentoring
- Clinical Nuclear Medicine Journal
- SNMMI resources:
- SNMMI Learning Center
- MOC, CE Center, PET PROS

Professional Societies in NM

- ASNC
- Education in clinical nuclear cardiology
- Basic science
- Board review
- Advocacy

Professional Societies in NM

- WMIS
- Mostly research in molecular imaging
- Three year educational curriculum in molecular imaging

Professional Societies in Radiology

- Radiology, w/reference to Nuclear Medicine
- American College of Radiology (ACR) www.acr.org
- Radiological Society of North America (RSNA)
www.rsna.org
- Association of University Radiologists (AUR)
www.aur@rsna.org
- American Roentgen Ray Society (ARRS)
www.arrs.org

Professional Societies in Radiology

- American College of Radiology (ACR)
- Mission: to serve patients and society by maximizing the value of radiology, radiation oncology, interventional radiology, nuclear medicine and medical physics by advancing the science of radiology, improving the quality of patient care, positively influencing the socio-economics of the practice of radiology, providing continuing education for radiology and allied health professions and conducting research for the future of radiology.

Professional Societies in Radiology - ACR

- 5 Pillars:
- Advocacy
- Clinical Research
- Economics
- Education
- Quality and Safety

Professional Societies in Radiology - ACR

- ACR meetings and courses
- Education Center
- ACR Catalog – Books and journals
- elearning
- MOC
- AIRP
- RLI
- JACR

Professional Societies in Radiology - ACR

- ACR Quality and Safety
- Accreditation
- Appropriateness criteria
- Practice guidelines and technical standards
- Quality measurement
- National Radiology Data registry
- Radiology safety
- RADPEER (Peer Review)

Professional Societies in Radiology - ACR

- ACR - 34,000 members
- NM Commission – under Quality and Safety
- Education
- Guidelines and standards
- Molecular imaging
- Enhance communication, develop and support Nuclear Medicine expertise

Professional Societies in Radiology - RSNA

- RSNA 53,000 members
- International society
- Mostly educational in radiology
- Annual meeting – largest radiology forum
- Journals: Radiology, Radiographics
- Quality: Quality Improvement, PQI Projects, Practice Resources and Guidelines

Professional Societies in Radiology - RSNA

- Mission: Promote excellence in patient care & health delivery through education, research & technological innovation.
- Vision: Aspire to be the premier association dedicated to patient care through science & education in radiology.

Professional Societies in Radiology - AUR

- Association of University Radiologists (AUR)
- Only Radiology organization devoted to teaching and education in radiology
- Purpose: to encourage excellence in radiological lab and clinical investigation, teaching and clinical practice; to stimulate an interest in academic radiology as a medical career; to advance radiology as a medical science, and to represent academic radiology at a national level.

Professional Societies in Radiology - AUR

- Mission: The AUR is committed to advancing the interests of academic radiology, enhancing careers in academic radiology and advancing radiological science, research and education.
- Annual meeting
- Journal – Academic Radiology

Professional Societies in Radiology - ARRS

- American Roentgen Ray Society (ARRS)
- Mission:
- Advance medicine through the science of radiology and its allied sciences
- Enable creation and exchange of knowledge and information in the field through the AJR, meetings and other means

Professional Societies in Radiology - ARRS

- ARRS
- Meetings and Symposia
- Publications and Books
- Journal – American Journal of Roentgenology (AJR)
- Online learning
- Practice Quality Improvement
- CME
- MOC

Professional Organizations in NM - Certification

- Certification of trainees
- American Board of Medical Specialties (ABMS)
www.abms.org
- American Board of Nuclear Medicine (ABNM)
www.abnm.org
- American Board of Radiology (ABR) www.theabr.org

Professional Organizations in NM - Certification

- ABMS
- Membership: 24 member boards
- Non-profit professional organization

Professional Organizations Certification - ABMS

- Mission
- Sets goals and standards related to the certification of medical specialists including initial specialty, subspecialty certification and maintenance of certification.
- Provides information to the public, governments, the profession and its Members concerning issues involving certification of physicians in the United States and internationally.

Professional Organizations Certification - ABMS

- Goals
- Boards work together to establish common standards for physicians to achieve and maintain board certification. The boards were founded by their respective specialties to protect the public by assessing and certifying doctors who meet specific educational, training and professional requirements.

Professional Organizations Certification - ABMS

- ABMS and specialty boards are accountable to the public and the medical profession by
- Helping patients – by providing information about the board certification process and who is board certified
- Supporting physicians by creating programs that assist doctors to stay current in their field and improve their practice
- Collaborating with healthcare leaders to foster initiatives for the promotion and monitoring of healthcare quality
- Transforming healthcare by increasing awareness of the importance of board certification and lifelong learning in assuring quality care

Professional Organizations Certification - ABNM

- American Board of Nuclear Medicine (ABNM)
- Independent, non-profit organization
- One of 24 medical specialty boards of ABMS
- The American Board of Nuclear Medicine is the primary certifying organization for nuclear medicine in the United States. The ABNM serves the public through assurance of high quality patient care by establishing standards of training, initial certification, and continuing competence of physicians providing nuclear medicine diagnostic and therapeutic services.

Professional Organizations Certification - ABNM

- ABNM
- Works toward standards for physicians to achieve and maintain board certification
- Accountable to the public and the medical profession
- Protects the public by assessing and certifying doctors who meet specific educational, training and professional requirements

Professional Organizations Certification - ABR

- ABR
- Mission: to serve patients, the public, and the medical profession by certifying that its diplomates have acquired, demonstrated, and maintained a requisite standard of knowledge, skill, understanding, and performance essential to the safe and competent practice of diagnostic radiology, interventional radiology, radiation oncology, and medical physics.

Professional Organizations in NM - ABR

- Vision:
- By 2020, the ABR will have advanced safety and quality in healthcare by setting the definitive professional standards for diagnostic radiology, interventional radiology, radiation oncology, and medical physics.
- ABR is ending the oral certifying exam and transitioning to a new computer based exam, incorporating both physics and clinical material, known as Core and Certifying examinations.

Professional Organizations in NM – ABR

- ABR
- Initial certification
- Maintenance of certification:
 - 1. Professional standing
 - 2. Lifelong learning and self assessment
 - 3. Cognitive expertise
 - 4. Practice Quality Improvement (PQI)

Professional Organizations in NM - Accreditation

- Training programs
- Accreditation Council for Graduate Medical Education (ACGME)
- Residency Review Committees (RRC)
- NM RRC
- Diagnostic Radiology RRC

Professional Organizations Accreditation-ACGME

- Accreditation Council for Graduate Medical Education (ACGME)
- Private, nonprofit, established 1981
- Mission: We improve healthcare by assessing and advancing the quality of resident education through accreditation.
- Vision: exemplary accreditation

Professional Organizations - Certification and Accreditation

Certification is a process to provide assurance to the public that a certified medical specialist has successfully completed an approved educational program and an evaluation.

- ***The ABMS certifies individuals.***

Accreditation is a voluntary process of evaluation and peer review performed by a non-governmental agency.

- ***The ACGME accredits residency programs.***

Professional Organizations Accreditation - ACGME

- Accredits training programs
- Includes:
 - Setting standards for graduate medical education
 - Collecting case log data, monitoring duty hours
 - Conducting resident surveys
 - Follow up on resident concerns and complaints

Professional Organizations Accreditation- ACGME

- Importance of accreditation:
- eligibility for state medical license
- Eligibility to sit for ABMS Board certifying exam
- Sponsoring institution and programs receive money to provide education
- Mark of high quality

Professional Organizations Accreditation NM RRC

- NM RRC
- 7 members
- Appointed by SNM, ABNM and AMA
- Appointment is for 6 years
- Resident member appointed for 2 years

Professional Organizations Accreditation R RRC

- Radiology RRC
- 10 members plus a resident member
- Meets 3 times per year

Professional Organizations - Technologists

- **Certification:**
 - Nuclear Medicine Technology Certification Board (NMTCB)
 - American Registry of Radiologic Technologists (ARRT)
- **Accreditation:**
 - Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT)

Professional Organizations - Physicists

- **Certification:**
 - ABR
 - American Board of Medical Physics (ABMP)
 - American Board of Science in NM (ABSNM)
- **Accreditation:**
 - Commission on Accreditation of Medical Physics Educational Programs (CAMPEP) - Graduate Programs and Residencies

Other Organizations of Importance in Education in Nuclear Medicine

- Nuclear Regulatory Commission (NRC) www.nrc.gov
- Accreditation Council for Continuing Medical Education (ACCME) www.accme.org
- Council of Medical Specialty Societies (CMSS) www.cmss.org
- National Council on Radiation Protection & Measurements (NCRP) www.ncrponline.org
- Conference of Radiation Control Program Directors (CRCPD) www.crcpd.org
- American Medical Association (AMA) www.ama-assn.org

Other Organizations of Importance in NM

- Regulatory Agency – NRC
- Advisory with authority – ACCME, CMSS
- Advisory Organization - NCRP

Other Organizations of Importance in NM

- Specialty societies
 - ACCME *
 - CMSS*
 - NCRP
 - AMA
-
- * Specialty societies of specialty societies

Other Organizations of Importance in NM

- NRC – regulatory agency
- Created by Congress in 1974 as an independent agency to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment.
- It regulates through licensing, inspection and enforcement of its requirements.

Other Organizations of Importance in NM

- NRC
- Importance: Extremely high. NRC regulations must be followed to practice NM.
- NRC states/Agreement states – practices in NRC states must follow NRC regs; practices in Agreement states must follow state regs, which must be at least as strict as NRC regs (they can be more restrictive, but not less)

Other Organizations of Importance in NM

- NRC
- Main regulations in NM: 10 CFR 20, 10 CFR 35
- Part 20 – Standards for Protection Against Radiation
- Requirements for: occupational dose limits, dose limits to the public, requirements for surveys, monitoring, storage, records keeping, reports.

Other Organizations of Importance in NM

- NRC
- Part 35 - Medical Use of Byproduct Material
- Requirements for: written directives, instrument calibration, syringe labeling, records, reports;
- Training of physicians: imaging and localization studies (35.290), studies that require a written directive (therapy, I-131 WB imaging – 35.392, 35-394)

Other Organizations in Nuclear Medicine

- NRC
- Sets requirements for Authorized User status
- ABR must comply with these requirements to certify Radiology exam candidates as Authorized users

Other Organizations of Importance in NM

- ACCME – not for profit corporation
- Mission: identification, development, and promotion of standards for quality continuing medical education (CME) utilized by physicians in their maintenance of competence and incorporation of new knowledge to improve quality medical care for patients and their communities.

Other Organizations of Importance in NM

- ACCME
- Produces standards for commercial support to ensure independence in continuing medical education (CME) activities

Other Organizations of Importance in NM

- ACCME
- Compliance with their guidelines is required to be accredited to offer CME
- Importance: This is the main accrediting body for CME. It accredits societies and hospitals that provide CME
- SNMMI offers CME at its meetings through compliance with ACCME guidelines

Other Organizations of Importance in NM

- Council of Medical Specialty Societies (CMSS) – Founded in 1965
- Created to provide an independent forum for the discussion by medical specialists of issues of national interest and mutual concern.

Other Organizations of Importance in NM

- CMSS –
- Mission: to provide a respected and influential voice for medical specialty societies and their members by working with the societies and other medical organizations to formulate, articulate and promote adoption of policies that will improve the United States' healthcare system and health of the public.

Other Organizations of Importance in NM

- CMSS
- Produced a voluntary code of conduct for medical specialty societies in their interactions with commercial companies

Other Organizations of Importance in NM

- CMSS
- Code for Interactions with Companies –
- Societies are counted on to be authoritative, independent voices in science and medicine. Public confidence is critical, and the public relies on us to minimize actual or perceived conflicts of interest.
- Every Society must be sure its interactions with companies meet high ethical standards.

Other Organizations of Importance in NM

- National Council on Radiation Protection and Measurements (NCRP)
- Advisory – publishes guidance documents
- Mission – radiation protection
- The NCRP seeks to formulate and widely disseminate information, guidance and recommendations on radiation protection and measurements which represent the consensus of leading scientific thinking. The Council is always on the alert for areas in which the development and publication of NCRP materials can make an important contribution to the public interest.

Other Organizations of Importance in NM

- NCRP
- Private corporation – nongovernmental, not-for-profit, public service organization
- Has status as an educational and scientific body which is tax-exempt
- Functions as an advisory body

Other Organizations of Importance in NM

- NCRP
- Mission: To support radiation protection by providing independent scientific analysis, information, and recommendations that represent the consensus of leading scientists.
- Recommendations by the NCRP provide the scientific basis for radiation protection efforts throughout the US.

Other Organizations of Importance in NM

- CRCPD
- Mission: “to promote consistency in addressing and resolving radiation protection issues, to encourage high standards of quality in radiation protection programs, and to provide leadership in radiation safety and education.”

Other Organizations of Importance in NM

- AMA
- Specialty society of physicians
- Mission: To promote the art and science of medicine and the betterment of public health.
- Core values:
 - Leadership
 - Excellence
 - Integrity and ethical behavior

Other Organizations of Importance in NM

- AMA
- Importance:
 - Membership in the AMA allows the SNMMI and ACNM to participate in the CPT and RUC committees, which recommend reimbursement rates for NM exams.
- CPT- Current Procedural Terminology
- RUC – Relative value scale Update Committee



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The American Board of Nuclear Medicine

2014
Issue 2



A Member Board of the American Board of Medical Specialties

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Henry D. Royal, M.D.
*Executive Director
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SNMMI Newline: The ABNM: Past, Present, and Future

Henry D. Royal, M.D., Executive Director Emeritus

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The ABNM: Past, Present, and Future

I have stepped down after serving as executive director of the American Board of Nuclear Medicine (ABNM) for the last 10 years. George Segall, MD, is the new ABNM executive director. To help with the transition, I will be serving as executive director emeritus until the July 2014 Board meeting. Now seems like a good time to reflect on the past, present, and future of the ABNM.

The Birth of the ABNM

Much more pain and emotion went into the birth of the ABNM than can be recounted here. The most complete history of the controversies and turmoil can be found in chapter 9 of the volume commemorating the 75th anniversary of the American Board of Radiology (ABR). The chapter is posted on the ABNM's website at http://abnm_wordpress_uploads.s3.amazonaws.com/wordpress/wp-content/uploads/ABR_NM_Chapter.pdf. Many of the controversies surrounding the formation of the ABNM remain relevant today.

In 1971, the establishment of the ABNM was approved, and the Board was incorporated without delay (lest the decision be reversed) in Delaware. The office was initially located within the SNM headquarters in New York, NY. The ABNM gave its first certification examination in 1972. From 1972 to 1976, physicians who had been practicing nuclear medicine were allowed to take the certification examination. A total of 2,800 physicians took and passed the certification examination during this 4-year "grandfathering" period. Since that time (Fig. 1), the number of physicians passing the ABNM certification exam has averaged about 74 per year, a figure that has remained remarkably constant (745 physicians certified over the last 10 years). The ABNM has certified 6,999 physicians since 1972 (with 40% of these certified between 1972 and 1976). In comparison, the number of nuclear radiology certificates issued has decreased from 61 per year in the decade from 1974 to 1983 to 5 per year in the last decade (Fig. 2).

The first ABNM president (a title since changed to executive director) was Joseph F. Ross, MD. In the early 1980s, the ABNM office was moved to Los Angeles, CA, where Dr. Ross was a faculty member at the University of California, Los Angeles. Dr. Ross served as president from 1973 to 1997. He was succeeded by William H. Bland, MD, who served as president/executive director from 1998 to 2004. I served as executive director from 2004 to 2014.

The Last Decade

I became executive director at a time of great change for the medical board certification community. The American Board of Medical Specialties (ABMS) and the Accreditation Council for Graduate Medical Education (ACGME) adopted the 6 competencies (professionalism, patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, and systems-based practice) in the early 2000s. The identification of these 6 competencies highlighted the fact that

physicians needed more than medical knowledge to be good physicians. The boards had already recognized that a once-in-a-lifetime exam was no longer credible given the rapid advancement of medical knowledge. The ABNM issued its first time-limited certificate in 1992, requiring its diplomates to be re-examined every 10 years. The 6 competencies led to the concept of maintenance of certification (MOC), through which all the competencies would be periodically assessed.

My first task as executive director was to develop an MOC program. A major obstacle was the lack of a database or web functionalities that could be used to track individual diplomates' MOC activities. The existing "database" of diplomates consisted of several wooden boxes of 3 × 5 index cards that had been filled out at the time of each diplomate's initial certification. By utilizing the resources of the ABMS and the SNM, we were able to create a reasonable digital database of our diplomates. Much of the office's efforts in 2004 and 2005 were directed at updating and adding to this database. By 2006, the database and our website (developed by the SNM) were in sufficiently good shape that we could begin our MOC program. As shown in Figure 3, the ABNM's MOC program continues to grow.

In 2005, I was confronted with another major challenge. Gloria Gordon, the administrator of the ABNM resigned. The office was still in Los Angeles, and interviewing candidates for this critical position in Los Angeles seemed impossible, so the Board agreed to move the office to Saint Louis (MO). Despite the fact that this meant that the Board would have to reinvent itself nearly from scratch, the move turned out to be a very good decision. Starting over allowed us to look at all Board operations and policies with fresh eyes. In addition, the Board's employees became Washington University employees, a status that carried 2 major advantages. We were able to use the resources of Washington University's human resources department to find an administrator and other necessary personnel. In addition, the Board's employees now received the same benefits as Washington University employees, instead of relying on the Board to cobble together health, retirement, and other benefits. In September 2005, Cindi Ade, a veteran Washington University employee, was hired as the ABNM administrator. She served in that position until 2012 and worked tirelessly on behalf of the Board. After Cindi's retirement, Maria Watts became the Board administrator. Today the office has 4 employees, compared with 2.5 when it was in Los Angeles.

In 2012, J. Anthony Parker, MD, PhD, became associate executive director of the ABNM. The Board was able to add him to the executive staff at no additional cost because



Henry D. Royal, MD

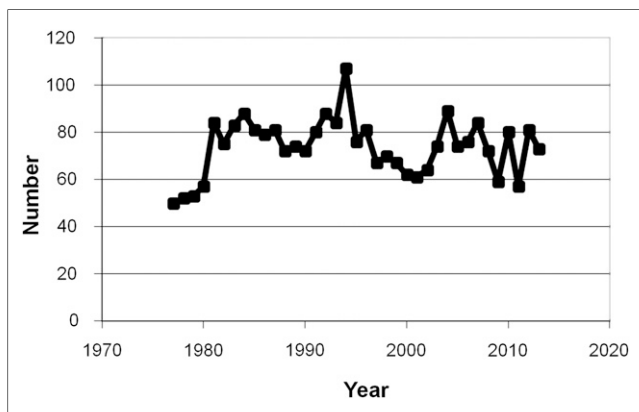


FIGURE 1. Number of candidates passing the ABNM certification examination, by year.

the executive director's position was decreased from a 0.5-FTE to 0.25-FTE status. Not only has Tony's hard work and expertise been extraordinarily valuable to the Board, the presence of an executive director and an associate executive director has provided more stability and continuity.

The Future

I wish I could say that I have taken care of all of the major problems facing the Board and that George and Tony can now just coast. The truth is that much work remains to be done.

The future of the MOC program is one area that will require work. The current MOC program is well intended but can definitely be improved. One of the greatest weaknesses of the current MOC program is that it is not well integrated into medical practice. I am a great believer in the fact that systems produce exactly the results that they are designed to produce. In our current system far too many disincentives stand in the way of continuous quality improvement. For example, we all want to be better doctors and take time to learn and continuously improve our practices. The problem is that we receive no feedback on the extent to which the quality of our practice compares to that of our peers. A large body of literature documents the fact that professionals are not very good at self-assessment. Everyone wants to do a great job and believes he or she is

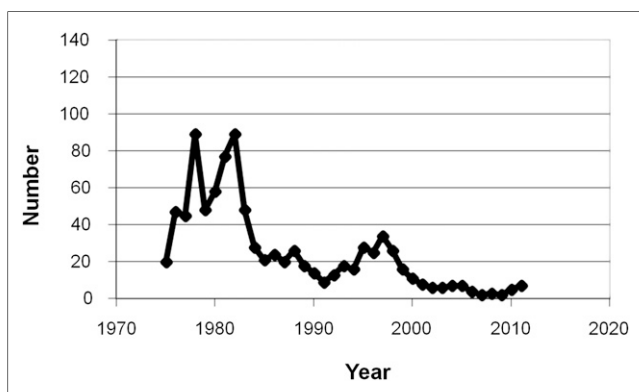


FIGURE 2. Number of candidates passing the Nuclear Radiology certificate examination, by year.

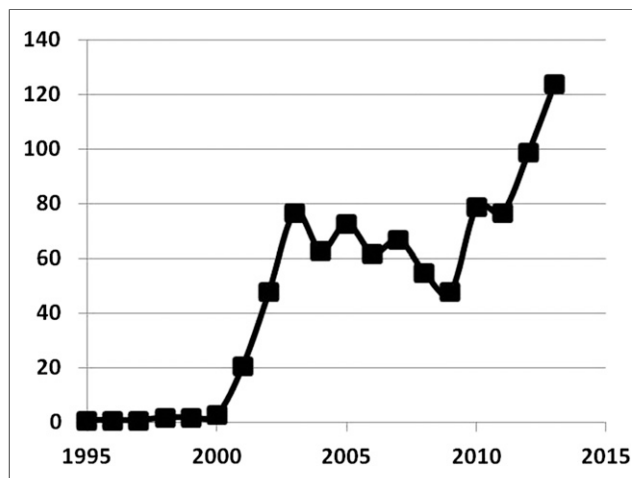


FIGURE 3. Number of individuals taking the ABNM Maintenance of Certification examination, by year.

doing so until presented with objective data to the contrary. Our current fee-for-service system guarantees that any time spent learning and improving cannot be spent generating income. Worse yet, we often have to pay to learn. With these disincentives, it is not surprising that MOC is regarded as a burden instead of an opportunity.

The system will not be changed by nuclear medicine alone. In my dreams, future MOC activities would be more like the training that an airline pilot receives. Once each year, nuclear medicine physicians would go on a 1-week sabbatical to a center of excellence. This sabbatical would be considered an essential part of their jobs. The first day or 2 would be spent in needs assessments to determine each physician's scope of practice and any recently introduced practices. Assessment tools would then be used to determine each physician's strengths and weaknesses relevant to current scope of practice. The remaining days would be spent providing education specifically focused on addressing individual weaknesses relevant to the physician's scope of practice. In my dreams!

Assessment tools depend on our ability to define and objectively recognize quality. Nuclear medicine is the only specialty with only 1 specialty-specific quality measure (correlating bone scans with relevant images). In 2014, the Center for Medicare and Medicaid Services (CMS) is requiring that physicians report on at least 9 quality measures to qualify for their Physician Quality Reporting System (PQRS) program. Because CMS is transitioning from an incentive-based system to a punitive system, nuclear medicine physicians may face a significant decrease in income if they cannot participate in CMS PQRS programs in the future. Up to now, CMS has been willing to accept only a single quality measure for nuclear medicine, but it is unlikely that this leniency will continue.

More important, we cannot develop assessment tools without defining quality. We have widely accepted assessment tools for medical knowledge (cognitive examinations—although even these have distinct limitations), but we have no widely

accepted nuclear medicine—specific tools to assess the other ACGME competencies. Medical knowledge metrics assess only what we know. Assessing what we do is more important. Having these assessment tools is essential if the quality of each physician's practice is to be assessed.

I have always believed that the quality of nuclear medicine practiced by board-certified nuclear medicine physicians was higher than the quality of nuclear medicine practiced by physicians not certified by the ABNM. Because we do not have appropriate assessment tools, we cannot objectively document the truth of this assertion. In the future, quality rather than quantity will be highly valued (hopefully) in health care. Being able to objectively document the quality of care provided by board-certified nuclear medicine physicians would have an enormous impact on the future of nuclear medicine.

An important assessment activity would be to develop a national database so that physicians could compare their practices with those of peers. For example, a simple national database might collect from each practice information on administered activities for various nuclear medicine procedures. This database would provide feedback so that practices could compare their administered activities with those of their peers. As noted previously, we all believe we are doing the right thing—but are not very good at self-assessment. This simple database would provide objective feedback, and

participation in the database would be accepted as a quality measure. Getting experience with a simple database would be the first step in developing more complicated databases, such as one related to the quality of reports (e.g., whether reports contain essential elements) and accuracy of interpretation.

Finally, many of the controversies faced when the ABNM was established remain unresolved today. What organizational structure for nuclear medicine certification will provide the best nuclear medicine services to our patients? Most nuclear medicine studies (reportedly as high as two-thirds) are read by physicians (including cardiologists and radiologists) not certified by the ABNM. Hybrid imaging has changed the skill set required of nuclear medicine physicians and radiologists. Only about 25%–30% of our diplomates are certified in diagnostic radiology prior to passing the ABNM certification exam. How can we attract more diagnostic radiologists to the field? How can we make sure that the nuclear medicine physicians of the future have the education and training needed in a shrinking job market to best serve patients?

I think there are still a few things for George, Tony, and the Board to do.

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Newsline: ABNM Diplomate Workforce

J. Anthony Parker, M.D., Ph.D., Associate Executive Director,

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ABNM Diplomate Workforce

The American Board of Nuclear Medicine (ABNM) has certified 5,527 physicians since 1972. Forty percent of diplomates were certified between 1972 and 1976, when physicians in practice could be certified. After 1977, the number of physicians certified each year has remained remarkably constant, at approximately 74 per year (1). Since 2006, the ABNM has been collecting self-reported data on the current work experience of diplomates (total number of hours worked per week and percentage of hours doing nuclear medicine) and the percent effort in general nuclear medicine, cardiovascular nuclear medicine, therapy, and PET/CT. Twenty-five percent of diplomates have entered these data (time-limited 62%, lifetime 8%). Some diplomates, especially lifetime diplomates, are no longer actively practicing. Thus, the data largely represent diplomates participating in maintenance of certification (MOC) activities and are more representative of time-limited than lifetime diplomates.

The ABNM MOC exam tests the full scope of nuclear medicine practice. The median percent effort of the workforce is an important factor in determining the exam blueprint; however, practice patterns vary. Five percent effort or less is reported by 12% of diplomates for general nuclear medicine, 33% for cardiovascular nuclear medicine, 26% for PET/CT, and 67% for therapy. No effort is reported by 10% of diplomates for general nuclear medicine, 22% for cardiovascular nuclear medicine, 21% for PET/CT, and 26% for therapy. Ninety-five percent or more effort in a single area is reported by only 4% of diplomates for general nuclear medicine, 1% for cardiovascular nuclear medicine, 2% for PET/CT, and less than 1% for therapy. A modular exam that allows physicians to choose questions based on practice relevance would be optimal but is not practical given the relatively small number of ABNM diplomates.

Fifty-two percent of ABNM diplomates are also certified by the American Board of Radiology (ABR). Figure 1 shows box plots of diplomate practice profile data. The median number of hours that ABNM diplomates work per week is 45, with half working between 40 and 50 hours per week. The median is higher (50 hours per week) for physicians also certified by ABR, with half working between 40 and 50 hours, the same as non-ABR



J. Anthony Parker, MD, PhD

diplomates. As expected, the majority of diplomates without ABR certification are completely dedicated to nuclear medicine (median 100%, half greater than 40%). ABR diplomates' median effort in nuclear medicine is 25% (half between 10% and 50%); only 2% are completely dedicated to nuclear medicine.

ABR diplomates have a slightly lower effort in cardiovascular imaging, with slightly more in general nuclear medicine and PET/CT. Nine percent of ABR certified diplomates and 12% of non-ABR-certified diplomates do not do any PET/CT. Overall the distributions are quite similar. The ABNM MOC program is tailored to meet the needs of a varied workforce, including keeping knowledge current in focused practice areas, as well as enhancing knowledge in nuclear medicine and molecular imaging areas outside current practice.

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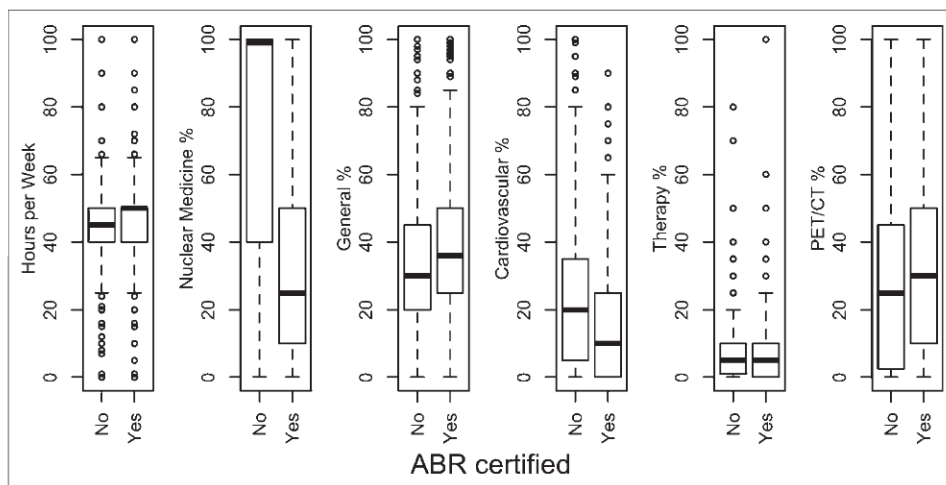


FIGURE 1. The first 2 groups of boxplots show self-reported work hours per week and percent dedicated to nuclear medicine. Of the nuclear medicine effort the last 4 groups show the percentages in general nuclear medicine, cardiovascular nuclear medicine, therapy, and PET/CT. For each group, the first boxplot shows data for non-ABR-certified diplomates and the second is for diplomates also certified by the ABR.



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2014 ABNM In-Training Examination (ITE)

Number of Candidates Who Took Exam	142
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Residents-United States	115
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Residents-Canadian	18
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Non-Trainees	9
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Number of Nuclear Medicine Training Programs
Participating in ITE Examination

United States Programs	47
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Canadian Programs	10
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Total Programs	57
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Dates For The Next
ABNM In-Training Examination (ITE)

Week of January 26-31, 2015