Medical specialties are defined by the core knowledge required to practice that specialty. In the late 1960s the proponents for the ABNM, argued that the core knowledge required to practice nuclear medicine was unique. Their proposal was accepted by the American Board of Medical Specialties (ABMS) resulting in the foundation of the ABNM as a conjoint board of the American Board of Internal Medicine (ABIM), American Board of Pathology (ABP), American Board of Radiology (ABR), and SNM in 1971. The core knowledge for nuclear medicine is the tracer principle, used to study physiologic, biochemical and molecular processes in time and space. In 1985, the ABMS changed the status of the ABNM from a conjoint board to a primary medical board.

When the ABNM was established, each of the original sponsoring boards (Internal Medicine, Pathology, and Radiology) was given the opportunity to give a certificate in the subset of nuclear medicine related to their specialty (i.e., internal medicine - therapy; pathology - radioimmunoassay; radiology - diagnostic imaging). Internal medicine never exercised this option; pathology offered a certificate in “radioisotopic pathology” but discontinued this certificate after issuing only 2 certificates. Diagnostic radiology decided to offer a certificate in nuclear radiology (NR) and has continued to issue this certificate; however, in the last decade, only about 5 nuclear radiology certificates have been issued per year.

There are important differences between nuclear medicine (NM) and nuclear radiology (NR). NM provides training in the full scope of practice of NM whereas NR provides training only in diagnostic imaging. NM is an independent medical specialty open to physicians who have undergone training in an ACGME-approved NM training program. Training in NM is open to a variety of physicians, including those with training in diagnostic radiology, internal medicine,
and other specialties, as well as primary NM residents who enter NM training after one or more preparatory years. Physicians completing NM training and certification receive a primary certificate in NM. NM training emphasizes the tracer principle and includes extensive training in the clinical and radiation safety aspects of radionuclide therapy. In recognition of the integral and extensive nature of radiation safety training in the diagnostic and therapeutic use of radionuclides in medicine as part of NM training, the NRC provides deemed status as authorized users (AUs) of radionuclides for diagnostic use, for low and high-dose oral radioiodine therapy, and for parenteral therapy.

On the other hand, nuclear radiology provides subspecialty training for physicians who obtain primary certification in diagnostic radiology (DR). Unlike NM, NR training is open only to physicians who complete DR training. In distinction, certification NR is not a primary ABMS-recognized certification pathway, but rather a subspecialty certification for physicians holding primary DR certification. A few programs offer both NM and NR training but NR programs are maintained and reviewed by the DR RRC rather than the NM RRC. As per original agreements, NR focuses on diagnostic imaging using radionuclides. Radionuclide therapy is not a part of NR training, and the NR certificate is not recognized by the NRC for the purpose of achieving AU status.

In March 2012, the diagnostic radiology RRC, proposed major changes to the NR program requirements that would make the NR program requirements nearly identical to the NM program requirements. The ABNM, SNM and NM RRC oppose these changes because they violate 40 year old agreements and will encourage competition rather than collaboration between nuclear medicine and diagnostic radiology.