Credentialing and Education

Role of Governments and Professional Organizations in Credentialing Nuclear Medicine Technologists

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Nuclear medicine laboratories need competent staffs to perform quality nuclear medicine procedures. The very best laboratory facilities and quality control procedures are of little value unless personnel can utilize them correctly. While the subject of credentialing is controversial, it is generally accepted that credentialed technologists perform in a safer and more competent manner than those without credentials. This is a status report to the nuclear medicine technologist on credentialing efforts of various interested, and sometimes competing, groups.

The growing importance of nuclear medicine as a separate diagnostic and therapeutic field has brought about a corresponding need to identify individuals with the necessary qualifications to provide needed services in the practice of nuclear medicine technology. Accordingly, various professional and governmental organizations have instituted or proposed mechanisms for credentialing these health professionals. A lack of coordination among these organizations has resulted in fragmentation of effort as well as confusion and duplication.

The issue of credentialing is complicated by terms that are sometimes inaccurately used. We review these terms within their accepted context.

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Nuclear medicine is a scientific and clinical discipline in which radioactive drugs are utilized for diagnosis or treatment of disease. These radioactive drugs may be administered to patients orally, intravenously, or by inhalation (in vivo), or may be chemically bound to a patient sample after withdrawal from the body (in vitro). The control of radioactive drugs is a shared responsibility of the United States Nuclear Regulatory Commission (NRC), Food and Drug Administration (FDA), and the NRC-Agreement Agencies of States.

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The role of the **nuclear medicine technologist** is to perform or assist in performance of nuclear medicine procedures. The technologist's many duties include preparation and administration of radioactive drugs to patients; operation of highly complex and specialized detection equipment that measures or portrays distribution of radioactivity in a patient's body; calculation of test data; and, of course, delivery of skillful patient care. The technologist must be greatly concerned with radiation safety and has responsibility for inventory and control of radioactive agents, including the safe storage of radioactive materials and proper disposal of radioactive waste (*1*). Presently, there are over 13,000 nuclear medicine technologists in the nation, not all of whom are credentialed (*2*).

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Credentialing, a general term referring to some formal mode of recognizing professional or technical competence, includes both certification and licensing. The purpose of credentialing is to provide a mechanism for protection of the consumer of health services and the public. This mechanism assures competency by requiring that certain educational and professional standards are met; this then translates into quality patient care. In the case of nuclear medicine technology, protection is achieved by reduction of nonproductive ionizing radiation exposure (*3*).

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Certification is often used interchangeably with the term **registration**. This is a process by which a nongovernmental agency or association (usually a professional organization) grants recognition to an individual meeting certain specified qualifications of competency. Certification is voluntary and conferred upon satisfactory completion of an approved training or educational program, or accomplishment of a given amount of work

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experience—in addition to acceptable performance on a qualifying examination. One who is certified is then placed on a registry, which is a list of names of those individuals who have completed these requirements and passed an examination.

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Licensure is a process by which a government agency grants permission to an individual to engage in a given profession or occupation. Licensed individuals are assumed to have the minimal degree of competency necessary to ensure that public health, safety, and welfare will be reasonably well protected. Licensure is compulsory in order to practice an occupation; it is a power reserved by governments to protect the health and welfare of its citizens.

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Accreditation is formal approval of educational institutions or programs, as contrasted with recognition of individuals. For nuclear medicine technology, recommendation for approval is given by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT). This Committee functions in collaboration with the American Medical Association's Committee on Allied Health Education and Accreditation (CAHEA), which has the responsibility to accredit allied health educational programs. The JRCNMT, officially formed in 1970, is responsible for the evaluation of nuclear medicine technology educational programs, as well as recommendation to CAHEA of programs for accreditation (*4*).

There are three professional organizations which are currently certifying nuclear medicine technologists. The American Registry of Radiologic Technologists (ARRT) is the largest group at the present time and has 7,186 nuclear medicine technologists currently certified (*5*). This organization was formed over 50 years ago as the American Registry of X-ray Technicians, but only during the last 15 years has it certified individuals in nuclear medicine technology. The second certifying group is the American Society of Clinical Pathologists (ASCP), which has 1,608 nuclear medicine technologists in its registry at the present time (*6*). This group, also over 50 years old, was originally formed for clinical laboratory personnel.

The third and newest certifying organization is the Nuclear Medicine Technology Certification Board (NMTCB), which functions independently from any professional organization. Its primary purpose is to ensure the administration of an examination that is relevant to the competent practice of nuclear medicine technology. The existence of an independent certifying agency is supported by the Technologist Section of the Society of Nuclear Medicine because it is hoped that certification by an independent organization will aid in defining nuclear medicine technology as a separate allied health profession. It is hoped that this mechanism will better serve the certification needs of nuclear medicine technologists through competency-based assessment. It is a Board concerned only with nuclear medicine technologists and developed specifically for them from within the profession. The first examination was given by this Board in September 1978. Certification may be issued without examination to applicants who have been certified by the ARRT or the ASCP prior to the first NMTCB examination (*7*). The NMTCB has certified 3,806 nuclear medicine technologists—using both examination and recognition of previous certification (*8*).

The growth of the nuclear medicine technology field has been more rapid than anticipated. For example, in December of 1975, the ARRT estimated that 5,000 persons would be certified under its auspices by 1980. Likewise, the ASCP projected a figure of 1,000 by 1980 (*4*). A comparison of these projections with the numbers already certified illustrates the rapid growth of this field. The advent of formalized education in nuclear medicine technology has made this training widely available, and there were 142 programs accredited by the CAHEA across the United States in November of 1979 (*9*).

Present State Licensure

At the present time, there are two states that have enacted legislation to license individuals engaged in nuclear medicine technology: New Jersey and California. In New Jersey, a licensed nuclear medicine technologist may administer radioactive drugs to patients for diagnostic purposes only. While in vivo applications of nuclear medicine are encompassed by law, in vitro applications are not. A license will be granted upon successful completion of an examination, but the New Jersey Department of Environmental Protection may waive this requirement for an individual who is already certified by a nongovernmental agency or association. The New Jersey regulations will go into effect in January 1980. The law in California encompasses the full scope of nuclear medicine technology practice—that is, both in vivo and in vitro applications. The licensee may administer radioactive drugs to patients for both diagnosis and therapy. The law itself does not set standards for competency but requires that an advisory committee to the California State Director of Health Services determine these standards; prior credentialing may be recognized. The advisory committee has been selected, and the California law will go into effect as soon as the standards are completed, probably in 1980.

In 1976, the Conference of Radiation Control Program Directors, Inc., an organization of state health representatives, established a Task Force to study the needs of a credentialing program for operators of sources of ionizing radiation in the allied health professions. The findings of the Task Force are contained in its June 1977 report entitled "Credentialing of Radiation Allied Health Operators" (*3*). Recommendations of the Task Force include the following: a credentialing system shall be mandatory, it

should be controlled and administered by the states, and minimum standards should be established for all states to use. While considerations are confined to diagnostic x-ray machine operators at this time, it is the intent of the Task Force to develop an "umbrella" model with inclusion of additional specific disciplines as progress permits. Credentialing diagnostic radiologic technologists was given priority because these workers deliver about 80% of man-made ionizing radiation to the consuming public. Nuclear medicine technologists and radiation therapy technologists will be considered later. The on-going Task Force is presently developing specific recommendations for a minimum standard for credentialing diagnostic radiologic technologists.

The Federal Outlook on Licensure

At the moment, there is no federal law requiring licensing of nuclear medicine technologists. Congress, however, is considering new legislation that, if enacted, would require the Department of Health, Education, and Welfare (HEW) to develop federal minimum standards for licensure of medical and dental radiologic personnel and accreditation of educational institutions that train them. These standards would then be issued as minimum criteria to states for adoption and implementation. The term "radiologic technologist" as defined in this bill includes nuclear medicine technologists.

In June of 1976, the Technologist Section of the Society of Nuclear Medicine adopted a "Position Paper on Licensure" (*10*). This statement defines the Section's official position on government licensure of nuclear medicine technologists. The approach favored by the Section is that of state licensure through state acceptance and adoption of national certification, for which national minimum standards would be developed if licensure is deemed necessary. It is felt that this system would assure the public and medical community of technologist competency and quality health care while maintaining adaptability to local needs. In addition to the "Position Paper on Licensure", the Technologist Section has prepared model legislation for states to use when considering licensure of nuclear medicine technologists. The Section's Governmental Affairs Committee is expanding its legislative network to establish and maintain liaison with all groups that have control or influence over the practice of nuclear medicine technology.

The FDA and its Bureau of Radiological Health (BRH) are vitally concerned with the number of noncredentialed individuals actively employed in the field of nuclear medicine technology. The need for uniformity among the various standard-setting activities within the federal, state, and private sectors was recognized in 1970, when the BRH published model legislation for radiation users (*11*). This model legislation was intended to encourage the establishment of a consistent regulatory framework for licensing users of ionizing radiation by the states. Progress has been slow. At this time, FDA does not support mandatory state licensure of medical radiation technologists.

In recognition of the many problems associated with credentialing, including the fragmentation of effort among the various interested parties, HEW issued a report in 1971 urging that states observe a 2-year moratorium on enactment of new credentialing legislation (*12*). This moratorium was extended in 1973 to the end of 1975 (*13*). It was intended that the moratorium provide HEW with an opportunity to "examine other alternatives for credentialing health manpower and to begin a fundamental reassessment of licensure as the primary method of quality assurance in the field of health manpower." An additional report on credentialing was issued in July 1977 (*14*).

Recommendation I of this most recent document urges that certifying groups create a "national voluntary" certification commission to develop and evaluate uniform standards for recognition of certifying organizations. In accordance with this proposal, a National Commission for Health Certifying Agencies (NCHCA) was formed and met for the first time in December 1977. The NCHCA has two categories of membership: any not-for-profit, private, nongovernmental agency that conducts a national certification program for a health occupation; and any other not-for-profit organization with an interest in credentialing health practitioners. Federal and state agencies with responsibilities for licensing persons in health-related disciplines are included in the latter category. The NCHCA will establish national standards for certifying bodies, grant recognition to certifying bodies who meet the standards, and monitor adherence to those standards.

The Bureau of Radiological Health, through the FDA, has been directed by the Assistant Secretary for Health of HEW to address Recommendation II–National Standards–of the "Credentialing Health Manpower" report. Towards this end, BRH is in the process of developing recommended qualifications for medical radiation technologists. A Notice of Intent was published in the *Federal Register* on March 5, 1979, to elicit input from appropriate and interested groups. The information gained from this process will serve as the basis for formulating Recommendations on Qualifications for Medical Radiation Technologists. The initial recommendations will be directed to diagnostic radiologic technologist qualifications. Subsequent recommendations will address qualifications for radiation therapy technologists and nuclear medicine technologists.

Summary

While various credentialing groups may question each other's requirements, it can be safely said that credentialing activities have raised the quality of the practice of nuclear medicine technology. Without credentialing of some sort, there are no standards for technologists to

meet. Credentialed technologists have to demonstrate an acceptable level of performance as defined by the credentialing agency. Whatever the mechanism, the ultimate goal of credentialing in nuclear medicine technology is to reduce unnecessary radiation exposure while providing quality health care.

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