

Report of Final Findings and Recommendations

By the
Technical Committee for the Review of the
Application for Credentialing by the
Nebraska Society of Radiologic Technologists

To the
Board of Health,
Director of Health,
and the
Nebraska Legislature

October 17, 1986

The members appointed by Gregg F. Wright, M.D., M.Ed., Director of Health, to serve on the Radiation Technology Technical Committee are as follows:

Edward Adickes, D.O. - Doctor of Osteopathy, Chairman of Technical Committee, State Board of Health Member (Omaha)

Douglas Ellis - hospital administrator, former Radiation Technologist and hospital Chief Executive Officer (Seward)

Phyllis Kendle, R.N. - Chairperson, Dept. of Health Occupations at Southeast Community College (Lincoln)

John McGreer, M.D. - physician and certified radiologist (Lincoln)

Al Robinson, R.T. - Radiation Technologist, Administrative Director of Dept. Diagnostic Imaging, Great Plains Regional Medical Center (North Platte)

Sheldon Schuster, Ph.D. - Professor of Chemistry, UN-L, Member of UN-L's Radiation Safety Committee (Lincoln)

Phyllis Smith - Homemaker, Former Social Worker (Omaha)

SUMMARY OF THE RECOMMENDATIONS OF THE RADIATION TECHNOLOGY
TECHNICAL COMMITTEE ON THE PROPOSAL OF THE RADIATION TECHNOLOGISTS

The committee recommends the regulation of Radiological Technologists using a two-tiered system of licensure. Under this system there would be full scope Radiologic Technologists who would undergo formal academic training in their field. The passage of an examination approved by the ARRT would be the culmination of the process leading to a full license. Those practitioners currently doing x-ray work but who lack formal education would be allowed to take a minimum competency test, which, if passed, would give them a license as a limited scope radiographer. Their scope of practice would be limited to x-rays of the chest and extremities.

A majority of the committee was convinced that the applicant group had presented sufficient evidence to prove that there is actual harm being done to the public associated with the improper application of x-ray technology. Dramatic examples of this harm were presented to the committee by the applicant group in the form of radiographs. These radiographs provided anecdotal evidence of the harmful effects of inappropriate x-rays on patients. Information provided by Harold Borchert of the Division of Radiological Health of the Nebraska State Health Department was also an influence on the committee's recommendation. He stated that x-ray machine violations could be reduced from thirty percent to five percent if a way were found to ensure the competence of the operators of the machines. In addition, the Radiation Advisory Council recommended the licensure of radiologic technologists. The committee was also concerned by what it perceived as

inadequate supervision of x-ray procedures by those entrusted with this task. The fact that the patient cannot choose his radiographer was not lost upon the committee.

A majority of committee members expressed concern that those who supervise radiographers, namely physicians, are not adequately trained in x-ray technology to ensure the kind of quality control needed to protect the public from harm.

The committee perceived real danger to the public from people who administer x-rays who are not trained. In their view, only the establishment of appropriate educational standards can assure the protection of the public.

The committee also supports the applicant group's request that dental hygienists, dental assistants, those involved in nonhuman health care and research, nuclear medicine technicians, radioisotope technicians, radiotherapy technicians, and ultrasound technicians be excluded from the provisions of the application. The committee also recommended that those who take the exam for limited scope practitioner must be currently engaged in radiography, and that they must take the exam within two years of the date that a legislative version of the proposal goes into effect.

The committee recommended that the issue of physician competency in the area of radiography be explored.

The committee emphasized that its support of licensure is not to be interpreted as support for independent practice on the part of radiographers.

The committee wished to stress the importance of continuing education as a means for assuring ongoing competence of providers. Also

stressed was the fact that the committee is concerned only with ionizing radiation and that its recommendations should not be considered as applying to any other types or uses of radiation.

The committee requested that there be a study of the relative costs associated with licensure of personnel on the one hand, and the costs of strengthening the regulations of x-ray machines on the other. The recommendation of licensure for radiologic technologists is based partly on the belief that such regulation is less expensive than making extensive improvements in the system of machine regulation currently employed by the Department of Health, even though actual dollar values were not presented to the committee.

INTRODUCTION

The Nebraska Credentialing Review Program, established by the Nebraska Regulation of Health Professions Act (LB 407) is a review process advisory to the Legislature which is designed to assess the necessity of the state regulation of health professions in order to protect the public health, safety, and welfare.

The law directs those health occupations seeking credentialing or a change in scope of practice to submit an application for review to the Director of health. At that time, an appropriate technical committee is formed to review the application and make recommendations after a public hearing is held. The recommendations are to be made on whether the health occupation should be credentialed according to the three criteria contained within Section 71-6221 Nebraska State Statutes; and if credentialing is necessary, at what level. The relevant materials and recommendations adopted by the technical committee are then sent to the Board of Health and the Director of Health for their review and recommendations. All recommendations are then forwarded to the Legislature.

SUMMARY OF THE APPLICANT PROPOSAL

The Nebraska Society of Radiologic Technologists is proposing that the State of Nebraska license Radiologic Technologists such that only those people who have successfully completed the ARRT certification examinations would be allowed to operate radiation emitting equipment in Nebraska.

The proposal provides for credentialing at two levels - (1) the highest level is that of a fully qualified Radiologic Technologist; (2) the second level is that of a limited scope radiographer. The latter level would be allowed to do work on chest and extremities only, while the former level would have no such restrictions on scope of practice.

Competency is acquired by attending and successfully completing course work in radiologic technology from AMA approved schools, and by successfully completing the ARRT examination for fully qualified practitioners. Limited license holders would not be required to attend such schools, but would be required to complete successfully the limited scope examination provided by the ARRT. Continued competency would be provided by continuing education requirements. The mechanism for this already exists through the Education Foundation in the ASRT.

The applicants envision that the provisions of licensure would be enforced by the Division of Radiologic Health of the Department of Health. All complaints and disciplinary actions as well as the inspections upon which these actions are based would be handled by this division rather than by the Bureau of Examining Boards. The Bureau of Examining Boards would be used solely for the levying and collection of fees.

The proposal has no grandfather clause, but current practitioners have the opportunity to take the limited license examination administered by the ARRT. The applicants also expect the regulatory entity to recognize a credential issued by the American Registry of Radiologic Technologists for a Radiologic Technologist as it is recognized in all 50 states. The applicants also expect the state to recognize the credential of a limited scope practitioner that has been attained in the same manner.

The applicants specifically exempted dental assistants from the provisions of their proposal.

OVERVIEW OF COMMITTEE PROCEEDINGS

The Radiation Technology Technical Committee held its first meeting on July 25, 1986, in Lincoln at the State Office Building. An orientation session given by the staff focused specifically on the role, duties, and responsibilities of the committee under the credentialing review process. Other areas discussed were the three criteria for credentialing contained in the Nebraska Regulation of Health Professions Act, and the potential problems that the committee might confront while proceeding through the review.

The second meeting of the committee was held on August 7, 1986, in Lincoln at the State Office Building. After studying the proposal and relevant material compiled by the staff, the committee formulated a set of questions and issues it felt needed to be addressed at the public hearing. Contained within these questions and issues were specific requests for information that the committee felt was needed before any decisions could be made.

The committee reconvened on August 28, 1986, in Lincoln at the State Office Building for the public hearing. Proponents, opponents, and neutral parties were given the opportunity to express their views on the proposal, and to discuss the questions and issues raised by the committee at the second meeting. Interested parties were given ten days to submit final comments to the committee.

The fourth meeting of the committee convened on September 18, 1986, in Lincoln at the State Office Building. After studying all of the relevant information concerning the proposal, the committee formulated its recommendations. These recommendations were based upon the three criteria found in the Nebraska Regulations of Health Professions Act.

SUMMARY OF EVIDENCE AND FINDINGS

Criterion 1

Unregulated practice can clearly harm or endanger the health, safety, or welfare of the public, and the potential for the harm is easily recognizable and not remote or dependent upon tenuous argument.

Information Provided by the Applicant Group

In their application, the applicant group stated that there is potential harm inherent in a situation where the person exposing the public to radiation lacks the knowledge and training to produce a good diagnostic radiograph using the minimum exposure factors necessary. Unnecessary repeat x-rays caused by incompetent practitioners increased the possibility of permanent damage to the patient because of unnecessary exposure. Such repeats also increase costs to the consumer. (p. 24 of the application)

Other potentially harmful impacts on public health identified by the applicants as being related to incompetent or inappropriate radiography include wrong or missed diagnoses of a patient's problem due to a non-diagnostic radiograph, and the overexposure of the patient to radiation resulting from the failure to use appropriate shielding and state-of-the-art technologies by poorly trained radiographers. Only the well-trained radiographer can be trusted to know how to use x-ray technologies so as to protect the patient from unnecessary exposure to radiation. (p. 25 of the application)

The applicant group stated that although radiographers do not practice without supervision, this supervision is not adequate to

protect the public. The applicants argue that most employers and supervisors, including physicians, have no more knowledge about the proper use of radiation than does the untrained operator. Even when supervised by a radiologist, there is no direct monitoring of the actual conduct of x-ray procedures. The supervisor sees only the results of the process, not the process itself. The supervisor has no way of knowing how many retakes there were, or what kind of shielding, if any, was used to protect the patient. (pp. 20 and 31 of the application)

At the public hearing, the applicant group presented examples of inappropriate x-rays supposedly taken by poorly trained radiographers. The applicants claimed that these x-rays were sampled from medical facilities all over Nebraska, and therefore, prove that real harm is being done to the public. (pp. 14-22 of the transcript of the public hearing)

Information from other Sources

The Nebraska Academy of Family Physicians and the Nebraska Radiologic Society presented testimony at the public hearing which stated that the proponents had not proven that the current practice situation of radiography constituted clear harm to the public health and welfare. They argued that all x-rays are ordered by a physician. Physicians are liable for all x-ray procedures under their supervision. They disagreed with the proponents' charge that most health professionals cannot distinguish the qualified from the unqualified operators of x-ray machines. The physician who is responsible for the procedure would recognize the inadequate work of the radiographer because of the increased time involved in delayed diagnosis of the patient's condition. If there are many repeat x-rays, the increased

cost associated with these inappropriate procedures would not go unnoticed by the physician in charge. The Nebraska Academy of Family Physicians also argued that licensing radiographers would increase costs and might result in shutting down a number of x-ray units in Nebraska. They also noted that the Department of Health already has the responsibility for regulating x-ray machines so that they meet certain standards and function properly. They added that the licensure of personnel will not guarantee that a machine is functioning properly. (pp. 44-50 of the transcript of the public hearing)

The Nebraska Hospital Association testified that they had conducted a survey of hospitals throughout the state and that they had found very few problems with either machines or personnel, and that additional regulatory statutes were not necessary. Additional legislation would not in their opinion eliminate the problems that were identified. Instead, a voluntary association like the NHA should monitor equipment to see that any problems are identified and brought to the attention of the appropriate institution. They stated that licensure of radiographers might cause problems in clinics in rural Nebraska because there are not enough credentialed radiographers to go around. They added that credentialing would not solve problems in institutions that were flawed in their standard operating procedures. (pp. 53-59 of the transcript of the public hearing)

Analysis and Final Committee Findings

Ellis moved that credentialing radiographers is not necessary because unregulated practice of this occupation poses no danger to public health and welfare. Voting nay were Kendle, Robinson, Smith, and Schuster. Voting aye were Ellis and McGreer. Adickes abstained from

voting. By this action the committee agreed that the unregulated practice of this profession does pose a danger to public health and welfare.

The committee's decision was influenced by information provided by Harold Borchert of the Division of Radiologic Health of the Nebraska State Health Department. He stated that x-ray machine violations could be reduced from thirty percent to five percent if a way were found to ensure the competence of the operators of the machines. Dramatic examples of actual harm to the public stemming from inappropriate or improper x-ray procedures was presented to the committee in the form of radiographs. These radiographs provided anecdotal evidence to support the applicant's case for credentialing.

A majority of committee members expressed concern that the supervision of radiographers is not adequate to ensure the kind of quality control needed to protect the public from harm. A majority of the committee was concerned that there is no on-site supervision by physicians of the actual conduct of x-ray procedures. In addition, the committee expressed concern about what it perceived as the lack of qualifications of many physicians whose responsibility it is to supervise radiographers. Information presented by the applicant group concerning the relative lack of formal training in radiography in the education of most physicians (other than Radiologists) weighed heavily on the committee's deliberations.

Criterion 2

The public needs, and can reasonably be expected to benefit from an assurance of initial and continuing professional ability.

Information Provided by the Applicant Group

The principal concern of the applicant group is the fact that current Nebraska law does not require that radiographers have formal education in their field in order to become practitioners. The applicants believe that this situation is a threat to public health, even though all radiographers are supervised by doctors. In their view, this supervision has proven to be inadequate to maintain appropriate quality control in x-ray procedures. In their judgment the only way that the public can be protected from poorly supervised and poorly trained radiographers is by the passage of a law which requires radiographers to get formal training in their field and then subsequently to take an examination designed to measure minimum competency to do x-ray work on patients. (pp. 21-25 of the application)

The applicant group presented a series of radiographs at the public hearing that was intended to show the connection between inappropriate x-rays on the one hand, and poorly trained operators on the other. The radiographs were intended to demonstrate that the inappropriate x-rays were caused by the bad judgment of operators, not by any problem with the machines themselves. (pp. 14-22 of the transcript of the public hearing)

Information from other Sources

The Nebraska Academy of Family Physicians and the Nebraska Radiologic Society presented testimony at the public hearing which sought to demonstrate that the public does not need any additional assurance of initial and continuing professional ability on the part of radiographers. In their view, the supervision of physicians alone is adequate protection for the public. Physicians have maintained good

quality control through the prescription process, and by their inspection of the final product. The physician can be trusted to know the difference between a good radiographer and a bad one. In their judgment, the fact that an occasional x-ray may be repeated is more likely the result of the need for a current analysis of the anticipated disease process than because of incompetence on the part of operators or because of defective machines. In short, the current situation as it pertains to the training of radiographers is sufficient to protect the public without the imposition of mandatory educational requirements by the State of Nebraska. (pp. 44-50 of the transcript of the public hearing)

Analysis and Final Committee Findings

Robinson moved that the public needs and can reasonably be expected to benefit from an assurance of initial and continuing professional ability. Voting aye were Ellis, Kendle, McGreer, Robinson, Schuster, and Smith. Adickes abstained from the vote. By this action, the committee agreed that the public needs an assurance of initial and continuing professional ability.

The committee perceived real danger to the public inherent in the current training situation of radiographers. Committee members expressed concern over what they perceived to be the inadequacy of physician supervision of this profession. In their view, only the establishment of appropriate educational standards can assure the protection of the public.

Criterion 3

The public cannot be effectively protected by other means in a more cost-effective manner.

Information Provided by the Applicant Group

The Applicant group claimed that it has exhausted all alternatives to credentialing. There was an effort to use Medicare regulations in the State of New York to correct the problems identified by the application, although this assertion was not well substantiated. This involved the denial of Medicare reimbursement to institutions which did not comply with the regulations of the Nebraska State Health Department's Division of Radiological Health. However, Medicare reimburses only a very small percentage of those institutions which use x-ray equipment. The applicants also stated that they have attempted to get the cooperation of the Nebraska Hospital Association in order to correct these problems. This approach also failed to correct the problems identified by the applicant group.

Private certification through the ARRT has facilitated the upgrading of the profession, but has not solved the problems associated with untrained practitioners, since private certification is an entirely voluntary process and since such a certificate is not required for employment in the state.

The applicant group also stated that the federal government might take action in the area of radiation safety, and that this legislation could be very restrictive. However, the applicants added that if states act on their own to improve radiation safety, they would be exempt from

the terms of such legislation. State action to credential radiographers would be one way in which this could be done.

Information from Other Sources

The Nebraska Hospital Association has stated that it agrees with the Nebraska Society of Radiologic Technologists that there is a problem associated with the overexposure of the public to ionizing radiation. However, they do not agree with the proponents on the issue of credentialing. The Nebraska Hospital Association has stated that the credentialing of operators will not solve this problem. Credentialing would not address problems associated with the operating procedures or facilities of institutions. These can better be dealt with by an ongoing monitoring device, possibly in the form of a voluntary association such as the Nebraska Hospital Association. In this way problems can be brought to the attention of the institution in question and solved on a case-by-case basis. The Hospital Association believes that most problems in this profession are related to malfunctioning equipment, not to poorly trained operators. (pp. 53-59 of the transcript of the public hearing)

The Nebraska Academy of Family Physicians and the Nebraska Radiologic Society stated that for Nebraska to take the alternative of credentialing radiographers is not only unnecessary, but would actually harm the public. They stated that restricting the physician's choice of operators would drive up the cost of health care in Nebraska. They suggested that since we are under a Medicare freeze, the increased cost would be passed on to those under Medicare age. They claim that this might produce a two-fold increase in x-ray costs to those patients. In addition, the establishment of licensure for x-ray technologists might

cause the shutting down of some x-ray units, especially in rural areas. This would be an increased cost and an inconvenience to the affected populations. They also stated that the passage of such an act could severely restrict services even where no machines are shut down. This is because many small clinics might only be able to afford limited scope practitioners on their staff, and under the proposal in question these practitioners would not be allowed to do x-rays of the head, neck or abdomen. If a patient needed these services he or she would have to be transported elsewhere. This would not only be costly and inconvenient, but could also put the patient at great risk because a delay in treatment would result from this. They noted that this concern is not a tenuous argument because this is precisely what would happen in many trauma cases; and these are very common types of cases in small clinics in rural Nebraska.

Lastly, the Nebraska Academy of Family Physicians implied that most problems with radiography in Nebraska pertain to problems with the x-ray machines themselves, not the operators. They stated that the State of Nebraska already has the statutory basis upon which it can effectively regulate x-ray machines. This is already being done in the State Department of Health, although a need exists for stronger enforcement. The licensure of x-ray personnel would be irrelevant to these problems. In their judgment no further legislation in this area is needed.

Analysis and Final Committee Findings

Robinson moved that state regulation was the most cost effective means of protecting the public. Voting aye were Smith, Kendle, McGreer, Robinson, and Schuster. Ellis voted nay, and Adickes abstained. By this action, the committee had decided to recommend the credentialing of

this profession, since after this vote all three of the criteria had been upheld by the committee.

The discussion which took place on this criterion focused around possible costs of the proposal if it were to become law, as apposed to the cost of alternative approaches to the problems identified by the applicant group. Some committee members stated that it might be cheaper and more effective to expand the inspection powers and staff of the Division of Radiologic Health than to credential operators of x-ray machines. Other members suggested that it might make more sense to recommend upgrading the education of physicians so that they are better able to supervise radiographers than it would be to credential all x-ray technologists.

The committee was impressed by statements which claimed that it would be cheaper to credential x-ray operators than it would be to expand the Division of Radiologic Health for the purpose of improving the regulations of x-ray machines. Based on these statements the committee decided that regulation of operators was the most cost-effective method of coping with the problems identified by the applicant group.

DISCUSSION OF THE APPROPRIATE LEVEL OF CREDENTIALING

In their initial application, the Nebraska Society of Radiologic Technologists stated that licensure was the appropriate level of state regulation. They argued that less restrictive levels of credentialing would not protect the public from unqualified, improperly supervised radiographers. (p. 33 of the Application)

The technical committee discussed all of the levels of credentialing established by the Nebraska Regulation of Health Professions Act in order to determine which one was most appropriate for Radiologic Technology. The discussion on registration indicated that the committee did not believe that this level of regulation would provide any protection of the public. The discussion on certification revealed that the committee disliked the voluntary aspect of this level of regulation. As one committee member put it, certification has no "teeth" in it. The committee believed that only licensure could adequately protect the public from untrained radiographers. Only licensure could adequately address issues associated with the training of radiographers since it alone requires minimum competency standards for all practitioners, as well as providing loss of practice privileges for violators.

Committee Findings

Robinson moved that licensure is the only appropriate level of credentialing for Radiologic Technologists. Voting aye were Kendle, Smith, Robinson, Schuster, and McGreer. Ellis voted nay, and Adickes abstained from the vote. The committee also voted in favor of an amendment to make the licensure of radiographers a two-tiered process,

whereby there would be fully qualified radiographers with an unlimited scope of practice, and limited scope practitioners who would be qualified to do x-rays only of the chest and extremities. The training and minimum requirements for these two levels would be as defined by the ARRT.

Other Recommendations

The committee recommended that minimum competency requirements be established for limited scope practitioners, and that such competency be determined by an examination. The committee also recommended that those who take the exam for limited scope practitioners must be currently engaged in radiography, and that they must take the exam within two years of the date that a legislative version of the proposal goes into effect.

The committee expressed concern over the lack of some health care professionals training in the area of radiologic technology.

The committee also wanted to make it clear to the public that its recommendation in favor of the licensure of Radiologic Technologists is not to be interpreted to mean that the committee is in favor of radiographers setting themselves up as independent practitioners.

The committee members wanted to make it clear that their concern is with ionizing radiation, and that there is no intent to include such enterprises as suntan parlors under the provisions of the proposal.

The committee wished to stress the importance of continuing education in order to maintain the competence of practitioners.

The committee requested that there be a study of the relative costs associated with the regulation of x-ray machines as opposed to the regulation of the personnel that operate the machines.