

April 2009

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Recommended Citation

Barwick, Lee Anne and Having, Karen M. (2009) "In Support of the Care Bill: The Needs for Federally Mandated Minimum Education Standards in Diagnostic Medical Sonography," *Online Journal for Workforce Education and Development*. Vol. 3: Iss. 3, Article 1.
Available at: <https://opensiuc.lib.siu.edu/ojwed/vol3/iss3/1>

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**IN SUPPORT OF THE CARE BILL: THE NEED FOR FEDERALLY
MANDATED MINIMUM EDUCATION STANDARDS IN DIAGNOSTIC
MEDICAL SONOGRAPHY**

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**IN SUPPORT OF THE CARE BILL: THE NEED FOR FEDERALLY
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Abstract

It is erroneously assumed that qualified professionals are performing diagnostic medical ultrasound procedures in medical facilities throughout the United States. To address this issue, the CARE bill has been proposed to the federal legislature. The bill's primary intent is to mandate that medical facilities being reimbursed by the federal government for such diagnostic procedures comply with a minimum educational and training standard. Enactment of this legislation will create the need to provide the mandated education and training to a currently unknown number of individuals in a manner that is acceptable to standards compliance, as well as the employer and employee. A nationwide survey to identify demographics and educational backgrounds of this group as well as their employer's perceptions related to necessary employee training/retraining is recommended.

Introduction

The healthcare industry is an ever evolving, dynamic machine. New developments and discoveries are reported by the media on a daily basis, and technology, instruments, and techniques which were once considered “state of the art,” can become obsolete seemingly overnight. Professionals operating this equipment must be competently trained and dedicated to lifelong learning to remain current in healthcare delivery methods. Diagnostic medical imaging and radiation therapy have been on the cutting edge of technology for years. Radiographic imaging remains an integral part of patient diagnosis and management, but technological advancements in sonography have led to an exponential increase in utilization of this particular imaging modality. The non-invasive nature, portability, cost effectiveness, and lack of ionizing radiation has made sonography the physicians’ screening and diagnostic tool of choice in several areas, particularly in obstetrics and gynecology. Recent advances in 3D and 4D imaging have helped increase the demand for sonography, particularly in the area of fetal keepsake imaging.

In this era of rising healthcare costs and declining economy, all efforts should be made to deliver high quality, cost effective healthcare. While healthcare institutions compete to offer consumers high quality, state of the art patient care, the technical professional component in the delivery of care is often overlooked or assumed to be sound. According to information obtained from the New Mexico Society of Radiologic Technologists website (2009), more than 300 million radiologic procedures are performed every year in the United States, and seven out of ten Americans undergo some type of medical imaging exam or radiation therapy treatment annually. The average person assumes those performing their medical imaging examination or providing their radiation therapy treatment to be adequately trained and qualified professionals. However, thousands of individuals with limited training and no credentials are working in hospitals and doctor’s offices, performing imaging procedures on patients. The Society of Diagnostic Medical Sonographers (SDMS, 2008), reports an estimated 50,000 person’s performing sonography exams without credentials. Lack of proper training can lead to an increase of studies that need to be repeated, an increase of delayed or misdiagnosis, longer scan times leading to increased patient exposure, and increased medical costs. There are currently no federal rules establishing a minimum level of training and experience to perform ultrasound exams (SVU, 2007). A barber must undergo more stringent regulatory requirements to cut hair than a sonographer does to image human organs, blood vessels, or a fetus (ASRT, 2008).

The Consistency, Accuracy, Responsibility, and Excellence in Medical Imaging and Radiation Therapy (CARE) bill was written to address the professional technical quality component of healthcare delivery in imaging professions by linking occupational standards of practice, professional credentialing, and program accreditation to government regulations. The purpose of this article is to 1) define occupational standards, credentialing, and accreditation, and briefly describe how they articulate to promote consistency and accuracy in medical care, 2) describe the evolution, nature, and intent of the CARE bill, and 3) encourage educators and employers to be proactive in preparing for a potential post CARE bill climate.

Discussion

The first efforts to ensure a minimum quality of medical practitioners by licensure in the United States date back to the 1760's (Melnick, Dillon, & Swanson, 2002). During this time, professional standards were defined by individual medical schools with no unifying external governance. The inadequacy of this method became evident during the Civil War period where it became obvious that schools varied in their "standards" and there was no consistency in practitioners' care. By 1873, the state of Texas had established the first medical licensing board and nearly all states followed suit by the turn of the century (Derbyshire, 1969). While these governing bodies oversaw the consistency in practice within each state, there were still inconsistencies in standards between states and throughout the country. Recognition of these inconsistencies led to the development of the National Certification Board of Examiners in 1915, which allowed for a single unifying measure of education and proficiency in the profession.

While the occupation of diagnostic medical sonography is relatively new compared to that of medical practitioners, the evolution of the field into a profession has many similarities. In 1915, a high-frequency, ultrasonic, echo-sounding device, known as the hydrophone, was developed by Langevin and Chilowsky (Hagan-Ansert, 2006). This technology was, in part, developed in response to a tragic loss of more than 1800 lives when the infamous *HMS Titanic*, embarking on its maiden voyage from Southampton, England to New York, struck an underwater iceberg on the night of April 14, 1912 and consequently sank in the Atlantic Ocean (Titanic Questions and Answers, 2009). With the onset of World War I (1914-1918) the focus of development evolved to pulse-echo sound navigation and ranging (sonar) technology employed by the U.S. Navy for antisubmarine warfare activity. It should be noted that, after the war, the original intent of the work was realized with the installation of sonar in a cruise ship in 1928. Sonar technology was further refined and heavily used during World War II (1939-1945). Upon this foundation, the platform for modern day diagnostic imaging was laid when post-war physicians and scientists began to look for ways to apply sonar technology to the human body (Imaging Timeline). As a result, the next fifty years would see an explosion of new applications for diagnostic and therapeutic ultrasound. By 1973, the occupation of diagnostic ultrasound technologist was created by the American Medical Association's Manpower Division (Baker, 1997). Since that time, leaders in the profession have made great strides to elevate the profession by setting high standards.

During its infancy, the occupation consisted of but a handful of technical specialists experienced in operating sonography equipment and acquiring diagnostic images. These specialists formed the American Society of Ultrasound Technical Specialists (ASUTS) in 1970, which would later be renamed the Society of Diagnostic Medical Sonographers (SDMS) in 1980. The quick acceptance of this modality by medical practitioners created a tremendous shortage of trained sonographers. In response, ASUTS appointed an education committee to provide educational and clinical guidelines and requirements for the establishment of accredited sonography schools (Hagan-Ansert, 2007). The Department of Allied Medical Professions and Services (later to be known as the Committee on Accreditation of Allied Health Education Programs [CAAHEP]), assumed the task of writing the *Essentials of an Accredited Educational Program for the Diagnostic Medical Sonographer*. Once this had been accepted by eight multidisciplinary collaborating organizations, the Joint Review Committee on Education in Diagnostic

Medical Sonography (JRC-DMS) was established and the first accreditation of education programs was awarded in 1982.

According to information listed on their website (2009), there are currently 167 CAAHEP accredited sonography programs in the United States. Programmatic accreditation examines specific schools or programs within an educational institution (e.g., the law school, the medical school, the nursing program). The standards by which these programs are measured have generally been developed by the professionals involved in each discipline and are intended to reflect what a person needs to know and be able to do to function successfully within that profession. Accreditation in the health-related disciplines also serves a very important public interest. Along with certification and licensure, accreditation is a tool intended to help assure a well-prepared and qualified workforce providing health care services.

The ASUTS also formed an examination committee to establish a credentialing method in an effort to elevate the competency of its members. In 1975, this committee became known as the American Registry of Diagnostic Medical Sonographers (ARDMS). ARDMS has earned the prestigious ANSI-ISO 17024 accreditation for certifying bodies from the International Organization for Standardization (ISO). Accreditation is granted through the American National Standards Institute (ANSI). Recognition of ARDMS programs in providing credentials has also earned accreditation with the National Commission for Certifying Agencies (NCCA). The NCCA is the accrediting arm of the National Organization for Competency Assurance (NOCA). Established in 1977 as a nonprofit organization, NOCA is a leader in setting quality standards for certifying organizations. ARDMS has certified more than 60,000 individuals and is the globally recognized standard of excellence in sonography. Its mission statement is to “promote quality care and patient safety through the certification and continuing competency of ultrasound professionals” (ARDMS, 2009).

While it is important to note the emphasis on credentialing, it is also imperative to denote the difference between credentialing and licensure. Credentialing and certification are voluntary in nature. Licensure denotes a government-mandated process (Whitaker, 1993). In 1981, Congress passed the Consumer-Patient Radiation Health & Safety Act which directed the Department of Health and Human Services to develop regulations specifying the education and credentialing of radiographers, radiation therapists, dental radiographers, sonographers and nuclear medicine technologists. However, in a last minute bargain to ensure passage of the bill, it was stripped of its enforcement teeth resulting in no legally enforceable penalties for states that chose not to adopt the education and credentialing licensure standards. As a result, the federal government does not regulate personnel who operate medical imaging and radiation therapy equipment. To date, only 41 states have any kind of licensure laws for radiologic technologists and no states have sonography licensure laws.

In an effort to protect patients from overexposure to radiation during radiologic procedures and help reduce the cost of administering health care, the American Society of Radiologic Technologists (ASRT) introduced The Consistency, Accuracy, Responsibility, and Excellence in Medical Imaging and Radiation Therapy (CARE) bill to the House (HR583) and Senate (S1042) in 1999, and has reintroduced it in every consecutive year (ASRT, 2008). Since then, the ASRT and SDMS have joined forces with lobbyist representing more than 20 various diagnostic imaging constituency groups and over 750,000 allied health professionals to form the Alliance for Quality Medical Imaging and Radiation Therapy. Members of the Alliance began

the uphill climb toward educating our lawmakers of the need for all persons in the field of diagnostic imaging and radiation therapy to attain and maintain a minimum educational and training standard. The bill is slated to be reintroduced in both the House and Senate in 2009.

The CARE bill was created to amend and enforce the Consumer-Patient Radiation Health & Safety Act of 1981 by tying compliance to federal reimbursements (SVU, 2007). According to the ASRT (2009), the bill specifically addresses the technical professional education and credential requirements of the individuals performing examinations reimbursable by government funded agencies under the Department of Health and Human Services (HHS). The two largest HHS agencies include Medicare and Medicaid. While private medical insurance plans are not addressed by the bill, Medicare reimbursements carry so much industry weight that private payers often model their reimbursement criteria to be in alignment with Medicare (SDMS, 2009). What industry stakeholders need to understand is that once the Care bill is enacted, any examination not being performed by a sonographer meeting the education or credential requirements will be denied federal reimbursement. Institutions earn a large portion of their revenue from Medicare/Medicaid recipients. This population of healthcare consumers is only projected to increase with the aging baby boomer population. Healthcare providers stand to lose a large chunk of annual revenue from Medicare and Medicaid due to noncompliance. Employers will be forced to employ only credentialed sonographers to perform examinations, and there will be a finite window of opportunity for those not meeting the criteria to become compliant.

While passage of the CARE bill is purported to ultimately strengthen the quality and cost-effectiveness of imaging and radiation therapy, it is not without its obstacles. According to the SDMS Environmental Scan (2008), a post Care bill passage environment may involve a large number of individuals who have been providing sonography services without credentials and who would be required to acquire certification within four years of enactment of the bill. These individuals will need to be identified and educational pathways towards compliance will need to be put into place. While the SDMS approximates the number of these individuals to be over 50,000, there is currently no data bank or benchmark related to non-credentialed sonographers. Most research is conducted utilizing the list of current SDMS members and/or registrants through credentialing organizations, such as the ARDMS and ARRT. A nationwide survey geared to identify demographics and educational backgrounds of this non-credentialed group would be greatly beneficial in determining the educational issues that will need to be addressed.

Another hurdle to overcome would be the increased demand for credentialed sonographers in both the clinical and educational settings. Credentialed or not, skilled sonographers are already in short supply. The U.S. Department of Labor (2008) predicts that diagnostic medical sonography will be one of the fastest growing health occupations over the next ten years. According to CAAHEP, the demand for sonographers, including suitably qualified educators, researchers and administrators, continues to exceed the supply, with faster than average job growth anticipated. It is an unreal assumption that sonographers should leave the clinical workforce to acquire the educational components necessary to become credentialed. This would lead to unacceptable financial and workforce burdens related to patient care. As a result, the already serious shortage of clinical education training sites may also be significantly reduced.

Distance learning is one vehicle to provide opportunity to pursue educational requirements leading to credentialing while maintaining current employment and family responsibilities. In a recent study conducted by Having and Collins (2005), 1,300 American Registry of Radiologic Technologist (ARRT) registrants were surveyed to determine level of acceptance for distance education as a means for advanced certification. Based upon a 30% response rate, 93% indicated that distance education was an acceptable method. When asked to rank preference for distance learning delivery method (with 1 being most desired and 5 least desired), internet ranked 2.0, followed by correspondence courses/printed packets (2.2), video tapes (3.9), interactive video via satellite (4.1), and other (5.4). The study substantiated the need for educational offerings that offer flexibility and can be incorporated to the lifestyle of the individual. Furthermore there was no difference in the level of acceptance based upon the demographics of the surveyed population.

Employers will also need to develop business plans to insure their medical facility's compliance for optimal reimbursement. Having and Collins (2005) found in their study of ARRT registrants that while the majority of employers encouraged advance education, significantly fewer provided the necessary funding. Options will need to be developed in support of staff efforts to comply with credentialing regulations including, but not limited to, tuition reimbursement, national certification examination fee reimbursement, short-course, online, or semester-based program enrollment.

Conclusions

It is erroneously assumed that qualified professionals are performing diagnostic medical sonography procedures in medical facilities throughout the United States. The CARE bill is specifically designated to "amend the Public Health Services Act to make the provision of technical services for medical imaging examinations, and radiation therapy treatments safer, more accurate, and less costly" (S.1024). Upon enactment, federal reimbursement for such procedures will be contingent upon that medical facility's compliance with mandated credentialing and education standards. The CARE bill has been introduced to both the House and Senate gaining increased constituency support each year since 1999. Enactment of this legislation will create the need to provide education to a currently unknown number of individuals in a manner that is acceptable to the mandated standards, as well as the employer and employee. A nationwide survey to identify demographics and educational backgrounds of this group as well as their employer's perceptions related to necessary employee training/retraining is recommended.

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