

**Testimony of Per H. Halvorsen before the Joint Committee on Public Health on  
House Bill 3515 on October 25, 2011**

Good morning, my name is Per Halvorsen and I am a Medical Physicist from Newton, MA and am the Vice President of Medical Physics for Alliance Oncology, LLC, Chair of the Professional Council and member of the Board of Directors of the American Association of Physicists in Medicine (AAPM). I want to thank you for the opportunity to provide testimony this morning in support of House Bill 3515.

The profession of medical physics has been my passion, and full-time avocation, for the past 21 years. In that time, I have practiced in several states, starting in Boston in the early 1990s, interrupted by a decade in the Southeast before returning to Massachusetts several years ago. My current position involves professional oversight of clinics across the United States, which has allowed me to experience first-hand the wide variation in the quality of medical physics practice as a function of the strength of each state's requirements. In addition, my extensive volunteer work for the AAPM, the profession's premier society representing more than 7,500 medical physicists, has strengthened my awareness of the importance of mandatory minimum standards.

Medical physics is a highly specialized profession combining strong training in radiological physics with strong training in, and appreciation for, the clinical environment. Our core mission is to ensure that radiation in all forms is used safely and in ways that improve the care provided to the many patients who depend on it. In many ways, we are the "safety valve" of the medical profession's use of radiation. Neither a physician nor a technologist can perform the essential tasks required to ensure that every radiation machine is operating correctly and delivering the correct dose to each patient – the task is too complex to be solved with simple checklists. Solid scientific training is essential.

The essential responsibility of the Qualified Medical Physicist's clinical practice is to assure the safe and effective delivery of radiation<sup>1</sup> to achieve a diagnostic or therapeutic result as prescribed in patient care. The medical physicist performs or supervises the pertinent procedures necessary to achieve this objective. The responsibilities of the medical physicist include:

- Protection of the patient and others from potentially harmful or excessive radiation, and establishment of adequate protocols to ensure accurate patient dosimetry;
- The measurement and characterization of radiation and determination of delivered dose;
- Advancement of procedures necessary to ensure image quality;
- Development and direction of quality assurance programs; and
- Assistance to other health care professionals in optimizing the balance between the beneficial and deleterious effects of radiation.

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<sup>1</sup> Radiation includes both ionizing and non-ionizing radiation such as electromagnetic radiation, particulate radiation, and sonic radiation. These modalities, used for diagnostic or therapeutic purposes when prescribed by a properly qualified practitioner, are herein described as radiological procedures.

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October 25, 2011

Re: H. 3515

Medical professionals bear many responsibilities before the public, but **none is more important than the charge to ensure the highest level of competence from those providing medical care.** Only a properly trained and credentialed medical physicist can fully appreciate the complexity of a medical procedure involving the use of radiation and thereby help to assure correct placement, quality, and quantity of radiation dose. The unique qualifications of the medical physicist are necessary to minimize the risk of injury to the patient, medical personnel and the general public from the misuse of radiation.

In every state, physicians and nurses are licensed. Radiologic Technologists are licensed in 39 states for radiography and in 35 states for radiation therapy including the Commonwealth of Massachusetts. There are many compelling reasons why licensure for medical physicists is in the public interest. Radiologists, physicians, health care administrators, agency inspectors and the general public have no clear guidelines for judging the qualifications or abilities of a medical physicist. Other than the civil courts, the public has no redress to deal with issues such as fraud, substance abuse, malpractice, or unethical behavior.

The level of complexity involved in medical imaging and radiation therapy is such that it is necessary for physicists with special training, education and experience to be a part of the team providing these procedures. It is the role of the medical physicist to oversee the measurement of dose, the calibration of equipment, the evaluation of equipment, the estimate of risk, the design of the imaging and radiation protocols and procedures, and the planning and implementation where applicable for diagnostic imaging and radiation therapy. Because of the inherent danger of these procedures being performed by under-qualified individuals, it is essential that the profession of medical physics be both defined and protected by law in order to protect patients and the general public.

In summary:

- Unqualified individuals pose a serious potential hazard to patients and the general public.
- If a physician or nurse makes an error, it usually impacts one patient. If a medical physicist makes a mistake, it may impact a single patient or it may impact all patients under treatment.
- The general public cannot determine the competency of an individual to practice medical physics. Often, members of the public are unaware that a medical physicist exists and of the critical impact that decisions made by the medical physicist have on their quality of care.

As critical as a medical physicist is to the safe and effective use of radiation in medicine, our profession is not well understood and is not highly visible to the public, which may explain why so many states have neglected to address the clear need for minimum standards for the practice of medical physics. While most citizens (myself included) do not have a strong desire for additional regulations affecting their daily lives, I strongly believe that our profession is critically important to the safety of patients and the quality of their care, and professional licensure is the most effective way to ensure that all practitioners are properly trained and consistently act in the patients' best interests.

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I thank you for the opportunity to address you on House Bill 3515. As a clinical medical physicist, I understand the importance of ensuring that all individuals working as medical physicists are appropriately educated, trained, certified and ultimately licensed to practice in one of the fields of medical physics.

I urge this Committee to positively review House Bill 3515 and I am available to answer any questions you may have.

Sincerely,



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Per H. Halvorsen, MS, DABR, FACR, FAAPM