



AMERICAN ASSOCIATION
of PHYSICISTS IN MEDICINE

Testimony of David Howard in Support of H. 1344

**“An Act Regulating Medical Physicists; Establishing the State Board of Medical Physicists;
and Providing for Funds, for Licensure, for Disciplinary Action, for Remedies, for Penalties
and for Preemption”**

Committee on Professional Licensure

February 26, 2018

Good afternoon, Chairmen Musto and Readshaw and Members of the Committee. My name is David Howard. I am a resident of Philadelphia, PA, and a current member of the American Association of Physicists in Medicine (AAPM).

I am a diagnostic medical physicist certified by the American Board of Radiology with over 6 years' experience. I am the Philadelphia Field Office Director of West Physics. In that role, I perform quality assurance testing and radiation measurements for diagnostic X-ray, CT, MRI and nuclear medicine facilities, and perform radiation-shielding designs and radiation-protection surveys for new installations.

I am testifying in support of Medical Physicist Licensure on behalf of the AAPM. AAPM is the premier organization in medical physics, representing approximately 9,000 medical physicists, whose mission is to advance the science, education and professional practice of medical physics.

A Medical Physicist must earn a master's or doctoral degree in physics, medical physics, biophysics, radiological physics, medical health physics, or equivalent discipline from an accredited college or university. The Commission on Accreditation of Medical Physics Education Programs (CAMPEP) accredits Medical Physics graduate school programs. There are approximately 53 accredited graduate school programs nationwide, including University of Pennsylvania.

*The Association's Journals are Medical Physics and Journal of Applied Medical Physics
Member Society of the American Institute of Physics and the International Organization of Medical Physics*

Medical physicists take part in a two- or three-year residency program to further develop their skills as physicists. These programs involve hands-on training under the supervision of qualified medical physicists, as well as a chance for academic research. CAMPEP also accredits these programs. There are approximately 115 accredited residency programs nationwide, including Fox Chase Cancer Center, Thomas Jefferson University Hospital, University of Pittsburgh Medical Center Institute, and University of Pennsylvania.

Medical physicists obtain certification in the specific subfield(s) by an appropriate national certifying body and abide by the certifying body's requirements for continuing education.

The subfields of medical physics are: Therapeutic Medical Physics; Diagnostic Medical Physics; Nuclear Medical Physics; Medical Health Physics; and Magnetic Resonance Imaging Physics.

These subspecialties all involve the use of radiation and therefore their safe, efficient and successful application relies on the proper practice of medical physics. In particular, the medical physicist ensures:

- Protection of patients and the healthcare team from potentially harmful or excessive exposure to ionizing, electromagnetic, or ultrasound radiation;
- The measurement and characterization of radiation and determination of delivered dose;
- Proper operation of equipment through the design and implementation of quality assurance programs;
- Development of proper procedures to ensure safe radiation delivery as well as excellent image and treatment quality; and
- Optimization of imaging and treatment techniques to assure the most beneficial results while minimizing the known risks of radiation.

It is essential that the medical physicist have the appropriate training, experience and credentials to ensure the safety, efficiency and success of these procedures.

Radiologists, physicians, health care administrators, regulatory personnel and the general public have no clear guidelines for judging the qualifications or abilities of a medical physicist. Other than through the courts, the public has no redress to deal with issues such as fraud, substance abuse, malpractice, or unethical behavior. Licensure establishes minimum standards that prevent unqualified persons from practicing the profession and provides a legal framework for ensuring that only qualified medical physicists are performing medical physicist services. This concern was recognized and addressed in a *New York Times* article entitled, "They Check the Medical Equipment, but Who is Checking Up on Them?" by Walt Bogdanich and Kristina Rebelo (January 27, 2010), which advocated for regulation of the practice of medical physics. A copy of the article is attached to this statement.

The AAPM believes that licensure supports improved patient safety by ensuring that only qualified individuals perform clinical medical physics services. Licensure supports minimum educational and training requirements and demonstration of understanding through board certification. Moreover, medical physicist licensure laws provide the legal basis for disciplinary actions, sanctions and penalties for unqualified or incompetent individuals who provide services. In short, licensure provides a way to ensure that the requirements laid out in the regulations are actually enforced.

I was excited to see that Pennsylvania is considering licensure for medical physicists. The state is well behind our neighbors, who all require some sort of registration or licensure to operate in the state.

Pennsylvania recently approved new regulations that define a "Qualified Medical Physicist (QMP)" in the state. The regulations identify the credentials required to perform a number of Quality Assurance tasks for a number of medical imaging modalities. I believe this is a huge improvement over the previous regulations, which did not make any mention of certifications. Licensure would compliment these regulations. I think it would be useful to align the language in the bill with the language in the new regulations.

For these reasons, the AAPM, and I, respectfully urge the Committee to support the bill. I would be happy to try to answer any questions you may have.

Thank you for your time and consideration.



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January 27, 2010

THE RADIATION BOOM

They Check the Medical Equipment, but Who Is Checking Up on Them?

By [WALT BOGDANICH](#) and [KRISTINA REBELO](#)

In the eyes of those who hired him, Norman Fenton was a model medical physicist — diligently protecting patients from the hazards of too much medical radiation or too little.

For nearly three decades, Mr. Fenton inspected radiological equipment, developed safety procedures, drew up shielding plans for X-ray rooms and taught other professionals.

His work was so valued, he assembled a list of 200 clients in five mid-Southern states, including 24 hospitals, 33 doctors' offices, a psychiatric center, 51 dentists, 4 jails, chiropractors, and clinics for sports, pain, women and lithotripsy.

Government regulators and hospitals praised his work. "I can say without reservation that Mr. Fenton is the most proficient physicist I have ever met," one hospital official said.

Mr. Fenton also helped the government prosecute a man who used fake credentials to pose as a medical physicist at more than 50 medical facilities, including Washington's most prestigious hospitals, the [Food and Drug Administration](#), the [Nuclear Regulatory Commission](#), state health departments — even a [C.I.A.](#) medical clinic.

Then, one day in 2007, the United States attorney who had used Mr. Fenton to help prosecute the imposter, Perry Beale, got a surprise call. Mr. Fenton, it turned out, had bought an undergraduate degree from a diploma mill he found on the Internet.

"It was the craziest thing," said the prosecutor, John L. Brownlee, now in private practice. "I've been prosecuting cases for a long time, and this is the only time this ever happened."

While the cases are hardly the same — Mr. Fenton was widely respected by clients for his knowledge of medical physics, and Mr. Beale sometimes charged for inspections he never did — they show the loose regulation of medical physicists.

"I'm a limited-government guy, but when it comes to these kinds of things, clearly the states need to do a better job of certifying, checking and double-checking," Mr. Brownlee said. Both men were sentenced to more than four years in prison. Neither man inspected the more technologically advanced machines, like linear accelerators or CT scanners.

Mr. Beale altered his college transcript to show that he had taken science and physics courses, and he

submitted a professional certificate in which the real name had been “whited-out” and replaced with his, the government said.

Les Foldesi, who directs the Virginia Division of Radiological Health, said he thought Mr. Beale’s fraud was a fluke. But after the second case, he said, “I became paranoid.”

In fact, the region has seen similar frauds. At one point, Mr. Beale worked for a company run by a man who was later convicted of using a fabricated certificate of accreditation — required under a federal law for companies performing mammograms, Mr. Foldesi said. Mr. Beale, who was not implicated in that fraud, could not be reached for comment.

Mr. Fenton, in an interview from prison, said he helped expose several other frauds while working as a medical physicist. “I just always had a belief that that was your responsibility,” he said.

Mr. Fenton got into trouble because federal law required that he be certified by those states in which he inspected mammography machines. Although he said he had taken more than 700 hours of classroom instruction over 25 years, he never formally got his undergraduate degree, so he bought a fake one. Mr. Fenton received the same prison sentence as Mr. Beale largely because he perjured himself in court when testifying about his credentials.

“Do I have some culpability in this — yes, because I am stupid and naïve,” Mr. Fenton said. “Every time a new state agency said, ‘yeah, you are fine, your credentials are checked,’ and I thought hell’s bells, I must be fine.”

Mr. Foldesi, the Virginia regulator, said he agreed that Mr. Fenton was knowledgeable. “I heard from my staff that Norm did know the nuts and bolts of the job,” he said. But that did not excuse him for lying to employers, he added.

Mr. Foldesi said Virginia made two changes in response to the fraud cases. A bachelor’s degree is now required for placement on the state’s approved list of medical physicists; a high school diploma was required before. Virginia also demanded to see everyone’s credentials. As a result, the state’s approved list suddenly dropped to 100 from 200.

Mr. Foldesi speculated that most dropouts had simply become inactive or lived in other states. Was it possible that some dropouts had fake credentials?

“It wouldn’t surprise me,” he said.

Rob Harris contributed reporting.

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