COMMONWEALTH OF PENNSYLVANIA
HOUSE OF REPRESENTATIVES

PROFESSIONAL LICENSURE COMMITTEE
PUBLIC HEARING

STATE CAPITOL
HARRISBURG, PA

IRVIS OFFICE BUILDING
ROOM G-50

TUESDAY, FEBRUARY 27, 2018
9:32 A.M.

PRESENTATION ON
HOUSE BILL 1545
MEDICAL IMAGING AND RADIATION THERAPY LICENSURE
AND ESTABLISHING THE MEDICAL IMAGING AND
RADIATION THERAPY BOARD OF EXAMINERS

BEFORE:
HONORABLE MARK T. MUSTIO, MAJORITY CHAIRMAN
HONORABLE GARY DAY
HONORABLE KEITH GILLESPIE
HONORABLE DAVID HICKERNELL
HONORABLE JERRY KNOWLES
HONORABLE ZACHARY MAKO
HONORABLE STEVE MENTZER
HONORABLE CURT SONNEY
HONORABLE HARRY READSHAW, DEMOCRATIC CHAIRMAN
HONORABLE TIM BRIGGS
HONORABLE DOM COSTA
HONORABLE JORDAN HARRIS
HONORABLE WILLIAM KORTZ

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Pennsylvania House of Representatives
Commonwealth of Pennsylvania

ALSO IN ATTENDANCE:
REPRESENTATIVE BRYAN CUTLER

COMMITTEE STAFF PRESENT:
WAYNE CRAWFORD
MAJORITY EXECUTIVE DIRECTOR
KELLY ROTH
MAJORITY LEGISLATIVE ADMINISTRATIVE ASSISTANT

MARLENE TREMMEL
DEMOCRATIC EXECUTIVE DIRECTOR
KEONTAY HODGE
DEMOCRATIC LEGISLATIVE ADMINISTRATIVE ASSISTANT

I N D E X

TESTIFIERS

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SUBMITTED WRITTEN TESTIMONY

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(See submitted written testimony and handouts online.)

P R O C E E D I N G S

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MAJORITY CHAIRMAN MUSTIO: Good morning, everyone. I'd like to call this meeting of the House Professional Licensure Committee to order. And the first order of business is to take the roll. Kelly, would you please call the roll?

(Roll was taken.)

MAJORITY CHAIRMAN MUSTIO: Just to remind the Members, we are being recorded today. There is an appropriations hearing going on today as well, so many of the Members that are on this Committee are also on that Committee, so you'll probably see some Members coming and going during this hearing this morning.

First, I'd like to thank Chairman Readshaw for conducting the meeting yesterday. I had some good business in my legislative district as it relates to some economic developments, some health care issues, so I didn't want to cancel the meeting on that very important bill yesterday, so I wanted to take this opportunity to thank you for doing that.

The legislation before us this morning -- again, this is a hearing on the bill; we're not taking any votes

today -- is House Bill 1545. The prime sponsor is Representative Bryan Cutler. And I'd welcome Representative Cutler to please say a few words. And at the same time I notice, in looking at the people attending the hearing today, that the average age of our hearing has dropped significantly from what it normally is. So I'm assuming, Representative Cutler, that there's either a cheering squad here or these are students, and if you could enlighten the Members, that would be great.

REPRESENTATIVE CUTLER: Thank you, Chairman Mustio, Chairman Readshaw, Members of the Committee. Thank you for the opportunity to come and discuss House Bill 1545.

You're correct, Mr. Chairman. They are from my alma mater where I graduated from x-ray school, which is the Pennsylvania College of Health Sciences. And they're here to learn about the legislative process today as part of their class and instruction time period.

I want to thank you all for having the hearing on the bill. I'll give a very brief background as to what kind of got me going down this path both from my own clinical experiences, as well as an experience from a friend of mine more recently who worked in the applications world.

Digital radiography has been an amazing

development. Over 100 years ago when x-rays were first discovered, they stayed relatively the same for the first couple decades in terms of how the approach was used to obtain the radiographs or the x-rays. And when you look at some of the advancements in recent years, digital being probably one of the best, one of the problems with digital radiography can be related to the dose and some of the other exposure factors that are with it.

Oftentimes, in practice, what I experienced as a technologist as I worked through law school -- I worked per diem at a variety of different hospitals -- I noticed that sometimes the software was able to compensate for what would be suboptimum images. And some of those images were overexposed where patients were exposed to more radiation than necessary to obtain a medically diagnostic image.

The case that brought this to the forefront was a case in Florida where a friend of mine was called in as follow-up. They had a pediatric interventional cardiology case, so they were doing imaging of the heart and the associated vessels. And this particular case they had over six hours of fluoro time. And I know that we have a radiation physicist on here later. They'll tell you that that is not normal. And unfortunately, the radiographs were set up in a way that were taking high resolution images for that entire six-hour period. That's how the

computerized system was set up, and that's what occurred, unfortunately.

Ultimately, that child passed from radiation sickness and overexposure. There were other comorbidities or other health issues that this individual had, but it really brought to light the concern of not having someone other than the physician who is well-versed in the field of radiography and in particular what exposure factors mean to individuals.

Oftentimes as a tech, I would be in an operating room, and at that time the fluoro alarms would go off at 4-1/2 minute intervals, which was to signify the doctor that you've taken a lot of x-rays to this point and to be a little more mindful of the exposure to the patient. And in any good system, just like we have here in the legislative process, you need a system of checks and balances.

And while the case in Florida where the individual should have known better, I think it would have been far better for the patient and the quality of the patient care had someone in the room understood the exposure factors and what comes with that.

While there have been a lot of great advancements in medicine in terms of the interdisciplinary collaboration for the care of patient, this is one area of expertise that needs to stay at the forefront just because of what can

happen if proper safety protocols are not followed.

With that, I'll open it up because I know you're going to accept a lot of comments today on the legislation. I look forward to working with you, as well as all the interested parties in discussing that. And I'll be happy to discuss it at your convenience, Mr. Chairman. Thank you.

MAJORITY CHAIRMAN MUSTIO: Thank you. And you're welcome to sit or stay in the audience, however you'd like to do it, to listen to the testimony.

Our first testifier this morning will be Marjorie Sawyer representing the PA Society of Radiologic Technologists. And, Marjorie, I noticed in a note that you also go by Mardi, is that right? Okay.

MS. SAWYER: Thank you.

MAJORITY CHAIRMAN MUSTIO: Feel free to start when you're ready. You can pull the microphone a little closer to you.

MS. SAWYER: Closer?

MAJORITY CHAIRMAN MUSTIO: Closer, that would help, yes.

MS. SAWYER: Okay. Good morning, Chairman Mustio, Chairman Readshaw, and other Members of the House Professional Licensure Committee. As mentioned, my name is Marjorie Sawyer. I'm the Director of Public Health

Sciences Curriculum at Penn State Hershey College of Medicine. I'm also the Secretary of the Pennsylvania Society of Radiologic Technologists, or PSRT, and I am a registered radiologic technologist.

I appreciate the opportunity to testify here about House Bill 1545, sponsored by Representative Cutler.

Pennsylvania is home to over 17,000 medical imaging professionals who work in the health care industry. PSRT works on behalf of these professionals and represents both radiologic technologists and the patients they serve. PSRT is an affiliate of the American Society of Radiologic Technologists (ASRT), and together, we have been working with the American Registry of Radiologic Technologists (ARRT), the Society of Diagnostic Medical Sonography (SDMS), and the Society of Nuclear Medicine and Molecular Imaging (SNMMI) to advocate for House Bill 1545.

We believe that the best way to ensure the safety of every patient being exposed to ionizing radiation or who is undergoing a medical imaging procedure is by making sure that the professionals operating the medical imaging and radiation therapy equipment are properly certified and credentialed.

Undergoing diagnostic or therapeutic procedures is often stressful and scary for patients. HB 1545 will reassure patients that their treatments are being

administered safely and properly by qualified technologists.

HB 1545 provides for the regulation, certification, education, licensure, and scope of practice standards for professionals performing sonography, fluoroscopy, limited x-ray machine operation, magnetic resonance imaging, nuclear medicine, radiation therapy, and radiography. Radiological procedures, including x-rays, radiation therapy, and nuclear medicine, use ionizing radiation, which must be administered correctly or it could be dangerous and extremely harmful for patients.

The bill does provide exemptions for certain licensed practitioners, including physicians, dentists, chiropractors, podiatrists, dental hygienists, resident physicians and students attending medical school or medical imaging educational programs, and those performing sonography procedures that are limited in scope.

Licensure legislation is needed because Pennsylvania is one of a small number of States, less than 10, that does not have specific laws for medical imaging and radiation therapy personnel. Current standards are located in several statutes and regulations. Department of State oversees some qualifications for medical imaging professionals and recognizes board certification, but there is no consistency in how these laws and regulations are

applied. HB 1545 will remedy this situation and create clear, consistent, and transparent regulations for medical technologists in a variety of specialties.

Across the country, there are examples of unqualified staff members using medical imaging equipment on patients. In fact, in 2016 a doctor in State College was charged with two felonies -- failure to provide radiation protection and improper use of a monitoring device -- because he allowed an unqualified staff member to operate medical imaging equipment on at least 15 patients. Unfortunately, in States with inconsistent medical imaging personnel standards, situations like this are not uncommon.

To combat similar occurrences, HB 1545 creates a board of medical imaging and radiation therapy to establish qualifications for licensure and standards for radiologic technologists, sonographers, radiologist assistants, nuclear medicine technologists, and limited x-ray machine operators. Board members will be experts in various imaging or therapy disciplines and the makeup of the board will include a diagnostic medical sonographer; a radiologist assistant; a magnetic resonance technologist; a nuclear medicine technologist; two practitioners who supervise medical imaging, one of whom is a radiologist; a radiation therapist; a radiographer; and a member of the public. The board will establish education and continuing

education requirements to help make sure that all professionals operating medical imaging equipment are trained on the latest technology.

The Commonwealth must also ensure that these medical professionals are properly certified by an accredited organization. There are several organizations that offer certification in medical imaging fields, but some are not accredited and do not have clear and transparent processes for their certification or examination process. Patient safety is paramount, and one of the best ways to ensure patient protections is by only accepting certifications issued by accredited organizations like the American Registry of Radiologic Technologists, Nuclear Medicine Technology Certification Board, or American Registry of Diagnostic Medical Sonography.

The Medical Imaging and Radiation Therapy Board will also be able to investigate incidents where patient safety may be at risk and take disciplinary action if necessary. This will ensure that medical practices hire educated personnel who are properly licensed and know how to effectively operate imaging equipment.

PSRT, ASRT, ARRT, SDMS, and SNMMI believe that Pennsylvania's citizens are entitled to protections from improperly performed medical imaging and radiation procedures. We encourage the Professional Licensure

Committee to take the first step to protecting Pennsylvanians by passing HB 1545.

Thank you for your time and attention, and I'm happy to answer any questions you might have.

MAJORITY CHAIRMAN MUSTIO: Thank you. Do any Members have questions?

Just quickly, you cited the one practice in State College that had a couple felonies. How would the enactment of this legislation have prevented that?

MS. SAWYER: Well, by being limited to hiring a licensed radiologic technologist to perform the exams. And as provided in the bill, I believe there's some ability to investigate these kinds of situations and come up with the correct or proper if not legal solutions.

MAJORITY CHAIRMAN MUSTIO: And what is the group that accredits the organizations that you identified there, the ARRT, NMTCB, and the ARDMS? See, I can read those, too. I don't know what they mean. But who does that accrediting?

MS. SAWYER: I am not familiar with the accrediting organization's name.

MAJORITY CHAIRMAN MUSTIO: Okay. But there is a recognized group that does that?

MS. SAWYER: There is a recognized accreditation group who accredits quite a few different types of medical

professionals.

MAJORITY CHAIRMAN MUSTIO: And then you've indicated there's a group that does some accrediting that's not recognized then, correct?

MS. SAWYER: There is, yes.

MAJORITY CHAIRMAN MUSTIO: Okay. Representative Sonney.

REPRESENTATIVE SONNEY: Thank you, Mr. Chairman. Good morning.

MS. SAWYER: Morning.

REPRESENTATIVE SONNEY: When you spoke about the makeup of the board, you know, I don't think I'm going to read through all these, but radiologist assistants, magnetic --

MS. SAWYER: Resonance.

REPRESENTATIVE SONNEY: -- resonance technologists, nuclear medicine technologists and you go through all of these, are every one of those really a separate discipline or are some people, you know, trained and certified in many of those areas?

MS. SAWYER: Well, a lot of us are trained and certified in overlapping areas. We are required to take a different certification exam for each specialty that we select after we are initially registered. But most magnetic resonance technologists know more so than a

nuclear medicine technologist about their particular specific requirements and processes. So I understand nuclear medicine technology and magnetic resonance technology, but I would not be expert in knowing how to necessarily provide an opinion about it.

And we do have several representatives here today, some from sonography, nuclear medicine. We don't have a radiation therapy person here, but, for example, most of us don't have any idea what goes on in radiation therapy except the radiation therapy technologist. So it is important to have several different ways of looking at what will be necessary for the board to do.

REPRESENTATIVE SONNEY: And this is not always in a hospital-type setting or it is?

MS. SAWYER: It is not. We have outpatient centers all over the State who have each one of these technologies in their practice, and while they do have some cross-training between technologists, they do try to hire whatever the specific technologist is for that modality.

REPRESENTATIVE SONNEY: So in the end, most of it is very individual, trained per occupation I guess you could say?

MS. SAWYER: Yes. Yes. I have a certification in radiography and in bone densitometry. I performed computer tomography for quite some time but didn't go

through the certification exam and training, so I would be qualified to do it but not an expert in the technology.

REPRESENTATIVE SONNEY: And just out of curiosity, what would be your specialty then?

MS. SAWYER: My specialty is bone densitometry.

REPRESENTATIVE SONNEY: Thank you. Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MUSTIO: Thank you. I also wanted to recognize Representative Day has joined us as well, and I believe you have a question. Is that right?

REPRESENTATIVE DAY: Yes, Thank you, Mr. Chairman.

What role do the organizations that you mentioned, the American Registry for Radiologic Technologists, Nuclear Medicine Technology Certification Board, and the American Registry for Diagnostic Medical Sonography -- what role do those organizations play in two functions? One, providing a complaint procedure for patient; and two, you know, testing or making someone unaccredited?

MS. SAWYER: I know for certain about the ARRT, the American Registry for Radiologic Technologists, because that's who certifies me or who registered me. And I believe that the other organizations do the same thing. That organization is designed to create the certification

exams, test and retest and provide the scoring mechanism for those exams, maintaining the annual or biannual fee structure for maintaining that registration. They do have a formal process for complaints from the public and do have several levels of sanction for personnel who are either trying to impersonate a technologist with fake credentials or a number of different things that they can -- processes that they can go through, including legal process. I'm sure that the Society of Nuclear Medicine has the same -- that registry has the same thing, and each other's have exactly the same thing for their specialty.

REPRESENTATIVE DAY: I want to give you the opportunity to address why the State licensing board would be required then if there's other organizations that provide that.

MS. SAWYER: Well, for the most part, the State College example is a perfect example. If we don't have a State-controlled licensure, then we aren't aware of the 17,000 radiologic technologists in this State who are either practicing or not practicing. The ARRT has those particular numbers, but they don't, on a State-by-State basis, check to make sure that all of those people who are employed are in fact registered technologists. So it would be I suppose fairly easy to hire someone and have someone train them or have them train themselves to perform x-rays

and no one would ever know about it. And the only way that we know about this one is because someone reported it to authorities.

So there are ways of making sure that people that are citizens get exactly what they need, but it would be much more we think -- I was going to give an -- let me give you an example.

REPRESENTATIVE DAY: You know what, you've answered fine.

MS. SAWYER: Okay. All right.

REPRESENTATIVE DAY: Just in the interest of time, I just want to take you off the hook and say that was what I was looking for --

MS. SAWYER: All right.

REPRESENTATIVE DAY: -- is just your thoughts on the matter. Thank you, Mr. Chair.

MAJORITY CHAIRMAN MUSTIO: Thank you. I also wanted to recognize that Representative Briggs is here as well.

Representative Kortz, you have a question?

REPRESENTATIVE KORTZ: Thank you, Mr. Chairman. And thank you for your testimony.

Yesterday, we heard testimony from the medical physicists, and they told us that there are certain procedures they have to collaborate with the physician and

I guess yourself. In your experience, how many procedures or how many times, percentage maybe, that you've had to have the medical physicist with you during a procedure? I'm just curious.

MS. SAWYER: That would be rare. Most medical physicists in any situation are primarily working with radiation therapy personnel to design treatment protocols. And so on a regular basis in my experience I rarely ever worked with a medical physicist except if there were perhaps new equipment that was installed and they needed to test it for the output or to make sure that it was safe, that sort of thing. But on a daily basis, it's very rare.

REPRESENTATIVE KORTZ: Okay. Thank you. Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MUSTIO: Thank you. I would also like to recognize Chairman Gillespie is here. Good morning.

Any other questions? Representative Knowles.

REPRESENTATIVE KNOWLES: Thank you, Mr. Chairman. And thank you for agreeing to be here to testify. It is very much appreciated.

It's my understanding that the ARRT requires all registered professionals to have 24 hours of continuing ed. every two years, and I guess I would just wonder why wouldn't that be adequate?

MS. SAWYER: Well, it is adequate if you are a registered technologist with the ARRT and need to maintain your credential, but there are people who are doing x-ray procedures that are not registered radiologic technologists. And according to I believe a regulation with DEP, the only other requirement for continuing education I believe is two hours every two years or one hour every two years of radiation protection, but besides that, no way of maintaining continuing education. So for registered radiologic technologists, that's good, but we also need to make sure that everyone in the State is following those procedures as well.

REPRESENTATIVE KNOWLES: Thank you. Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MUSTIO: Thank you. Give me one minute. Thank you. Are there any other questions from Members?

Thank you for your testimony. Will you be staying throughout the hearing?

MS. SAWYER: I will.

MAJORITY CHAIRMAN MUSTIO: Okay. In case some Members have questions afterwards, that would be great.

MS. SAWYER: Absolutely.

MAJORITY CHAIRMAN MUSTIO: Thank you so much.

MS. SAWYER: Yes, thank you.

MAJORITY CHAIRMAN MUSTIO: All right. Our next testifiers are from the Pennsylvania Radiological Society. That would be Dr. Keith Haidet. Am I pronouncing that correctly, sir? And Anthony Montagnese. That's wrong, I know, but you're going to have an opportunity to correct me.

We have your written testimony, and we've allotted 20 minutes for testimony and questions.

DR. HAIDET: Yes.

MAJORITY CHAIRMAN MUSTIO: So if you could in some capacity kind of summarize the testimony. Maybe there were some questions that were asked for the previous testifier that you could maybe expand upon as well if you feel the need to do so. But our interest today is to get as much information on the legislation as we can.

DR. HAIDET: Yes. I promise you I'm not going to read my testimony. I'm just going to point out a few brief points actually.

MAJORITY CHAIRMAN MUSTIO: Thank you.

DR. HAIDET: So my name is Keith Haidet, and I brought with me Tony Montagnese. I'm currently a practicing diagnostic radiologist 30 years in practice currently at Lancaster General Health, and I'm here representing the Pennsylvania Radiological Society as President of the Society. And I'm testifying on behalf of

passage of House Bill 1545.

I'm here because the Pennsylvania Radiological Society Chapter of the American College of Radiology is an organization of over 1,600 members representing radiologists, radiation oncologists, and radiation physicists from across the Commonwealth. We have approximately half of the radiologists in the State are members of our society. And our mission includes the advancement of the science of radiology, improvement in radiology services to patients in the medical community, and the establishment of high medical and ethical standards in the practice of radiology, also supported by our parent organization the American College of Radiology.

So you have my testimony. It's lengthy. And I submitted several articles to you in support of that testimony, but I want to just point out a few things. This process for me has actually been quite an education process in terms of how facilities are surveyed. And, you know, I grew up -- I've been a member of a hospital environment all of my practicing career, so I kind of know how hospital surveys go and how JCAHO operates and how the Department of Health operates. I have also been Director of a radiology office and I had a very good practice manager who took care of all of our Department of Environmental Protection surveys. So the DEP surveys have been a little bit more of

an education for me.

And it's my understanding that private offices in the State, nonhospital offices have really come under the Bureau of Radiation Protection of the Department of Environmental Protection and that hospitals pretty much come under the purview of the Department of Health and our parent certifying organization, the Joint Commission.

So I'll just read to you my delving into what's actually required for people who are clicking the shutters of radiation instruments by the Department of Environmental Protection. And I've been directed to Regulation 25, Chapter 221, which deals with radiation certification. And I'll just read to you -- you're probably familiar with them, but I'll read you the training requirements. They divide it into high-risk procedures and low-risk procedures.

And under high-risk procedures, it's stated, "The registrant shall require each operator who performs high-risk procedures at its facility to be an individual who either, A) has certification in the applicable specialty by a professional organization" such as ARRT, and it's not an and; either has that certification or "has demonstrated a minimum of eight contact hours of training" that includes topics listed in an appendix. So the base minimum is just eight hours of training for high-risk radiation procedures.

And then the CME is three contact hours of continuing education every three years, that's it.

For low-risk procedures, it's even less, so it says, "The registrant shall require each operator who performs low-risk procedures in a facility is authorized by the Department of State professional vocational standards to administer x-rays on humans, have certification in the applicable specialty by a professional organization," again, such as ARRT, "or has demonstrated a minimum of four contact hours of training" that include the topics in the appendix, so a minimum of just four hours of training.

And their continuing education is two contact hours of continuing education every four years in topics included in the appendix. So that's the certification standard to which people who are required -- and these are for machines that are registered with the State.

I've kind of delved around and say, so if somebody puts up a radiation machine in the State and doesn't register it, how does the DEP find out about them? I'm not aware of tracking through the payers, that they don't go to the payers and say who's submitting bills here? I've been told they kind of -- agents drive by and if they see a podiatrist's office or a chiropractor's office or whatever, they stop in and they check them out. It seems just kind of a bit hit or miss to me.

Now, I'm going to go on the hospital side. So I have a paragraph that talks about JCAHO, and I looked in the latest certifications for what JCAHO really requires people who are delivering the radiation in hospitals, and their standards are kind of limited, too. They're very heavy on -- I was at the hearing yesterday on medical physicists, so they're very specific in the training of a medical physicist. They have to be certified and trained to the hilt. But when it comes to technologists who are running CAT scanners or MRI machines, they basically just state that "The critical access hospital verifies and documents that technologists who perform diagnostic computed tomography examinations participate in ongoing education." And they specify some broad areas under which that training should occur. They don't talk about contact hours or a base certification or any of the such.

And same with MRI. "The critical access hospital verifies and documents that technologists who perform magnetic resonance imaging examinations participate in ongoing education that includes annual training and safe MRI practices." And that's just a general statement.

So it's basically up to the hospital and the health system to certify that their people who are doing the imaging have the appropriate certifications and qualifications. And again, it comes down to the medical

office and the physicians who run that office to assure that their personnel who are delivering radiation doses have training beyond this base minimum.

So in my testimony I've included a lot of verbiage about the ACR technical standard for the management of the use of radiation and fluoroscopic procedures. It's just one of the things that the American College of Radiography, our parent organization, mandates a training standard. And you can read the whole training standard. But it's lengthy and the amount of contact hours, the amount of continuing education, and the amount of base certification is far greater than what's required by the DEP for people who are giving radiation in a private office.

And the scope of this, if you want to look at, you know, who's all doing this, there are -- you can probably guess yourselves, veterinarian offices, podiatry offices, chiropractors, all the dental specialties. And when you get into the high-end dental specialties, they have portable CAT scanners to do imaging for dental implants, so that's delivering more radiation than just a simple x-ray machine that's just taking a picture of select teeth. So it's a wide range of people who are delivering radiation on a daily basis to the people of the State of Pennsylvania.

Just to finish, at the end of my testimony I have several scientific reports and public media reports about radiation injuries. You heard about one in State College. Several of these occurred in California where people in a facility were getting way over the greater dose of radiation than allowed by CAT scanners for periods of months, and that sort of jogged the JCAHO and a lot of the certifying organizations to pay attention to this.

If you look at several of those organizations, the International Atomic Energy Agency, the CMS Centers for Medicare and Medicaid, Nuclear Regulatory Commission, Food and Drug Administration, if you look at their regulations for who delivers radiation, they're far more stringent than the DEP regulations that I just read to you.

So, again, that's the reason why I believe this type of certification or board licensure is necessary to sort of rein all this in and have some sort of overarching control in all the individuals who are being involved in radiation procedures in the State. So thank you again, Chairman Mustio, Chairman Readshaw, and all Members of the Committee, for allowing me to testify, and I'm free to answer questions or I can have Tony speak since we're kind of in tandem, and then we'll answer questions after that.

MAJORITY CHAIRMAN MUSTIO: Yes, I think we'll have Tony speak first and then we'll --

DR. HAIDET: Yes.

MAJORITY CHAIRMAN MUSTIO: -- open it up. Thank you.

MR. MONTAGNESE: Thank you, and good morning. I appreciate this opportunity to talk to you. And with all due respect and for the record, it's pronounced Montagnese --

MAJORITY CHAIRMAN MUSTIO: Thank you, Tony.

MR. MONTAGNESE: -- but I've heard every variation --

MAJORITY CHAIRMAN MUSTIO: I'll call you Tony.

MR. MONTAGNESE: -- my whole life, so I'm used to that.

Thank you. I am by training and experience a board-certified medical physicist practicing primarily at Lancaster General Health in Lancaster. I'm here today in support of House Bill 1545. I wanted to also mention that I volunteer on a committee, a subcommittee for the DEP called Radiation Protection Advisory Committee with Dave Allard, and some of you may know him and some of the other members of the Bureau of Radiation Protection. So I helped to formulate the regulations that mandate certain restrictions and requirements for machines and operations and things like that.

I'm in somewhat of a unique position as a medical

physicist in that I'm neither the person that operates the machine, nor am I the individual provider who evaluates the images like Dr. Haidet, but I am charged with ensuring that the individual who operates the machines is in a radiation-safe environment and that the patient is receiving as little radiation dose as necessary to produce a high-quality diagnostic image, and that the general public are not unnecessarily exposed to radiation from these activities.

In this capacity, I've seen my fair share of equipment malfunctions or miscalibrations and failures of policy or procedure. But, in my opinion, there is no greater risk to the patient than from an improperly trained or educated technologist or therapist. These individuals are required to make decisions on a daily basis that impact the amount of radiation dose a patient receives, as well as the quality of the images that a radiologist or other physician must use to diagnose disease or conditions.

Even with the remarkable technological advances that Representative Cutler was talking about earlier, I have witnessed in my career all these different advances but nothing has changed the fact that there's a very human element in the technologist that operates these machines. If they select incorrect machine settings, position the patient incorrectly, or misuse the very advanced software

that they use these days, there can be repercussions to the patient.

Now, fortunately, like Dr. Haidet, I'm primarily based in a hospital where there's oversight from the Joint Commission, and those technologists are certified by their respective agencies. But, as Dr. Haidet pointed out, they fall under this purview that others in clinical settings, doctor's offices may not. I have interacted with those individuals as well and oftentimes I get concerned about their qualifications and their understanding of the type of radiation injury they can incur on patients if they don't operate them properly.

A quick check of the Bureau of Radiation Protection website will show you that there's nearly 15,000 registrants of x-ray machines in Pennsylvania. That is 15,000 individual sites that have an x-ray-producing machine. Only about 2 percent of those are hospital facilities, which means only about 2 percent of them are required to have qualifications of their technologists under Joint Commission purview.

So, in conclusion, my support is based on the belief that the citizens of our Commonwealth deserve peace of mind and confidence that any diagnostic or therapeutic medical or dental procedure they receive which involves the application of ionizing radiation has been delivered by an

individual with verified competence and experience. Such a measure will reduce the number of unnecessary or repeated exams, thus reducing the overall radiation burden on the patient population of Pennsylvania.

So I'll end it with that and be happy to take questions.

MAJORITY CHAIRMAN MUSTIO: Thank you. Representative Knowles.

REPRESENTATIVE KNOWLES: Thanks, Mr. Chairman. And thank you both for being here.

I don't even know whether this has anything to do with the bill, but I'm curious and have always been curious. Whenever I go for a medical imaging process, I'm one of those guys who sits there and when the gal or guy comes up, I go, "How's it look?" And they say, "Well, we can't tell you that. You've got to talk to the doctor." So I guess my first question would be the technicians themselves that do the MRIs or that do the CAT scans, what exactly is their job? Is their job just to simply make sure that the image is a good image and one that a doctor can read or can you just -- it'll be worth my trip from Schuylkill County just to hear the answer to that.

DR. HAIDET: So I'll start and Tony can add in. So their job is actually incredibly critical from my perspective as a diagnostic radiologist. They have to,

number one, be sure they're operating the machine in a safe environment and at a safe level. So our technologist, for example, on MRI are absolutely fanatical about screening patients for metal in their bodies that might twist or turn in the machine that might kill a patient. So we go through an extensive screening procedure when they come for an MRI exam. They also want to operate the machine at a level -- and some of these machines, especially CT and MRI and ultrasound as well are incredibly technical, so there's a lot of choices to be made in the performance of a procedure to be able to produce an adequate image for interpretation. And if they don't make those choices appropriately, the image can deteriorate so incredibly that the exam becomes essentially uninterpretable. And we've had that.

And patients can be challenging. Patients who have a large BMI, body mass index, patients who are moving, patients who are not cooperative, they have to deal with all of this and still come out with an interpretable exam. And they also, as Tony said, have to not do repeats. Especially when you're repeating x-rays, you're essentially doubling up the dose on someone. So every time you repeat, you've basically dosed them twice.

So to me, they're actually my right hand. If I can't be in the room with a procedure -- and in fact, given their level of technical expertise, I can't go to the level

if they're well-trained and certified to be able to do what they do. So if they're not up to snuff, we don't have an exam and the patient can't be treated because a lot of times an imaging procedure sets up the whole cascade for how patient treatments occur in hospital environments and in imaging offices.

MR. MONTAGNESE: And I would just add to that that I often watch the CT technologists, nuclear medicine technologists, they'll get an order for an exam that will simply say CT of the abdomen with a symptom of pain, and they'll do the exam. And often they see things prior to the radiologist seeing them, and they know that is something I need to highlight. And they can do so with the software. They can focus in on things and provide the radiologist with additional images without additional radiation through software to say, "Ah, look at that; that's why he has pain." Now, he can't tell you, "This is what I found." You're right, he can't say that to you, but he can present this to Dr. Haidet and say, "Hey, I highlighted that thing in the lower quadrant there that looks a little suspicious." So those are the kind of day-to-day, minute-by-minute decisions I think a qualified technologist has to be able to make.

DR. HAIDET: One other thing that's really pretty critical and that's becoming more important as time goes on

is in the organizations in which I've worked, they are the first filter for inappropriate imaging exams, so not all the -- physicians are not in this bill, I understand that, but physicians are really driving the ship a lot of times. They're involved in radiation procedures. They're ordering these tests. And a lot of tests are ordered excessively and inappropriately.

Our technologists basically screen those, and they've been trained under certain guidelines as to what's an appropriate exam and what's not, and they'll come back to us or they'll be in contact with us and say, "Mr. So-and-so is here for this exam but it's really not the right exam, it's not appropriate, we really shouldn't be doing it." And a lot of times those exams are canceled or they're moved to a more appropriate exam. So they're the first filter for even not doing inappropriate imaging.

MAJORITY CHAIRMAN MUSTIO: Thank you.

Representative Kortz.

REPRESENTATIVE KORTZ: Thank you, Mr. Chairman. And thank you, gentlemen, for your testimony.

You both indicate support for House Bill 1545, yet in your testimony you raise red flags about the small dental offices, chiropractors, podiatrists. Are you suggesting that we modify the bill to include the physicians and the dentists? Raising the red flags here.

DR. HAIDET: I think that becomes --

REPRESENTATIVE KORTZ: I believe that's exempted in the bill right now.

DR. HAIDET: Physicians are exempted, and that's probably a discussion for another day. Physicians have a licensing process in Pennsylvania, and potentially that, if it needed to be, could potentially probably be addressed through licensing. We address it in our hospital through credentialing. Actually, Tony -- and most big health systems probably do the same. Tony's in charge of ensuring the radiation safety of all the patients who come into the hospital by making sure the physicians are appropriately trained. So to be credentialed in our hospital, we have to take a radiation safety test every time we credential. And it basically goes over all the effects of harmful radiation, basically gives scenarios where you have to choose, you know, what would you do in this scenario. And Tony makes sure that test is updated and current. So in a lot of places, that's how it's self-managed for physicians.

REPRESENTATIVE KORTZ: But dentists and chiropractors, I mean, you're raising red flags there.

MR. MONTAGNESE: Well, by regulation, any licensed practitioner may operate a radiation-producing machine. And we're not proposing that we change that in this bill. That is something that has been in existence

for quite a long time. So any physician, licensed medical practitioner can operate the x-ray machine. Most of the technologists realize that's a long shot that they would know how to do so, but they can, and that's sort of a kink in the system, no doubt about it.

REPRESENTATIVE KORTZ: Okay. Thank you. Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MUSTIO: Thank you. Chairman Readshaw.

DEMOCRATIC CHAIRMAN READSHAW: Thank you, Chairman.

Dr. Haidet, in the information you gave us in the back there's tables which are entitled "Current Status of Recommendations of the ACR Blue Ribbon Panel on Radiation Dose in Medicine." And I didn't read all this so I may have missed something. There's references to input from 2008 and 2010 from different individuals and doctors. How current are these recommendations, this year, last year?

DR. HAIDET: Oh, no, you're talking the ACR white paper on radiation dose in medicine. This was created in 2007, and then they reanalyzed it three years later. I think, you know, we continue to make progress on these regulations. Not all of them have come to fruition. You're talking about these two tables, right?

DEMOCRATIC CHAIRMAN READSHAW: Correct.

DR. HAIDET: Yes, they give tables of progress. I mean, basically, the American College of Radiology's overall plan to try and ensure the radiation health of the people of the Nation, and so it's a multipronged approach. You know, some of it's basically getting to medical students and medical schools and starting their radiation training at a very early part in their careers so when they come out as practicing physicians, they really have a better understanding of radiation training. That does not occur uniformly in the medical schools in this country. So, I mean, a lot of these are works in progress, so there has not been an update since 2010 to see where we are in this specific format, but we continue to make progress along those lines.

DEMOCRATIC CHAIRMAN READSHAW: Thank you, Doctor.

Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MUSTIO: Thank you. And I wanted to thank you both of you for your testimony.

Tony, if you would work with our staff, I think we need to ask appropriate questions to the DEP --

MR. MONTAGNESE: Absolutely.

MAJORITY CHAIRMAN MUSTIO: -- to solicit information from them that will help move this issue along. Is that okay?

MR. MONTAGNESE: Absolutely.

MAJORITY CHAIRMAN MUSTIO: All right. Thank you.

I'd also like to welcome Representative Harris to the hearing today as well.

The next testifier will be Cheryl Rickley, CNMT, from the Society of Nuclear Medicine and Molecular Imaging.

MS. RICKLEY: Thank you and good morning.

MAJORITY CHAIRMAN MUSTIO: Good morning.

MS. RICKLEY: I know you have my testimony in front of you. We sent that ahead of time, and I'm not going to read that. And I guess thank you to Mardi and Dr. Haidet because they've pretty much read most of the stuff I have.

But with that being said, there's a few key points that I want to address as a certified board nuclear medicine technologist. I am licensed to practice, and I trained in the United States Army through the Naval Sciences of Bethesda, Maryland, and I spent 11 years practicing nuclear medicine while I served my country. I was shocked when I got out of the service and found out that there were still 13 States that do not require me to have a license to practice nuclear medicine, and Pennsylvania is one of those.

Pennsylvania has 13 million people that live in the Commonwealth of Pennsylvania. I'm one of them. And currently, you know, when I think of Commonwealth of

Pennsylvania doesn't have a uniform standard to ensure patients that the individual performing their nuclear medicine procedures have the appropriate education, training, board certification to protect them from harmful effects of excessive and improperly performed medical imaging or radiation procedures, that quite frankly scares me.

When we look at our patients and they approach us today, they're asking real critical questions. Are you licensed to do this? Yes, I am. But in Pennsylvania, everyone is not. Our patients are very well-educated like us, and when I have to turn them and say to them thank you for asking that question, I shouldn't have to ask that question. The State of Pennsylvania should ensure that there's a mandatory State licensing to practice nuclear medicine from a technologist. You ask the physicians to be State-certified, State-licensed, but you don't ask me.

Here's what I do every day in my field. I see patients, I educate students, and I take care of all the logistics that runs my department. In this, just to share a little bit with you because you may not know, radiobiology, radioprotection, radiation physics, instrumentation, nuclear pharmacy and pharmacological, diagnostic procedures, clinical education, radionucleotide therapy, and incorporating the emerging technologies such

as PET/CT, SPECT/CT, and, most recently, PET/MR. If we continue to not have mandatory licensing for these things, more medical mistakes are going to take place.

Speaking of which, the number-one and number-two leading cause of death in the U.S. is heart condition and cancer. Every one of these patients that we manage day-to-day require some form of medical imaging. These exams need to be performed by licensed professionals, not someone who got two hours of continued education or on-the-job training. This is serious business. Because when they make a mistake, it leads to the third-leading cause of death in the U.S., which is medical mistakes, medical mistakes by human errors. That is a $19 billion industry deficit to the health care industry. Do we want that in Pennsylvania? No.

I'm here to tell you I'm in support of this bill, and I'm relying on you guys to push it forward.

In closing, today, you will hear from several societies that are in support of this bill. We're here as the medical imaging professionals saying please, let's put a mandatory license in the State of Pennsylvania as soon as possible.

That's all I have. Everyone else got everything out so I get to keep it really brief.

MAJORITY CHAIRMAN MUSTIO: You get a star.

MS. RICKLEY: May I say one more thing?

MAJORITY CHAIRMAN MUSTIO: Oh, you got your star.

MS. RICKLEY: I just want to acknowledge Representative Jerry Knowles for saying when you ask that question what do we actually do, we do a lot. We are restrained by the health care industry as to can we discuss your results. We can't. We do know them, but we're not allowed to discuss it. We'd like to get that changed as well.

REPRESENTATIVE KNOWLES: I'll just look at your face.

MS. RICKLEY: What?

REPRESENTATIVE KNOWLES: I'll just look on your face.

MS. RICKLEY: But if you come to me for your health care and you ask to see the pictures, I am so proud of what I do, I will share your pictures with you and I will explain the anatomy and the physiology associated with the exam I just performed on you. And every technologist that works for me at Jefferson University Hospital, we will do the same. It is what we're here to do. We take care of patients, and all of us agree that safety is the number-one priority.

You know, and on behalf of the Society of Nuclear Medicine and Molecular Imaging, wow, is that a lot, we

really take this to heart, and we're here to work with you. We're not going to walk out that door and say good luck. No, we're going to walk this all the way up the stairs with you. Does anybody have any questions for me?

MAJORITY CHAIRMAN MUSTIO: Yes. We're going to get to that.

MS. RICKLEY: All right.

MAJORITY CHAIRMAN MUSTIO: Just a second. Representative Knowles, yes, you get your star, too.

Representative Kortz.

REPRESENTATIVE KORTZ: Thank you, Mr. Chairman. Could I have a star also?

MAJORITY CHAIRMAN MUSTIO: No.

REPRESENTATIVE KORTZ: Okay. Thank you. Thank you for your testimony.

MS. RICKLEY: Thank you.

REPRESENTATIVE KORTZ: Question, how often do you work with a medical physicist?

MS. RICKLEY: We work with the medical physicist quite often in nuclear medicine because we're doing the therapies on the patients. Our cancer patients have to have some type of therapy, and a medical physicist comes in and helps perform that.

REPRESENTATIVE KORTZ: So is it 90 percent of the time, 80 percent?

MS. RICKLEY: I'm going to say to you more than 60 percent of the time --

REPRESENTATIVE KORTZ: Okay.

MS. RICKLEY: -- because half my day is diagnostic and half my day is therapeutic.

REPRESENTATIVE KORTZ: Okay. Thank you.

MS. RICKLEY: You're welcome.

REPRESENTATIVE KORTZ: Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MUSTIO: Any other Members with questions?

Cheryl, would this be an appropriate comment? You work with a tool that could kill or miss an opportunity to save a life if used improperly?

MS. RICKLEY: Pardon me, sir?

MAJORITY CHAIRMAN MUSTIO: If used improperly?

MS. RICKLEY: Absolutely.

MAJORITY CHAIRMAN MUSTIO: And I suspect, Members, that trial lawyers probably oppose this bill. That's just an aside based on your comments, right?

MS. RICKLEY: Correct.

MAJORITY CHAIRMAN MUSTIO: Thank you very much. And hopefully, you'll stick around, too, for some additional questions afterwards.

MS. RICKLEY: Absolutely. Thank you.

MAJORITY CHAIRMAN MUSTIO: Thank you. I'm

telling you, Members, you're going to miss me.

The next testifier is James Coffin from American Registry of Magnetic Resonance Imaging Technologists.

MR. COFFIN: When I first had the nonprofit organization set up, it was called the Registry of MRI Technologists, and the person at the bank -- because we had to set up a bank account -- goes, "Is this a church?" I said, "No, a registry, not ministry." Anyway --

MAJORITY CHAIRMAN MUSTIO: Okay.

MR. COFFIN: -- that was the confusion. Anyway, I think my testimony has been submitted, and it is kind of an edit and an addendum to the letter that we sent to the Committee with a volume of documentation. The reason it's an edit or an addendum is because since that time, New Hampshire, which went through this process -- and they're not the only State that's going through this process -- had excluded our organization from their bill. But once we educated the legislators and gave them the same information, they have since then added us in, which is rightfully so.

We've been certifying MRI techs. We are the first and only MRI technologist-certifying organization in the Nation, not as a subspecialty but a specialty. We also promote MRI education. And I challenge anybody in this room to tell me of a full MRI program leading to a career

one year or more, hopefully two years with at least 1,000 hours of clinical, which most educational programs in x-ray and ultrasound and nuclear medicine would require in the State of Pennsylvania. The ones that might exist might be in a community college as an addendum to x-ray, but MRI has nothing to do with x-ray.

I would also like to address that the ASRT has many chapters, and they're promoting these bills throughout the country. And the ones that are getting by us is because at the time we didn't have that service known as LexisNexis, but now we're on top. We find out about it right away. And I just educated the legislators in Alabama, and I got a call from their medical society and the newspaper *Anniston Star*, and the guy at the *Anniston Star* says, "So is this a big group trying to push out a small group?" And I said, "Well, that's one aspect." And they are also addressing this.

We're dealing with Tennessee also and I'm expecting more to come. But the five States that are solid, one includes New Mexico, and I want to educate you a little bit about New Mexico is that we work directly with the ASRT on the New Mexico legislation, but it turned out after four years, in the first three they were trying to exclude us until their Office of General Counsel told them you can't. We've been around for 27 years. We're

recognized under the MIPPA bill. We're recognized by the four accrediting bodies, the ACR, the Joint Commission, the IAC, and the RadSite.org, all recognized by Centers for Medicare and Medicaid Services.

And I would just address that to you that the MIPPA law was passed in 2008, became effective in 2012, and what it said was all imaging sites doing medical imaging on the level of MRI, CT, and CAT scan at that time should be accredited by one of those four bodies. We're recognized by all four. In 2012, they enhanced the bill. They said now hospitals are included and ultrasound.

So I do want to say that we are not against licensure, as long as it does not create an unlevel playing field or exclude people who are currently working. Now, we only have 11 members in this State, and one of them is working in Jersey, so he's a little bit of a traitor.

But the gentleman over here, the Representative had asked why do you need to do it if we're doing it? If we're doing a good job certifying and we're under the national requirements, why does the State have to get involved? It's a question you should ask because I know the first State to license all imaging was West Virginia, and they came to our organization's annual meeting to make sure of who we were and we were included. Well, last year, their legislature tried to end the bill and say we don't

need to do this. We really thought it was a money-saving issue, but I think some of their legislators said all of these people are required to be certified. Do some of them fall through the cracks? Yes. But the fact is it's our job to stop that from happening, but it's also on the level of the imaging side itself.

In MRI, we had many times our techs are asked to inject even though it's not iodine-related, it's only for their modality, there's no radiologist to be found. And when they say, "Hold it, there's supposed to be a doctor here," "Oh, you just do your job or you're fired." That's the way it is. That's only one issue of many.

The issues of magnetic safety, if techs come into this field, which I am telling you right now, 85 to 90 percent of the techs in this country still today are on-the-job trained, including x-ray techs, including nuclear medicine techs. They knew no more about MRI than you do right now. And I'm telling you also, doctors who refer for MRI many times don't know the difference. I had a doctor argue with me that MRI had just as much if not more radiation than a CAT scan. He was a young guy, I kind of let him go, but I even showed him my card that says I'm the President of the Registry of MRI Techs.

So the issue here is we need more MRI education, not less. We need fair and a level playing field in the

requirements if the States are going to get involved. And other States have done just that, and they have included our certification, which is what we are asking you to do here. We think it's the right thing to do, it's the fair thing to do, and we do a very good job.

Anyway, if you have any questions for me, I don't think there's anything else I wanted to say. Oh, I would also question that some of the students in this audience, if they had the choice to go to an MRI school instead of an x-ray school or an ultrasound school, just one of many, a menu -- not everybody wants to do MRI. Not everybody wants to do nuclear medicine. But do they have that choice where they say I want to go to x-ray school, your children, your grandchildren, whoever they may be, say, "I want to be an MRI tech." I get calls every day about it. Do they have that choice? I think maybe eight States have real MRI programs, all licensed by their State, accredited by Department of Education accrediting bodies.

And I would like to say that this bill does not have all the DOE accrediting bodies listed, so it would exclude some schools who are probably doing a good job.

MAJORITY CHAIRMAN MUSTIO: All right. Thank you.

MR. COFFIN: So I really appreciate your attention and the opportunity to testify.

MAJORITY CHAIRMAN MUSTIO: Members, do we have

any questions?

What I'd like to do at this point is thank you very much. And I see some heads nodding in the back on a couple of the comments that you made, Mr. Coffin. Students are over here nodding in agreement. I know this is a little out of the ordinary, but I would like to ask Dr. Haidet to come back if you wouldn't mind. The purpose of our Committee obviously is to get as much information as we can, and there are a couple comments made by Mr. Coffin as it relates to the MRI. And I believe in your testimony you had also mentioned I thought MRIs, is that correct?

DR. HAIDET: I discussed MRI to some extent under the JCAHO regulations --

MAJORITY CHAIRMAN MUSTIO: Right --

DR. HAIDET: -- for CT and MRI.

MAJORITY CHAIRMAN MUSTIO: -- and I just kind of wanted to get your opinion on some of the comments that were made and not necessarily to go back and forth, but we don't have that opportunity all the time to have some follow-up, so I'd like to do that. And then at the conclusion of the hearing, we'll conclude it, and then if Representative Cutler wants to make any comments, we'll let him do that at that point.

DR. HAIDET: So I think the testimony given is accurate as presented. Magnetic resonance and x-ray are

two entirely different things and have really an entirely different set of training in physics and in technical expertise. And he is correct in saying that they really require separate certification. And since MRI is the newest of all of these modalities, that's why you're seeing a lot of the people doing MRI are on-the-job trained because for a while there had not been a certifying organization. Now, there is. And so we're finding that more of our technologists are going back and getting their MRI registries, getting certified in the ability to use that equipment.

The danger in MRI kind of comes in twofold. One, you're injecting contrast like you are in CT. In CAT scan, you can have an iodine reaction, and that's well written about. In MRI it's more insidious. You're giving basically a heavy metal to a patient. The heavy metal can't be given to pregnant women because it crosses the placenta and can be toxic to a fetus. The heavy metal can basically set you up in patients who have marginal renal function, marginal kidney function to get a thing called NSF, which is a fibrotic reaction that the body makes that can be very damaging. So that's also been well-studied recently. It's a recent phenomenon.

The other problem is you're in a magnet that is more powerful than -- and the magnets are getting more

powerful -- than anything you have around. So its ability -- we used to educate patients by taking a wrench on a string and walking it around our magnet, and that's how you can trace how the magnetic field looks. But the minute you would bring that wrench into the room, that thing would make a beeline to the center of the magnet, so everything gets sucked to the center of the magnet where the field is focused.

So if patients are not adequately screened for metal, albeit aneurism clips in the brain, those things can twist and twerk in the MRI field. They can also heat. If you have wires and metal in your body, it can heat and cause a heating reaction. So patients have to be very carefully screened even as far as going to contacting the manufacturer and finding out if it's MRI-safe before they go inside the magnet.

MAJORITY CHAIRMAN MUSTIO: In real practice, who does that screening? Is it a physician or is it the person that's on-the-job training?

DR. HAIDET: No, we have a standard -- and Tony can speak to this if necessary. I don't know if he gets involved in it. We have a standard set of screening procedures that are set up by a safety committee, so we have an overall MRI safety committee that has both doctors and technologists and managers on it. They set up the

guidelines for screening, but the actual on-the-boots screening is done by the technologist before the patient enters the magnet, so if they don't do that job carefully, you can potentially get problems.

And I've seen severe heating and burns. We screen patients -- so patients who have had any kind of profession where there's involved grinding and metal in their eyes or metal fragments in their eyes, they have to be screened because, again, you can cause potentially blindness. So we carefully screen the orbits, the brain, and the rest of the -- pacemakers, now MRIs being used in patients who don't have special kind of pacemakers that can be put in the MRI, but they have to be screened because what you can do with a pacemaker is basically they use a magnet, a much smaller magnet on pacemakers to put them in demand mode, which means they start to continually pace, but they can continually pace; they can become erratic. And patients who are absolutely dependent on their pacemaker firing at a predictable pattern can potentially be thrown off in a magnet.

MAJORITY CHAIRMAN MUSTIO: Well, thank you very much. Any Members have follow-up? Yes, Representative Knowles.

REPRESENTATIVE KNOWLES: Thank you, Doctor.

Doctor, shouldn't we be looking at how

manufacturers are using ionizing radiation as well? I mean, I got to tell you, this I'm finding is very interesting because I'm learning a lot here today.

DR. HAIDET: Me, too. So Tony can probably speak even better to this. The equipment that's used -- so there's regulation of the people who are using the equipment and there's regulation of the equipment itself. The equipment regulation is far more stringent. When I look at the DEP regulations for somebody who has to register a piece of equipment, there's a long list of requirements that have to be made.

And that's where your people -- I see questions constantly being asked about the medical physicists. You know, I wanted to say the medical physicist is actually an absolutely critical person in the chain. Those are the persons that make sure that medical equipment functions properly, does not deliver too much radiation, is safe, and they're routinely involved in checking at least in our health system all the equipment on a routine basis to make sure it meets all the standards and qualifications and that it's completely safe. And so the equipment is regulated far more closely I think than the individuals who are using it is my understanding after reading through all of this. And Tony I think can vouch for that.

So the only other thing I would say just one as a

conclusion -- and maybe my testimony led you down a wrong path. I understand that it's hard and it's costly to create another licensing board. Licensing boards are expensive. You potentially with this one would be licensing a lot of people because, you know, there's 32,000 physicians in this State or around that amount. I'm not sure, and maybe somebody can speak up, the number of technologists, people who are actually producing the radiation, Tony just said there's at least 15,000 private facilities in the State that produce radiation, so you have a much bigger body of people that you would be licensing.

The question becomes, you know, how do you rein in and control all of this and set a uniform standard? I think just buffing up the DEP regulations would probably fall short of all the -- when you look at all the standards of the licensing organizations that are necessary for people to be adequately trained for this, just buffing up the DEP regulations, unless you required certification by those organizations as a must-have-this would probably fall short of something that licensing could do.

MAJORITY CHAIRMAN MUSTIO: Chairman Gillespie.

REPRESENTATIVE GILLESPIE: Thank you. Just a little different track here because it was mentioned by several of you, and whoever would want to try to answer it, it talked about getting too much radiation, not enough, 15

or 16,000 different places that do x-rays of one sort or another, whether it's the dentist office or so forth. My background was health care, but I'm really rather dated.

Can any of you comment on what the -- and maybe this isn't the proper term -- the half-life of amount of radiation that someone receives through diagnostic radiology? Is it always there or does it dissipate after a period of time, again, considering everything that was discussed here this morning?

DR. HAIDET: Since our physicist is the most qualified person in the room --

REPRESENTATIVE GILLESPIE: Great. Thank you.

DR. HAIDET: -- I'm going to let him speak.

MR. MONTAGNESE: Okay. Thank you. Half-life really only applies to the application of nuclear medicine studies. For a diagnostic study, the isotopes that are used for those studies have a very short half-life. So the patients contain radioactive material and are emitting radioactive particles with half-lives in the range of 6 to 10, 12 hours, not too long. And it's such a low dose that we can actually discharge them to the general public, and they will not cause any significant risk to anybody else, including spouses and people on the bus that they're riding.

X-ray, totally different animal. The x-ray is

projected through the patient and is gone immediately. It's done. It's over. So a patient that just had a CT scan, for example, they are not radioactive or an x-ray, a chest x-ray, they are not radioactive. Only the nuclear medicine patients retain radioactivity for a short amount of time, the only exception being if it's a therapeutic procedure, they will maintain that radioactivity for a much longer time and are under much greater restrictions on whom they may interact with for a period of time, that kind of thing. Does that answer --

REPRESENTATIVE GILLESPIE: Yes, I think we're getting there. So somebody could have 10 chest x-rays over the course of 10 days for whatever reason that may be, and they are not going to be retaining any radiation whatsoever?

MR. MONTAGNESE: None. And interestingly enough, there is no regulatory limit on the number of x-rays a patient may receive. There's also no regulatory limit on the amount of radiation dose they may receive for any one exam, the only exception being screening mammography. So any facility can do repeated chest x-rays on a patient ad infinitum per the doctor's orders, and, in addition, the amount of radiation dose they give for those chest x-rays is not regulated. So one facility may be giving a dose of 10 milliroentgen, the next one may be giving 50

milliroentgen, and there's no regulatory limit to stop that.

REPRESENTATIVE GILLESPIE: Thank you, sir. Thank you, Mr. Chairman.

MAJORITY CHAIRMAN MUSTIO: Thank you. Any other questions?

All right. With that, Representative Cutler, if you could bat cleanup here and kind of tie things together, that'd be great.

REPRESENTATIVE CUTLER: Absolutely. Thank you, Mr. Chairman. Thank you, Members of the Committee. Thank you for everyone who came to testify today.

As I stated, when I started this originally, it dealt with patient safety, and one of my concerns was the fact of all the different decisions that were shown today by the different modalities and the different methods by which we collect medical information because each of these areas -- and I believe it was Representative Sonney asked, you know, specifics regarding the test.

You know, when I was in x-ray -- and while I keep my license up -- I'm like Keith; I'm a little dated in terms of some of my clinical skills. But when I was in x-ray -- and to Mr. Coffin's point, you know, MR was solely, you know, cross-training, on-the-job typically in the evenings at that point, and truthfully, same thing with CT,

which is really where the main nexus lies with MR and the rest of the imaging fields is the idea of cross-sectional anatomy. That's probably the biggest section of overlap in that regard.

And you were referencing the wrench, Dr. Haidet. We had an experience -- and I'm sure if you ask some of your partners, they will remember this -- where the cleaning lady took in the mop and the bucket right after the magnet was installed and it quickly affixed itself to the side of the magnet and they weren't sure what to do and made quite the mess because it did not go there slowly.

And, you know, one of the questions that came up -- and I'll confess, Mr. Coffin, I was not aware of your organization, but when you said that there were only 11 here and one went to --

MR. COFFIN: [inaudible] but your organization, the ASRT, is very aware of us and, you know, that should have been communicated because I've sat with Christina Long many times over the last four years.

REPRESENTATIVE CUTLER: Understood, but it was not, so I appreciate the information that you sent. I would love to get that person from Jersey back, but they're probably here because our taxes are a little more favorable, and while we still could work on that, though, as well.

MR. COFFIN: [inaudible]?

MAJORITY CHAIRMAN MUSTIO: No.

REPRESENTATIVE CUTLER: The other thing that I would like to point out is there's a lot of blurring of the lines in terms of medical imaging. When I started PET scan and fusion MR were not clinically applicable yet. That's where you take CT and nuke med and you meld the two fields or MR and nuke med and you meld the two fields, so there's a lot of overlap there.

And certainly, you know, one of the goals and one of the problems quite frankly is the lack of our ability for certifications to keep up with these new fields as they develop, and that's something that came up at the discussion at the Department of Environmental Protection Board where we were discussing it.

At the end of the day I'm most interested in keeping patients safe, making sure that we have qualified technologists making all of the decisions that we do. We certainly look forward to working with everybody here in regards to each of your individual areas and your certifications and the boards.

And I appreciate your time, Mr. Chairman. You were very generous. Thank you.

MAJORITY CHAIRMAN MUSTIO: Thank you. I want to point out to Members that in their packets there's also

some information provided by organizations that did not testify or weren't able to make it to testify today.

I want to thank the Members, great questions, thank the testifiers. We're on time. It's awesome. Students and practitioners, thank you so much for showing an interest. I think it's an incredible part of the legislative process that you do so. And I know you all took time away from your family lives or work or whatever today, but this is all about the process, and a lot of positive things came out today.

So you won't see this on the news, right? We won't hear this on talk radio, we won't see it on any of the networks, but this is how government is supposed to work. And I want to thank you for participating.

I would encourage if possible that -- Chairman Readshaw had a bill yesterday that we had testimony on, but certainly we had some great input today from the physicists. And if there's some way that possibly we could also implement that in the chain of events that we learned about today at some point, it might make it a very good bill to get done.

But thank you very much, everybody.

(The hearing concluded at 10:49 a.m.)

I hereby certify that the foregoing proceedings are a true and accurate transcription produced from audio on the said proceedings and that this is a correct transcript of the same.

Christy Snyder

Transcriptionist

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