



**Testimony of Charlotte Henningsen
Submitted to the House Committee on Energy and Commerce
Subcommittee on Health
“Medical Radiation: An Overview of the Issues”
February 26, 2010**

My name is Charlotte Henningsen. I am a professor and Chair of the Department of Diagnostic Medical Sonography at the Florida Hospital College of Health Sciences in Orlando, Florida, and a Fellow of the Society of Diagnostic Medical Sonography (FSDMS). At the risk of sounding immodest, I have also published a number of research papers and textbooks on medical imaging currently in use nationwide. And, maybe most important, I am also a practicing medical sonographer.

I am presenting this testimony as the President of the Society of Diagnostic Medical Sonography (SDMS), the largest professional association in the country representing medical sonographers. Currently, SDMS has over 22,000 members.

I understand that my testimony may not make me popular with the rest of the medical community. Many medical practitioners frequently recite the adage, “medical errors and poor quality care are rare and the exception.” That is simply not true. Medical errors and poor quality healthcare are far too commonplace. Privately and quietly, every medical professional will also tell you that, early in their careers, they learned to “keep quiet” about mistakes and not “make waves.”

Based on my experience within the medical imaging arena, medical errors and poor quality care are more often than not the direct result of poorly trained, or in some instances, completely untrained, personnel. When a patient is lying on a table awaiting their imaging study, whether it is an x-ray, a CAT scan, an MRI, or an ultrasound exam, the patient assumes that the person entering the room wearing the white lab coat has the appropriate education, training, and/or certification to perform the study. With medical imaging exams, the patient’s assumption that “I’m safe, my provider has the necessary training and certification to perform my examination,” is all too often unfounded.

Unfortunately, the problem is not limited to ionizing or radiation-based imaging or therapies, but extends to ultrasound as well. While the use of ultrasound for medical imaging purposes is generally considered to be safe and effective, there are far too many examples of problems with “bad” imaging leading to misdiagnosis of a range of medical conditions including cardiac disease, aortic aneurysms, ectopic pregnancies, fetal abnormalities, and the list goes on and on. The problem of misdiagnosis results in delays in treatment and, in the case of a “false positive,” unnecessary diagnostic tests (e.g., more expensive imaging studies are required) and/or



unnecessary treatment, which may even include surgery. For the patient on the receiving end of a poorly administered imaging exam, the results can run the continuum of inconvenient (repeat studies, more time and expense) to death.

When most of us think of ultrasound, we envision a qualified health professional waving a wand over the abdomen of a pregnant woman. Prenatal ultrasounds are important and help physicians diagnose potential problems. However, ultrasound has become an essential tool in the diagnosis of many diseases and medical conditions. While many people have heard of echocardiography, most patients don't know that this procedure utilizes ultrasound. In fact, it is the ultrasound portion of the echocardiogram that provides the physician with the key information to make a determination whether the patient is suffering from heart disease or not. Physicians use ultrasound in the emergency rooms to quickly assess and diagnose internal injuries and trauma to internal organs. Physicians use ultrasound to uncover aneurysms, cancers, and diseases of the eye, the brain, the kidneys, the liver, the bones and joints, and numerous other diseases and conditions. Ultrasound technology is advancing faster, and becoming more versatile, than almost any other imaging technology.

A minute ago, I said, when most of us think of ultrasound, we envision a health professional waving a wand over the abdomen of a pregnant woman. In truth, the health professional waving the wand may not be a health professional at all. Most of us assume that when ultrasound personnel enter the examination room wearing a white coat, the individual is required to have the appropriate training, education, and certification to do the work. That is simply not the case. Only two states, Oregon and New Mexico, have licensure laws for sonographers and both of these states only passed their laws within the last two years. Neither Medicare nor Medicaid requires that ultrasound personnel have any education, training, and/or certification, despite the GAO's recommendation to establish these standards. Physicians and hospitals, in an effort to save money, often hire non-certified and untrained personnel to do their ultrasound studies. Although it is frightening to imagine, if you receive an ultrasound study on Tuesday, the person performing the ultrasound on you (or your children, pregnant wife or daughter) may have been "flipping hamburgers" for a fast food chain on Monday.

The outcomes have been disastrous. Nationwide, and in hundreds of cases, poorly done ultrasound imaging has resulted in bad diagnoses and bad outcomes for patients and newborns. One of the largest malpractice settlements in the history of Washington State was the result of a failure to perform a routine obstetrical ultrasound examination properly and the failure to detect what should have been easy-to-see problems with a pregnancy. The outcome was tragic and avoidable. In hundreds of similar cases, the personnel performing the ultrasound were either untrained, non-certified, or received what is akin to an inadequate, short course in ultrasound imaging before they were released on unsuspecting patients. In summary, there are more



regulatory requirements in place for the person that cuts your hair than there are for the person who may do your ultrasound examination.

The failure to employ properly educated, certified, and trained ultrasound personnel increases the cost of health care in other ways. A recent study in a respected medical journal found that, in many instances, physicians order advanced imaging (e.g., CT or MRI) when non-advanced modes of imaging (e.g., x-ray or ultrasound) would provide the same diagnostic information at a fraction of the cost. Oftentimes, ultrasound technologies are a safer, more effective diagnostic tool and, in almost every instance, less expensive than CTs and MRIs.

This study concluded --

“The cost-benefit of using US (ultrasound) in diagnosing and evaluating abnormalities has been clearly demonstrated in a variety of applications. In patients with musculoskeletal disorders requiring evaluation, studies indicate that if US were used rather than MR imaging, this change would lead to a savings of more than \$6.9 billion.”

In Europe and other parts of the world, physicians routinely rely on ultrasound imaging and only order other, more advanced forms of imaging when necessary. For example, physicians in other countries are more likely to utilize echocardiography to “rule out” or diagnose cardiac disease and will only order more advanced imaging studies when proven necessary. In the United States, many physicians routinely prescribe a CT scan as the first diagnostic tool when an ultrasound would provide the same, or better, diagnostic information. It may be that physicians in this country question the education, certification status, and training of the ultrasound personnel often employed by hospitals and imaging centers and worry that a poorly performed ultrasound exam will produce images that could lead to the wrong diagnosis. Yet, with properly trained and certified personnel, the use of sonography can provide safe patient care and save billions of health care dollars.

This problem is “fixable.” Over the last several years, Congress has considered legislation to require ultrasound and other imaging personnel to be properly trained and “certified” by the appropriate medical accrediting organization – most notably the “Consistency, Accuracy, Responsibility, and Excellence in Medical Imaging and Radiation Therapy Act of 2009” or the CARE bill (H.R. 3652).

My intent in providing this testimony is to suggest to you that there are important and compelling reasons to pass this bill this year.