

# What Is the Purpose of Clinical Engineering Certification?

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The American Association for Medical Instrumentation (AAMI) has conducted an independent market survey among clinical engineers and people coming into the field and found that

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there is little interest in certification. Citing "[t]here is little market support for the program" and "[it] has increasing limitations on the resources it can or will make available to support the program," AAMI decided to suspend clinical engineering certification "until a task force can review future actions" (see FYI, pg. 287). In light of such a drastic decision, it seems worthwhile to review the purpose of certification and how it relates to the overall status of clinical engineering in the United States.

Assuming that the survey is well conducted, I must confess that I am also mystified and at a loss to explain why so few American clinical engineers want to become certified. In other countries, many professionals want to become certified and are currently studying for it. For example, in Brazil, there are currently nine certified clinical engineers (CCEs) who have formed a local certification committee to help certify fellow Brazilians. This effort has widespread support from the manufacturers and other healthcare professionals.

While it is true that no candidate was able to pass the first test that was administered, there are several dozen interested candidates within an estimated pool of over 350 practicing clinical engineers. Similar efforts have been started in Mexico and are likely to spread to other Central American and Caribbean countries. Interest among Peruvian clinical engineers was also strong

when I visited there last month. The South African certification process was suspended several years ago, but new signs of interest have appeared recently.

From the little I was able to learn from my colleagues, I have the impression that this lack of interest is perhaps related to a combination of several factors. The current severe limitation of funds for healthcare in the U.S. seems to be a prime factor. The lack of a formal legal requirement is another. Finally, the most important factor seems to be the lack of financial incentive, even though salary surveys made in this journal show that certified professionals typically earn more than those who are not certified. All these factors are, in my opinion, typical of a developing profession caught in a cyclical job market

downturn, much like what happened to the aeronautic/aerospace engineers and defense-related professionals a number of years ago.

The American health system (or should I say non-system) over-expanded in the previous three decades and is now in the process of consolidation and retraction. To make things worse, the initial impetus for this profession came from unfounded claims of major electrical risks posed by medical equipment, rather than the need to properly manage sophisticated technology within an environment previously deprived of technology-savvy persons. So when the misconception was rectified and revenues decreased, it was natural for the

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healthcare organizations to reduce their workforce. The clinical engineers are easy targets, because they are often poorly understood by the decision-makers. I, therefore, dare to predict that in 5-10 years the pendulum will swing back and clinical engineers will again be respected and in high demand.

In the meantime, it is likely many clinical engineers will lose their jobs

and young talent will go elsewhere. Obviously, some significant losses will be felt but, in the long run, it will be good for the profession. Those who truly love this profession will not only succeed, but will be able to clear and keep open the path for the younger engineers who also love it and want to follow the same path. It is natural selection taking place.

The main reason certification was started in the 70's is because, I believe, there were no schools offering a curriculum in clinical engineering. So the practitioners had to get together and agree on a body of knowledge against which new professionals would be measured. In spite of some initial disagreements, a consensus was reached and certification became the yardstick against which skills could be measured. Unfortunately, the situation has not improved very much in the last ten years. Although few schools had begun to of-

fer undergraduate degrees in clinical engineering, currently there are none today, to the best of my knowledge. Furthermore, very few graduate programs are currently offering the clinical engineering option. Therefore, in principle, there is still a need for certification so that new professionals can be properly evaluated. Even if formal educational programs are offered, it is likely that universal competency testing will be required for those who want to practice, just like those required for physicians, lawyers, and certain types of engineers.

Interestingly enough, the biomedical technicians have an advantage over the clinical engineers in this respect. Many community colleges (and some military programs) are still offering biomedical technology training programs leading to an associate's degree or a certificate. The continuing demand for

certification by biomedical technicians is a tribute to the vision of those who aspire to grow in their profession and an opportunity for those who went to trade school or were not fortunate enough to acquire formal education.

I believe certification is a highly useful tool to unite and advance the profession. I do understand and appreciate the significant financial burden of keeping the certification process going. However, it seems extremely myopic, in my opinion, for the clinical engineering community to abandon the certification program only because it is not profitable at the moment. It would be akin to the proverbial "eating your last seeds." Clinical engineers who have a long-range career plan in this field should reexamine their priorities and assume the responsibility of propagating certification as a means to advance the profession and assure their own survival.