

Biomed Societies

Clinical Engineering Association of South Africa—National Council Leaders
 President and Northern Branch Chairman Riaan van der Watt
 Vice President Johan van Roon Secretary and Treasurer John Ruiter
 KwaZulu-Natal Branch Chairman Rob Dickinson

Biomed Help to Serve Health Care Needs in South Africa

THEY WORK MORE than 7,000 miles from the United States. But the clinical engineers in South Africa face many of the same issues and responsibilities as their U.S. counterparts, although the health care problems confronting their country seem monumental compared to those faced by many western nations.

In South Africa—a country of more than 43 million people—the average life expectancy is about 48 years. Nearly 20 percent of the country's adult population lives with or will contract AIDS/HIV. And only about 10 to 15 percent of South Africans have health insurance, while the rest of the population must rely on an over-burdened public service hospital system.

Helping to address these health care needs is a group called the Clinical Engineering Association of South Africa (CEASA). Established less than two years ago, CEASA serves as an umbrella group for the profession, advocating national standards for training and classification of CEs. Clinical engineering practitioners are grouped in four categories based on their level of post-high school training:

- The formal title of *clinical engineer* requires completion of a four-year university degree—a designation that only about 10 or 20 practitioners have earned.
- *Technologist* is a designation usually reserved to categorize persons holding a biomedical technology degree in engineering. In practice, this is a category seldom used to date.
- *Technicians* are required to complete a three-year clinical engineering course. About 180 practitioners have finished this course at Technikon Pretoria, the nation's only university that offers formal clinical engineering training. There are probably an additional 180 technicians in the field who have earned an Electrical Engineering National Diploma, either because they live too far away to attend Technikon Pretoria or they were trained before the CE course was available.
- In addition, there are numerous *artisans*, who have earned a National Certificate in Mechanical or Electrical Engineering and have been in-service trained by a CE, technician, or other clinical engineering practitioner.

Like the United States, South Africa faces shortages of health care workers. "You are likely to find between zero and three CEs in a major hospital, with as many as seven to 15 in large state hospitals or provincial central technical departments, who also look after satellite hospitals in their region," said Riann van der Watt, president of CEASA's National Council. "In rural areas, it is very hard to find CEs, with many hospital administrators not having any idea of a CE's job responsibilities."



Hester Burger, Medical Physicist within the Netcare Hospital Group, explains the finer points of radiosurgery to Ryan Flanagan, a member of CEASA, while other group members listen on.

"Nursing staff are also in very short supply, especially in the more technical areas like operating rooms and critical care units," he added. "Very lucrative offers for doctors and nursing staff to work in the Middle East, U.K., U.S., and Canada, besides others, increasingly drain our experienced resources. Some, though relatively fewer, CEs have been lost in this manner."

CEASA is seeking legislative changes to require practitioners to register with the Engineering Council of South Africa (ECSA) as Clinical Engineering Practitioners in one of the four above-mentioned categories. Currently, no registration is required. The group is also working to broaden the availability of clinical engineering education opportunities by helping to develop courses that will be recognized by the ECSA.

Founded in 2000 from the remnants of the dormant South African Association for Clinical Engineering (SAACE), CEASA is racially integrated and currently has two fully operational branches with a third being formed.

Despite the health challenges facing this country, South African engineers and technicians have similar responsibilities and work with similar equipment as American BMETs, according to Rob Dickinson, chairman of KwaZulu Natal branch.

"However, our South African medical specialists and researchers are exceptionally diligent and have very recently developed a superior and more cost-effective method of ascertaining CD4 count results, which are used to monitor disease progression and treatment in HIV-positive patients," Dickinson said.

For more information on CEASA, visit the KwaZulu Natal branch's Web site at: www.ceasa-kzn.org.za. CEASA eventually plans to establish a national Web site. ■