

UCT: 100 years of medical excellence

ONE hundred years ago, on June 6, UCT was the first medical school in sub-Saharan Africa to open its doors. Professor Marian Jacobs has been at UCT for almost half that century, progressing from a medical student to occupying the hot seat as Dean of the Faculty of Health Sciences. In this time, she has contributed to and witnessed the transformation of a faculty recognised on the stage of international research. "It's a significant year. We have come a long way from graduating the first two physicians in 1922 to building a strong faculty with 4 000 under- and postgraduate students,' she says. The challenges over the years have been huge - from the transformation in the content and focus of research to a broader commitment to building a new nation and to transformation of the demographic profile of the researchers, says Jacobs. Before its inception in 1912, there were grave misgivings over whether a medical school equal to the standards of those of universities in Britain could ever be established in the Cape Colony. "The wish at the time was that the medical school not only produce health professionals, but also contribute to the country's development through scientific research," says Jacobs. Barnard Fuller, chairman of the SA College Senate and a passionate advocate for a Cape Town medical school, elegantly expressed this desire in 1907: "Looking on into the future, I see before me, as in a vision, a great teaching university arising under the shadow of old Table Mountain, and a part of that university is composed of a well-equipped medical faculty."

Says Jacob: "It was prescient and it has now been fulfilled. The record has shown this." Early research led to innovations such as the frog test for detecting pregnancy. With the help of the Cape clawed frog in 1933, Henri Zwarenstein and H Shapiro devised the test, the first of its kind and still used worldwide. A family doctor felt compelled to comment at the time: "Thank you for your report on the pregnancy test on Mrs X. You may be interested to know that out of one GP of many years' standing, one specialist gynaecologist and one frog, only the frog was correct." William Jolly assembled the first ECG machine in Africa early in the 20th Century, Nobel Laureate Allan Cormack produced the first CAT scan and Christiaan Barnard the first human heart transplant. These breakthroughs have won international recognition and continue to have an impact on health. Importantly, Professor in Medicine Jack Brock wrote the first strategy document for the faculty in 1939. A distinguished medical educator and nutrition scientist, he set up the first research unit, called the Clinical Nutrition Research Unit. At present, there are 86 National Research Foundation (NRF)-rated researchers in the faculty, nine with an A-rating out of 31 for the university. The faculty also hosts eight of the university's 32 NRF chairs and 21 of the 68 research groupings, accredited by the University Research Committee. The 2011 QS World University Rankings placed UCT at 156, and the Faculty of Health Sciences at 169 - both the highest in Africa. "This hard-earned reputation has won the faculty admirable support from international donors, especially as most of our research funding comes from foreign sources," says Jacobs.

Last year, the faculty was awarded about R409 million in research contracts, representing close to 57 percent of the University's total research revenue. "We have shown we can compete internationally for grants." The faculty actively seeks collaborations with counterparts in other African institutions. In the past it was tough to get grants for these south-south collaborations. "However, there is a new consciousness among funders that we can compete internationally and two African institutions can produce excellent research," says Jacobs. Led by A-rated researchers, NRF chairs and world-class scientists, research includes medical and health sciences from basic, translational and clinical sciences to epidemiology, public health and socio-legal sciences applied to health. Jacobs says: 'In TB, for

example, we have built a continuum of research from the bench to clinical and translational research (to the bedside), to point of care diagnostics, vaccine development and public health interventions. It's an excellent model that we can replicate in the faculty."

The faculty has an impressive track record of innovation and translation. Researchers compete successfully on the world stage with work on tuberculosis, HIV/AIDS, lung infection, immunology, cancers (oesophageal, cervical, breast), chronic heart diseases (including rheumatic heart disease), public mental health, forensic pathology and exercise medicine, which has led to the appointment of representatives to both the Paralympics Medical Committee and the International Olympics Committee. Since the 1990s there has been a serious decline in appropriately trained clinicians at UCT, due to the huge burden of healthcare trained staff and clinicians have to carry, and to a phase perceived as pharmaceutical-initiated and not investigator-initiated research. To redress this, training is being revitalised. The new Clinical Scholars Programme admitted its first scholars in 2011 and draws in students from UCT, and also from other African institutions. A major "infrastructural deficit" is the lack of a dedicated clinical research facility, and the faculty is setting up a core facility for clinical research, innovation and translation with units at Groote Schuur and Red Cross Children's hospitals.

Jacobs says the faculty is committed to producing graduates who are "fit for purpose", meaning "we need to focus on a set of skills and experience that will make them fit for working in underserved areas including rural communities". The faculty is increasing recruitment from these areas and is exposing students to all available courses. "In most deep rural areas there are no physiotherapists, occupational, audio and speech therapists. Students don't apply because they don't know these disciplines exist, yet they are fundamental for managing disabled people. The greatest potential for ensuring graduates return to underserved areas is to recruit them from these areas. The research is unequivocal on this." The first black doctor graduated in the early 1990s, just 20 years ago. "So, we have a backlog. Recruitment is not enough though," says Jacobs. Finance, socialisation and academic support are critical. There are bursaries for indigent students, but they also need to be socialised to city life and the university environment. In the past, students from historically disadvantaged schools were placed in an academic support programme. "But, on entering medical school, they felt stigmatised and marginalised." New policy is that if students fail to perform in their first June exam, they enter an intervention programme. "This is no longer simply students who are black or who come from Khayelitsha, Mount Frere or Limpopo. Anybody who does not perform enters the programme," says Jacobs. They rejoin the class in July the following year. A students' support committee tracks every student in the faculty through to their final year. "What is important is the throughput, not just admissions. Institutions need to secure students' success, but also that they are equipped for working in communities." The reviewed curriculum focuses on common conditions and teaching methods have been changed to inculcate and strengthen a spirit of self-directed enquiry. Places of learning have also changed. "We want to expose them to environments in which they will need to work, where they will learn to use simple diagnostic techniques and will have to rely on their history-taking and communication with patients, the power of touch and their clinical acumen." The faculty has set up a satellite training site beyond the hospital walls at Vredendal and is planning one for George. The government has called for 2 000 graduate medical doctors countrywide a year. UCT has 200 graduates a year. The intake has increased by 10 percent and further increases will depend on government funding and support. Already, the government has supported a national call for 1 000 PhDs, signalling a clear recognition of the value of clinical science, she says. Jacobs has served on research committees including the Council on Health Research for Development, the Global Forum for Health Research, the Centre for Health Research

in Bangladesh for seven years and the World Health Organisation's Advisory Committee for Health Research. She currently chairs the Board of the African Population Health and Research Centre. Having spent more than six years as faculty dean, Jacobs is well placed to continue transforming and taking the faculty forward. "This experience has been helpful in locating our place in the world of research that needs to advance health equity and to improve the conditions of the people in the world who suffer the most," she says. "I feel privileged to have had these experiences and to be surrounded by outstanding researchers who focus on research with a purpose, to improve health, and not just for research's sake."

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