Helping comrades over the social upliftment line

Professor Eric Bateman and his wife, Dr Mary Bateman, who received a long-service award from Dr Mamphela Ramphele, previous Vice-Chancellor of UCT who opened the Lung Institute in 2000 and spoke at its 10th anniversary celebration this year.
Picture: Melanie Jackson, Manager: Development, Communications and Marketing, Faculty of Health Sciences, UCT

If the University of Cape Town's Lung Institute was a long-distance runner it would have the capacity to consistently outstrip many other peer research outfits in the country, garnering marathon medals by the fist-full.

The trouble is, despite its impressive international and local achievements, the fully autonomous institute has relatively few domestic peers – a tragic fact that scientific and business leaders are belatedly noticing, generating a faint new ray of hope. A recent study on clinical research and related training in South Africa by 13 of the country's top scientists concluded that internal disinvestment by government agencies is threatening to kill clinical research.[1] It is within this context that a far-sighted Professor Eric Bateman managed to convince the then Dean of Medicine, Professor JP van Niekerk and Vice-Chancellor of UCT, Dr Mamphela Ramphele, to build with mainly outside funding (Boehringer Ingelheim 80% plus Bateman's own research-generated 'nest egg' funds), an 'experimental' stand-alone research facility. The aim was to take the study and management of lung diseases out of the highly specialised realm of hospital clinical services and render them relevant to every aspect of the problem: epidemiology, prevention, treatment and health system interventions, especially by engaging communities.

Professor Bateman wanted to create what he calls a 'light on its feet' (read 'unencumbered by bureaucracy') public/private body that would add value to both the university and society in general. 'Over-regulation is the enemy of enterprise,' the tall, highly acclaimed marathon runner* and scientist believes.

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Streaking ahead of traditional research models

It proved a brilliant move, yielding concrete results beyond the visionary's wildest hopes. That was ten years ago. Today academic health complexes are in crisis due to the lack of both a national governance structure and an integrated funding framework that leave health science faculties at the mercy of differing provincial funding priorities. Because of the absence of what (legally) should be a national function, academic health complex leaders are often at a loss as to whom to approach to secure enough funds to carry out critical functions that serve both the nation and their own region.[2]

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One of Professor Bateman's research papers was the most cited article in the *American Journal of Respiratory and Critical Care Medicine* for three successive years and he was subsequently appointed Chair of the Science Committee of the Global Initiative for Asthma (GINA), and of its board.

Quantifying the problem

The Lung Institute pioneered community-based surveys of the burden of lung diseases in South Africa, enabling, for the first time, comparisons with statistics from other countries. (We now know that in adults one in three local people are at risk of HIV-related lung infections, one in eight bear the scars of previous pulmonary TB, while in children, one in eight suffer from asthma. Respiratory allergies affect one in three children.)

Surprising findings on chronic obstructive pulmonary disease (COPD), better known as emphysema, were also made, revealing not just tobacco smoking as the cause, but that South Africa carries a heavy burden of domestic, occupational and environmental air pollution, with TB also playing a role. One in four adult South Africans over the age of 40 today shows symptoms of COPD. Professor Bateman explains that, as in most developing countries, the use of fossil fuels in homes for cooking and heating is the major contributor to the high COPD prevalence (and, incidentally, household injuries). The WHO has since recognised the global burden of respiratory diseases (particularly in developing countries), and now includes chronic lung diseases as one of the four major groups of chronic disease requiring prioritisation for international action.

Another ground-breaking success story is the institute's development, in 2001, of a practical approach to lung health in South Africa (PALSA), initially in response to a request from a struggling, doctor-impoverished Free State Department of Health. The question was how to develop the capacity to handle the range of lung and other chronic diseases in a resource-poor setting.

Turning research into practical solutions

The Lung Institute's KTU, headed by Drs Beverly Draper and Lara Fairall, developed guidelines and provided on-site training to equip nurses to diagnose and manage respiratory diseases, including TB. This evolved into a ground-breaking task-shifting programme called PALSA-Plus which consolidated uncomplicated antiretroviral therapy (ART)-eligible adults to primary health care facilities where appropriately trained nurses could treat them, thus freeing up scarcer doctors to concentrate on children and other more complex cases. The programmes have since become the norm across most South African provinces, improving TB detection in the Free State by 70% and asthma management by 80%. To date more than 110 000 copies of the guidelines have been distributed and more than 12 000 primary care nurses trained by some 900 facility trainers taught by the KTU team at the Lung Institute. The work was recently customised and implemented in Malawi and is being adapted for other sub-Saharan African countries.

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All this in a climate that has Deans of Medicine across the country (to mention professors of just one health care discipline) sighing in desperation over the government funding morass. Professor Bateman told *Izindaba* that the world's major donors were shifting their focus to entrepreneurial institutions that could sustain themselves and make major impacts on society.

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'We've gone from something that was considered an experiment to outcomes that you'd want to replicate elsewhere – yet nobody seems to have yet got excited enough to (also) do it (create a stand-alone research centre)! Most universities know how to spend money but not how to make it. Sure, you need the right skills mix but you can buy those in,' he argues. The Institute brings in the equivalent of more than 10% of UCT's entire Health Sciences Faculty research budget and is a wholly owned subsidiary, plowing all its profits into educational outreach, self-initiated projects and ventures. It has the ability to fund several PhD students and risk millions on developing new approaches which, if they show promise, will attract additional outside funding.

'We effectively use some of these funds as venture capital on new activities. It's the equivalent of small business development, but in the science realm,' Professor Bateman says. Over a decade ago he realised that neither the State (via the university) nor the Medical Research Council were going to front up the money needed for the vital research he had in mind, 'so we needed to be light enough on our feet and source money through research, making deals easily rather than prolonging lengthy bureaucracy'.

Does he now lobby for the replication of his research model nation-wide? 'I put my head down on this venture without trying to proselytise. I try to put in a word where I can, but I don't see my mission as trying to tell the university how it should be run. There are people paid to do that. I'd like to see them take a long serious look at what we've been doing and consider more outreach programmes. I do think they'd do much better by creating more entities like this. There is mention of a similar institute in the mental health area at UCT. As for us, we're on the brink of our work being used internationally – the funding is always there for the right ventures.'

Sustainable, entrepreneurial = society benefits

Professor Bateman has ensured sustainability not only through the research initiatives of his five specialist units at the Institute, but also by cherry-picking the best financial advisors he could find from business, the Graduate School of Business and UCT.

The Academy of Science of South Africa, whose study entitled 'Revitalising clinical research in South Africa' was published in November 2009, called on government to raise the health research and development (R&D) spend from 13% to 20% of overall R&D spend (currently 0.7% of GDP and at bare minimum needing to reach 2% of GDP). Their report highlighted the lack of a national plan to provide co-ordinated support for the education and development of clinical researchers and said that more than half of the total expenditure of clinical research in South Africa was by the private sector.

Perhaps more lean, large-lunged private marathon runners are required to help their comrades over the social upliftment line.

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1. Academy of Science of South Africa. Revitalising clinical research in South Africa. A study on clinical research and related trends in South Africa. Pretoria: Academy of Science of SA, 2009.
2. Bateman C. Academic health complexes bleeding in no-man's land. S Afr Med J 2010;100:17-19.

*Two Oceans Marathon: 30 medals, including 2 gold and 15 silver, first runner to earn all 5 category medals on offer. Comrades Marathon: 1 gold (9th in 1985), numerous silver, completed 12. Former South African Marathon Champion, veterans category (over 40 years old).

†The author is not related to Professor Bateman in any way.