

DIVISION OF PULMONOLOGY

A powerful force in the fight against lung disease and TB



Professor
Keertan Dheda
Head of
Pulmonology

The Division of Pulmonology, or Respiratory Clinic as it is known, has experienced many seasons during the past 20 years – most of which have been presided over by Emeritus Professor Eric Bateman, who handed over the reins to Professor Keertan Dheda in 2013.

From small beginnings, the division has grown into the largest division of pulmonology in the country, surviving the downscaling of tertiary services and academic complexes in the 1990s. In 2000, a turning point was reached with the opening of the University of Cape Town Lung Institute.

A wholly-owned company belonging to UCT, the institute was established to extend both the clinical base for teaching and the capacity for clinical research by members of the Division of Pulmonology.



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The Division of Pulmonology offers state-of-the-art lung function testing, including exercise-based testing.

"The last 13 years have seen impressive growth in this institution and realisation of its goal to increase both clinical capacity and research from the division," says Emeritus Professor Bateman.

In this time, five vibrant research groups have emerged, the institute now has more than 70 full-time researchers and is a platform for postgraduate research for members of the Division of Pulmonology. Publications from the Lung Institute have greatly boosted the outputs of the division and, with more than 40 papers a year, it is one of the leaders in research outputs within the Faculty of Health Sciences.

The division is now under the leadership of Professor Keertan Dheda, who also heads the Lung Infection and Immunity Unit (LIU), a fully accredited unit within UCT that comprises approximately 40 students and staff embedded within the Division of Pulmonology. The research focus is on lung infections and diseases of poverty, including tuberculosis (TB), pneumonia and HIV.

"TB and pneumonia are national priorities and TB is now the most common cause of death in South

Africa. There are highly resistant forms of TB that are untreatable and this has become a national and international health priority," says Professor Dheda.

"From a global perspective, TB and pneumonia feature in the World Health Organisation's top ten killer list," he says, proud that the LIU is also a WHO-associated African Network for Drugs and Diagnostics Innovation (ANDI) Centre of Excellence. Its work is funded by several international agencies including the Wellcome Trust, NIH, and the EDCTP (European and Developing Countries Clinical Trials Partnership). In recognition of this work, Professor Dheda has received several awards, including the 2010 International Union Against Tuberculosis and Lung Disease Scientific Award and some of the most prestigious scientific awards in the country, including the 2013 Medical Research Council (MRC) Gold Award, the 2014 Oppenheimer Fellowship and the 2014 National Science and Technology Forum (NSTF) BHP Billiton Research Award.

Professor Dheda and other members of the division serve on the editorial board of several prominent journals, including the *American Journal*



> The experience of the last decade has convinced me that research excellence and leadership will provide many of the answers that politicians and health service planners require to perform their work more effectively.

of *Respiratory and Critical Care Medicine*, *Lancet Respiratory Medicine*, and *Nature Scientific Reports*, among others.

Commenting on medical research in South Africa, Emeritus Professor Bateman says, "Research in South Africa is both exciting and challenging. But the multitude of good opportunities for research is limited by the poor funding from South African sources."

Fortunately, the Division of Pulmonology has had considerable success in competing for international grants, which have provided opportunities for postgraduate training. The Lung Institute budget, for example, has grown year-on-year to approximately R40 million per annum.

The resulting research has given the Lung Institute a reputation as an international leader in research therapies for asthma and chronic obstructive pulmonary disease, particularly in developing countries, and in research and implementation of methods for improving primary health care for chronic and infectious diseases in resource-poor settings.

The institute and the division have also been involved in important developments in new drugs for TB, in research on multi-drug resistant TB and extensively drug-resistant TB, in point-of-care diagnostics for TB, and in TB immunology and its interaction with smoking. Epidemiologic research has included studies of the burden of lung disease in South Africa, and detailed studies of chronic airways diseases arising from tuberculosis and HIV infection.

Emeritus Professor Bateman reflects on his years at the helm of the Division of Pulmonology: "The legacy is not necessarily in buildings and equipment, but rather in the quality of clinician scientists trained firstly as pulmonologists and then as scientists with a passion for addressing South African problems and finding practical solutions for improving care.



Emeritus Professor Eric Bateman, head: UCT Lung Institute, with Doctors Ruth Cornick and Sandy Picken from the Knowledge Translation Unit at the UCT Lung Institute who have formulated national guidelines, on how common diseases are managed in primary care.

Commenting on the state-of-the-art facilities offered by the Division of Pulmonology, Professor Dheda says, "The division offers a range of services and technologies that are at the time of writing unavailable in the private sector and in many hospitals, even in resource-rich settings. These include endobronchial ultrasound-guided biopsy of mediastinal glands, medical thoracoscopy, exercise physiology testing, a modern sleep medicine service, smoking cessation clinic and bronchial thermoplasty, a new radiofrequency-based treatment for severe asthma. The division is the only one in Africa offering this service." The division also co-provides a state of the art intensive care service. Through ups and downs, the Division of Pulmonology has always maintained a high standard, both in clinical services and in the Respiratory Intensive Care Unit under the direction of Dr. Richard Raine," says Emeritus Professor Bateman.