Communication and Marketing Department
Isebe loThungelwano neNtengiso
Kommunikasie en Bemarkingsdepartement

Private Bag X3, Rondebosch 7701, South Africa
Welgelegen House, Chapel Road Extension, Rosebank, Cape Town
Tel: +27 (0) 21 650 5427/5428/5674 Fax: +27 (0) 21 650 5628

www.uct.ac.za

27 September 2023

UCT academic calls for quantum leap in vaccine funding to end TB pandemic at UN high level meeting

Professor Mark Hatherill Photo: Supplied

A quantum jump in tuberculosis (TB) vaccine research and development (R&D) funding is needed to deliver the transformative tools to end the TB pandemic, University of Cape Town's (UCT) Professor Mark Hatherill told a panel discussion of the United Nations high-level meeting on the fight against TB.

Hatherill is director of the South African Tuberculosis Vaccine Initiative (SATVI).

In his presentation, Hatherill reflected on the unprecedented advances made in new diagnostics and treatments to reduce the severity of TB disease and risk of death for TB patients. Although these advances are necessary, they are not sufficient to end TB. "A vaccine that prevents people from getting TB and infecting others is the key to stopping the TB epidemic," he said.

"For the first time, the most advanced TB vaccine candidate, the M72/AS01E, brings us close to achieving a new, safe and effective TB vaccine. In a phase 2b trial, this vaccine has

shown 50% protection in adults exposed to TB and will soon enter a large confirmatory trial, expected to deliver results within five years," said Hatherill.
If vaccine protection is confirmed, the impact would be transformative for TB control efforts. Over a 25 year period such an effective vaccine could prevent up to 76 million TB cases, 8,5 million TB deaths, and result in a $3,8 billion saving in treatment costs. But there is work yet to be done.

"We need to finance a comprehensive R&D strategy for all seven late-stage TB vaccines to reach their full potential. There is also a critical shortage of early-stage vaccines in the TB vaccine pipeline and therefore urgent investment is needed to move the most promising, including mRNA vaccines through human trials," he said.

"To ensure uptake of vaccine in communities, we need to partner with affected communities in high TB burden countries to help us deliver information about vaccines in ways that resonate with those communities, and to help us as scientists to ask the right questions. Which new TB vaccines will be safe and effective in people living with HIV – in the elderly, in infants, and in people not yet exposed to TB? We also need to address the fundamental question of how to recognise the protective immune response to vaccination," said Hatherill.

This work will require a major leap in annual investment in TB vaccine research, which is currently only 12% of current TB R&D funding and less than a fraction of 1% of the 100 billion dollars which was committed to COVID-19 vaccine development. The bold response to the COVID-19 pandemic saw 40 efficacy trials, with more than 400 000 volunteers produce a dozen approved COVID-19 vaccines in only three years.

"By contrast, decades of underfunding for TB vaccines blunted the scope of our ambition. A cautious approach of ad hoc funding of individual vaccine trials did not and will not accelerate TB vaccine development. We need a programme of investment in the whole TB vaccine pipeline that both tolerates the inherent risk in R&D and reduces commercial uncertainty, to do the trials that are necessary, and not those trials we think we can afford."

Investment in TB vaccines cannot be left to a handful of funders in low TB burden countries. To ensure an equitable say in the TB vaccine research agenda, and to ensure that the voices of affected communities are heard, stakeholders in high TB burden countries must contribute our fair share of funding for development. Delivery of a new TB vaccine will require a collective response from governments, industry, scientists and civil society to conduct more trials of more vaccines more quickly and to prepare health systems for their implementation.

In his closing remarks, Hatherill reflected that a new, safe and effective vaccine to break the cycle of TB transmission among adults could be delivered within the next five years. Such a vaccine could save millions of lives, avert the burden of disease for tens of millions of patients and their families, and save billions of dollars in health system costs by 2050. Supply of the best TB vaccines to the communities that need them will require an immediate quantum jump in investment. Not only for accelerated vaccine testing, but for implementation studies and to ensure sustainable, diversified manufacture.

The fact that the TB epidemic persists in 2023 is an indictment of a lack of urgency to tackle a pathogen that has affected humans for thousands of years, argued Hatherill. TB, he said, is no less an emergency it was 30 years ago.

"Let us imagine that *mycobacterium tuberculosis* was discovered today, an infectious airborne pathogen that in the coming year would cause 10,6 million people to fall sick with TB, and 1,6 million TB deaths. We should not need to imagine the bold response to this global health emergency and the rapid mobilisation of funding to make new vaccines against this devastating disease. So let us stop imagining and find the political will to deliver these new vaccines to end TB," Hatherill concluded.

Ends

Issued by: UCT Communication and Marketing Department

Thami Nkwanyane

Media Liaison and Monitoring Officer
Communication and Marketing Department
University of Cape Town
Rondebosch
Tel: (021) 650 5672
Cell: 063 366 3993 / 072 563 9500
Email: thami.nkwanyane@uct.ac.za
Website: www.uct.ac.za