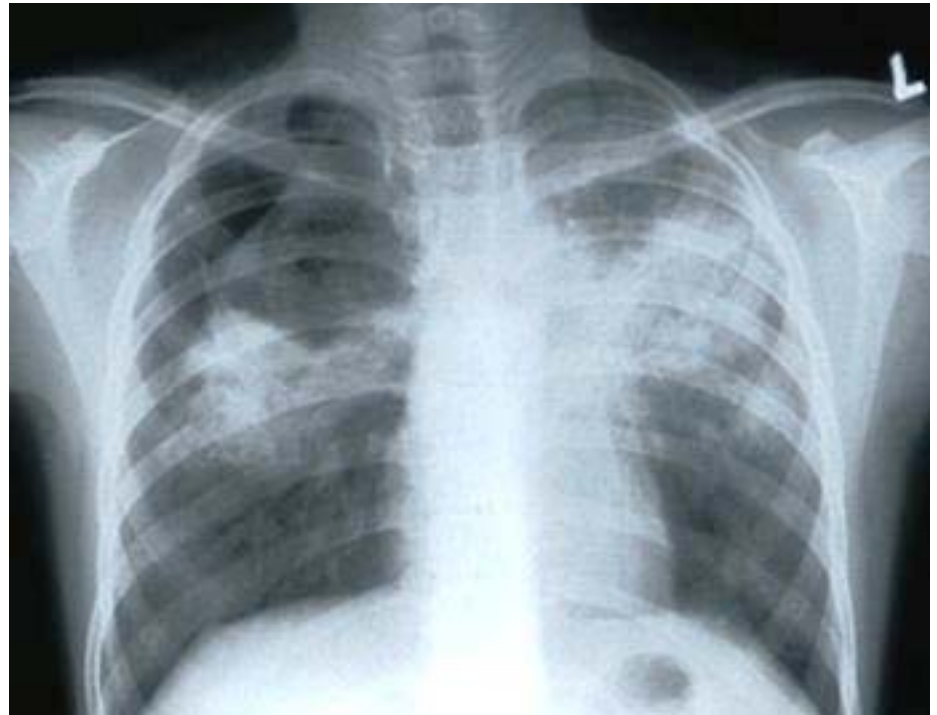
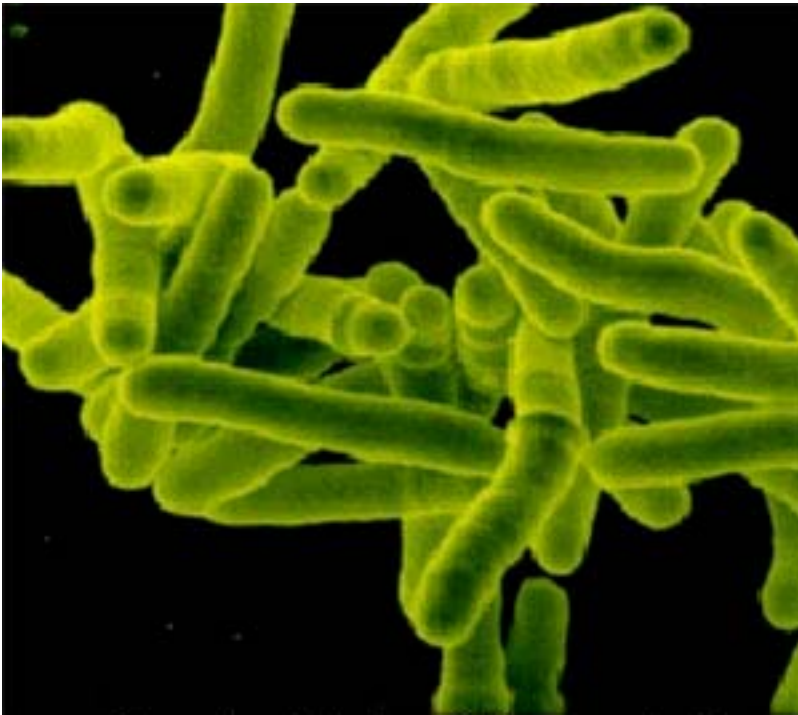


SATVI, at UCT, is playing a leading role in TB vaccine development

Hassan Mahomed, Willem Hanekom
Co-Directors
South African TB Vaccine Initiative (SATVI)
University of Cape Town
www.satvi.uct.ac.za

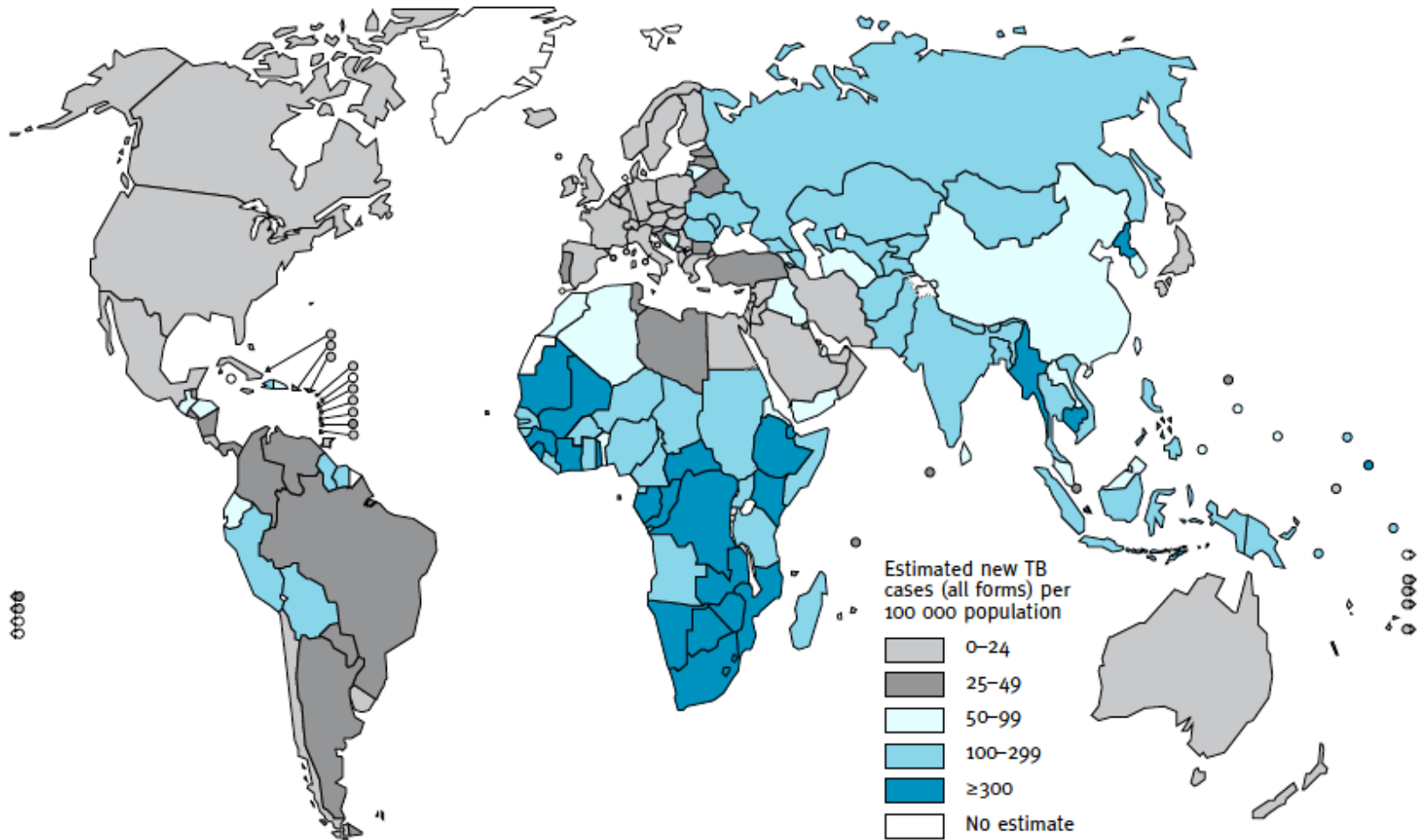
What is TB?

- Tuberculosis is a lung disease caused by a bacterium which is inhaled after an ill person coughs
- Only 10% of infected persons develop disease

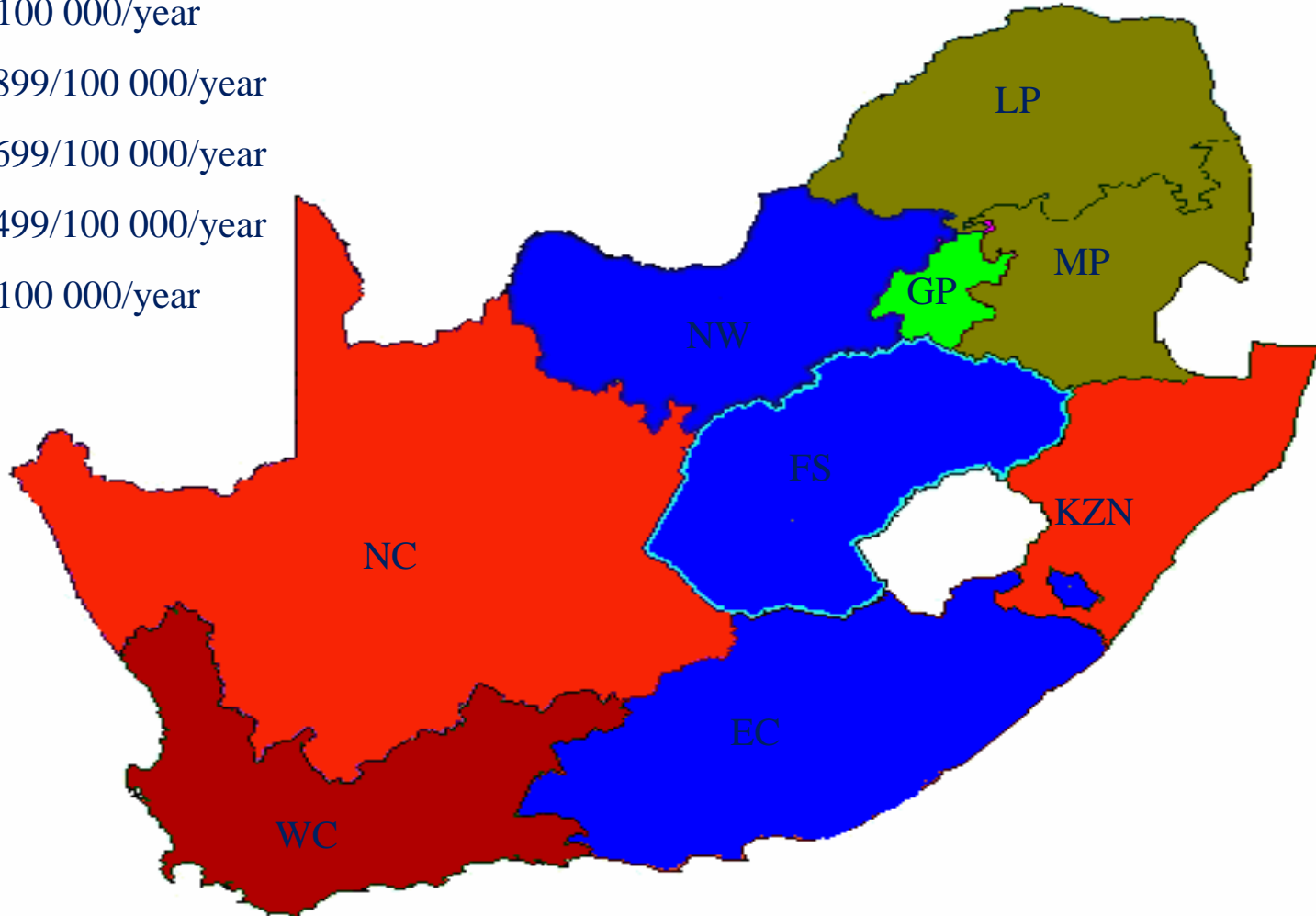
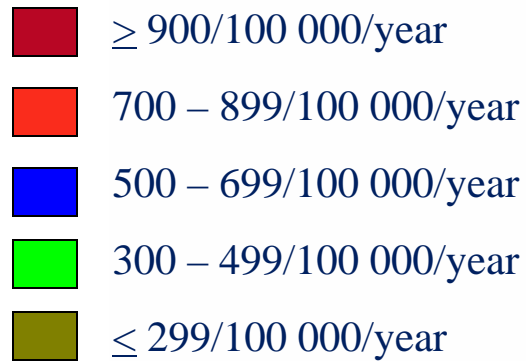


South Africa has the 2nd highest rate of TB in the world

Estimated TB incidence rates, by country, 2009

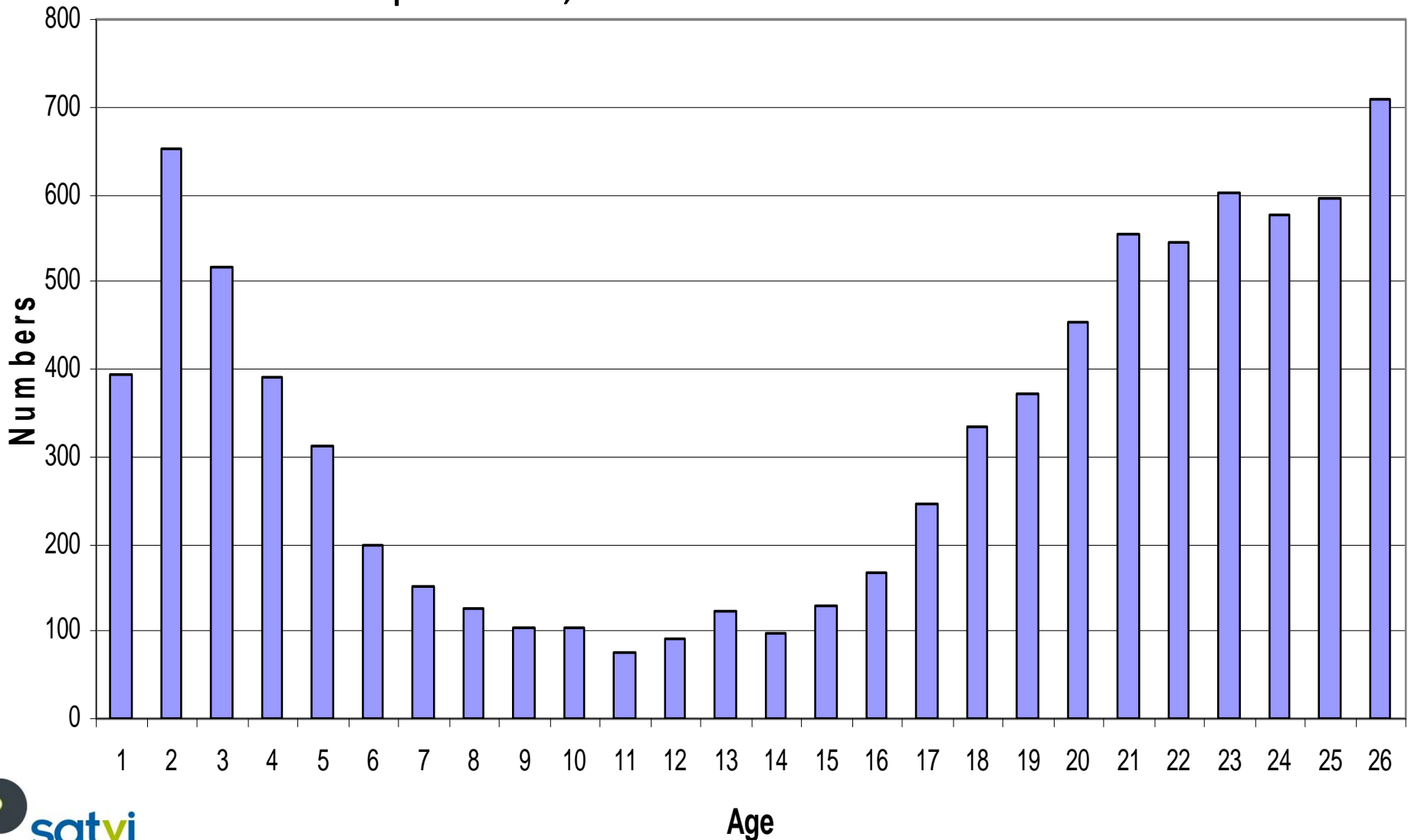


Rates of TB in South Africa



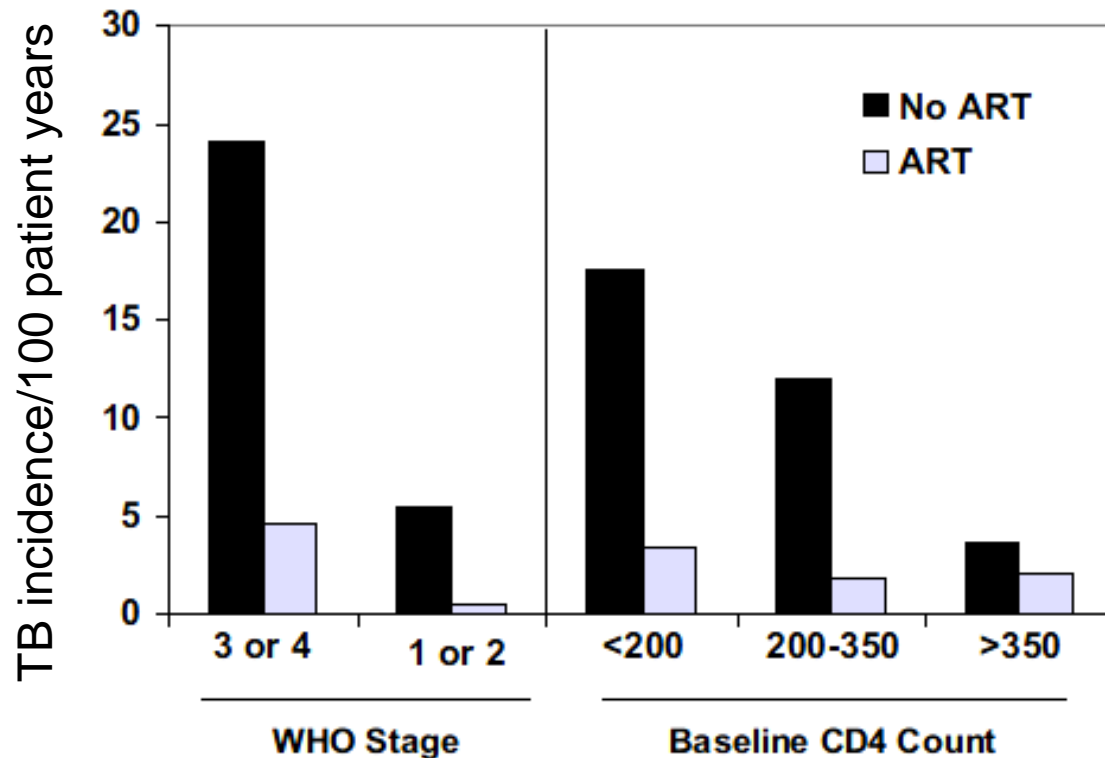
TB affects all ages

TB cases in Cape Town, 2002



TB is very common in persons whose immunity is weakened

- 50% of TB patients in South Africa are HIV+



TB treatment is cheap and effective!

- Emergence of MDR and XDR TB is a concern

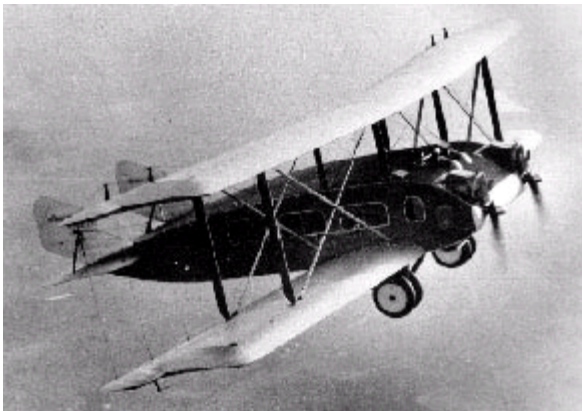


How can we better control TB?

- Better drugs
- Better ways of diagnosis
- Optimal health care structures
- Optimal socio-economic environment
- Better vaccines to prevent all forms of TB

But we have a TB vaccine, called BCG!

- Invented 1908-1921
- Very safe, except in HIV+ babies
- Not good at preventing lung TB



Mission of the South African TB Vaccine Initiative (SATVI)

- Development of new and effective tuberculosis (TB) vaccines. We will obtain this goal through high quality basic science, clinical and public health research, within an academic centre of excellence.



satvi



Our labs and management structures

Our clinical site

SATVI is the leading clinical site for testing new TB vaccines in the world

- Achievements:
 - >20,000 persons already enrolled in trials
 - BCG and 4 new TB vaccines tested
 - First phase IIb trial of a new TB vaccine in 80 years

European Journal of
Immunology

Modified vaccinia Ankara-expressing Ag85A, a novel tuberculosis vaccine, is safe in adolescents and children, and induces polyfunctional CD4⁺ T cells

*Thomas J. Scriba^{*1}, Michele Tameris^{*1}, Nazma Mansoor¹, Erica Smit¹,
Linda van der Merwe¹, Fatima Isaacs¹, Alana Keyser¹, Sizulu Moyo¹,
Nathaniel Brittain², Alison Lawrie², Sebastian Gelderbloem^{1,3},
Ashley Veldsman¹, Mark Hatherill¹, Anthony Hawkrigde³,
Adrian V. S. Hill², Gregory D. Hussey¹, Hassan Mahomed¹,
Helen McShane^{**2} and Willem A. Hanekom^{**1}*

Extensive personnel development



Community involvement

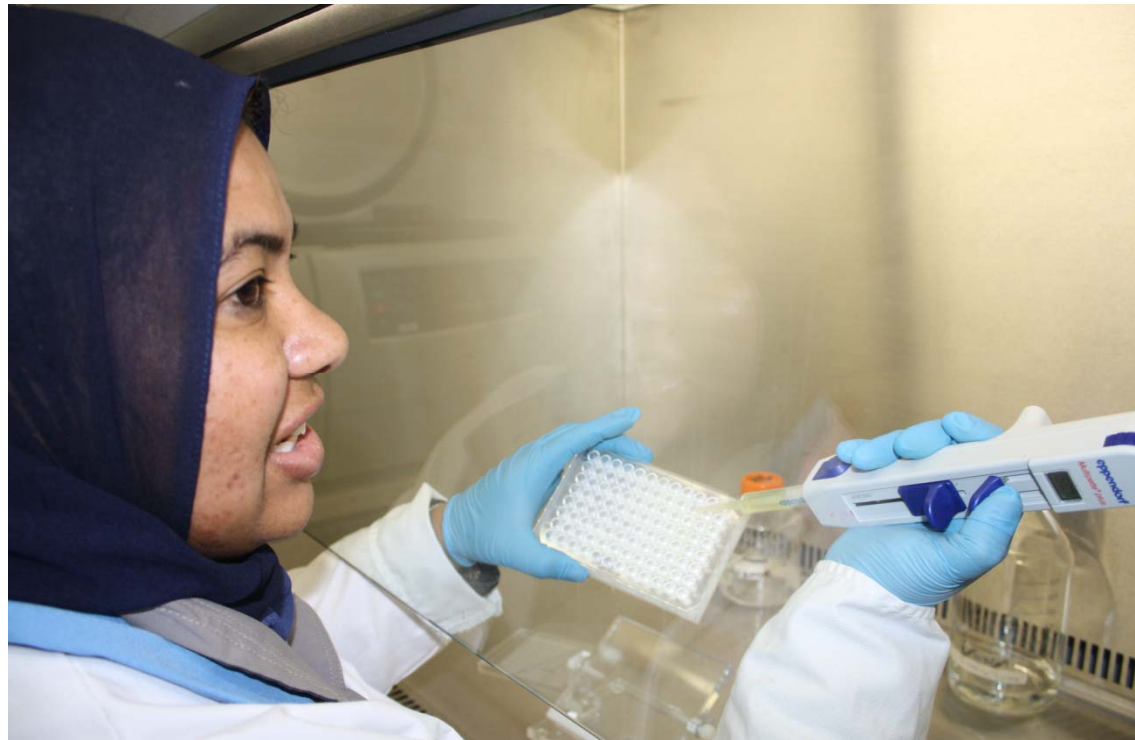


The SATVI Community Advisory Board

SATVI has achieved world recognition for also addressing other critical questions in TB vaccinology

- Which questions?
- Achievements:
 - >70 peer-reviewed publications in high impact journals
 - Competitive, investigator-driven funding
 - New R36million grant from Gates Foundation
 - New R20million grant from NIH

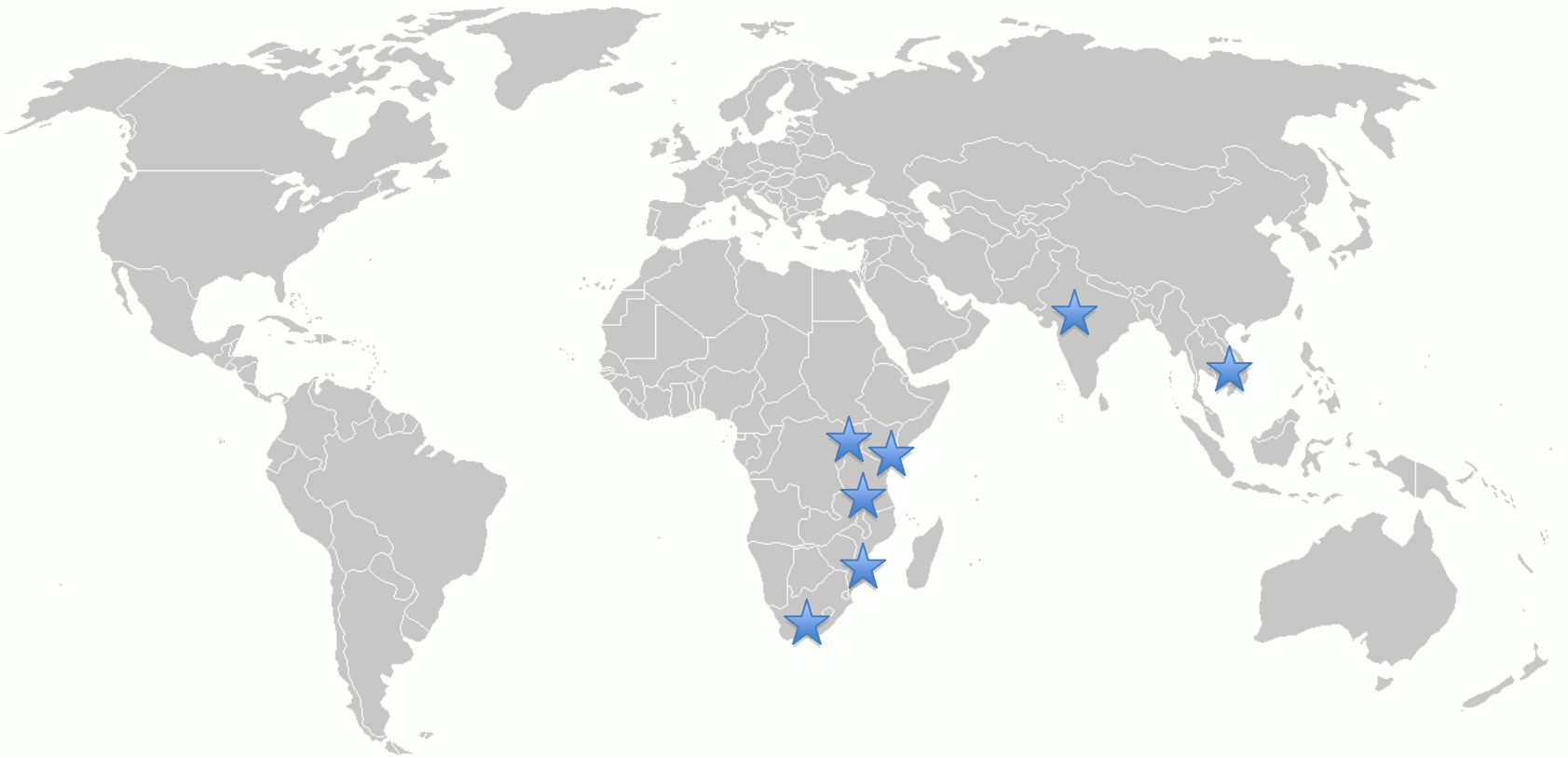
Extensive academic training programme at state-of-the-art labs



SATVI is a national, African and international resource



We work within large international consortiums



TB Vaccine Sites Network (TBVACSIN)

Partnerships



DEPARTMENT OF HEALTH
Republic of South Africa



BILL & MELINDA
GATES foundation

wellcome trust



GlaxoSmithKline
Biologicals



Next steps

- It takes time to develop a new TB vaccine. We need to make sure new vaccines are safe, and that they will prevent TB.
- A new vaccine is expected between 2016 and 2020.

What do we need?

- We need the support of government and the South African public.
- All our funding currently comes from abroad but funding support from within South Africa is essential.