



Building a healthy nation through research

Medical Research Council of South Africa:

Briefing to the Portfolio Committee on Health July 2014

Glenda E Gray

President, Medical Research Council of South Africa

Scope of Presentation



Building a healthy nation through research

- SAMRC Board & Mission of the SAMRC: **Mike Sathekge**
- SAMRC scientific progress, performance, governance and strategic direction: **Glenda Gray**
- SAMRC financial report: **Nick Buick**
- Why funding science is critical to the wealth and health of the nation: **Glenda Gray**



Building a healthy nation through research

VISION

Building a healthy nation through
research and innovation

MISSION

To improve the nation's health and quality of life by
conducting and funding relevant and responsive health
research, development, innovation and research
translation

The MRC's strategic goals



Building a healthy nation through research

1. Administer South African health research effectively and efficiently
2. Lead the generation of new knowledge and facilitate its translation into policies and practices to improve health
3. Support innovation and technology development to improve health
4. Build capacity for long-term sustainability of the country's health research



Building a healthy nation through research

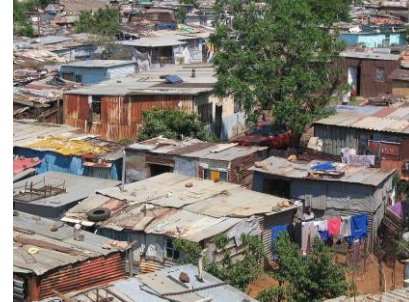
BENCH



BEDSIDE



COMMUNITY





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Prof Mike Machaba Sathekge **Chairperson**

Chief Specialist and head of department of Nuclear Medicine at the University of Pretoria / Steve Biko Academic Hospital.



Prof Zodwa Dlamini **Vice-Chairperson**

Professor of Functional Genomics and Molecular Medicine and the Deputy Executive Dean at UNISA Science Campus.



Dr Francesca Conradie

Dr Conradie is a Clinical Investigator at the University of Witwatersrand.



Prof Charles Feldman

Professor of Pulmonology and Chief Physician in the Pulmonology Division of Charlotte Maxeke Johannesburg Academic Hospital and University of the Witwatersrand.





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Dr Sibongile Gumbi

Group Executive Biotechnology at the Technology Innovation Agency (TIA)



Dr Patricia Hanekom

Member of the Ministerial Advisory Task Team for the establishment of the National School of Government and serves on a number of Boards and Audit Committees.



Dr Zilungile Kwitshana

Lecturer and Medical Scientist at the University of KwaZulu-Natal.



Prof. Khaya Mfenyana

Head: Office of the Vice Chancellor and Outgoing Executive Dean of the Medical School, Walter Sisulu University.





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Prof Pindile Mntla

Head of the Department of Cardiology at the University of Limpopo: Medunsa Faculty of Health Sciences and Dr George Mukhari Academic Hospital.



Prof Kebogile Mokwena

Head of Department of Public Health, Medunsa Campus.



Prof Keymanthri Moodley

Associate Professor at the Bioethics Unit – Tygerberg Division and works as an investigator on clinical trials.



Prof Yusuf Osman

Prof Osman is Dean/Manager: Dental Faculty/ Oral Health Centres at the University of the Western Cape.





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Adv. Josephine Ralefatane

Advocate of the Supreme Court of South Africa.



Prof Keitshepile Setswe

Professor of Public Health and the founding Head of the School of Health Sciences at Monash University South Africa campus.



Prof Andrew Walubo

Head of the Department of Pharmacology, University of the Free State, and Chief Clinical Pharmacologist, Universitas Academic Hospital.



Prof Elizabeth Anne Bukusi

Deputy Director, Research and Training at the Kenya Medical Research Institute (KEMRI) and Chief Research Officer, KEMRI Centre for Microbiology Research.



Scope of Presentation



Building a healthy nation through research

SAMRC scientific progress, performance,
governance and strategic direction: Glenda Gray

The MRC's new indicators



Building a healthy nation through research

1. Administering SA's health research effectively and efficiently:

1. MRC's audit findings
2. % of MRC budget spent on administration

2. Leading the generation of new knowledge for policy / practice:

3. ISI articles with an MRC-affiliated author
4. ISI articles that acknowledge MRC support
5. MRC articles in the top 4 journals: NEJM, Lancet, Science & Nature
6. MRC first-author ISI journal articles
7. Policies and guidelines that reference MRC research
8. Research grants awarded by the MRC

3. Innovation and technology development:

9. MRC projects on new diagnostics, drugs, devices & vaccines

4. Capacity-building:

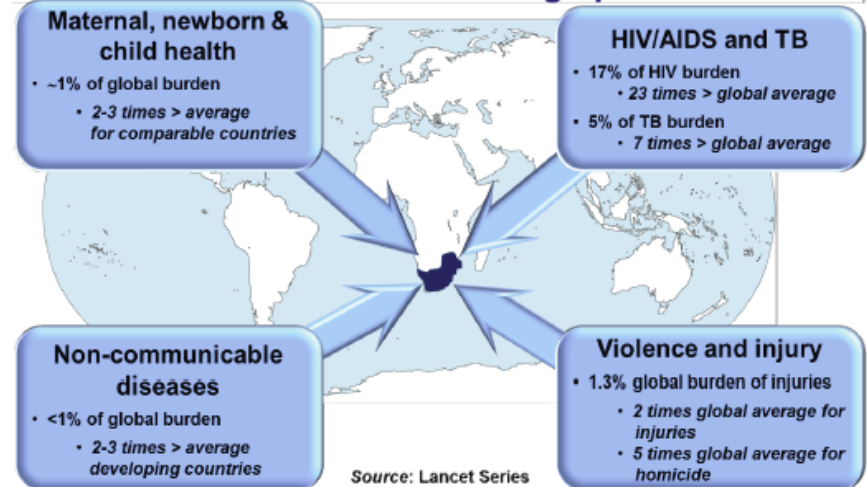
10. MRC bursaries/ scholarships/ fellowships for post-graduate study

SA's burden of disease



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The quadruple burden of disease in South Africa: A cocktail of four colliding epidemics



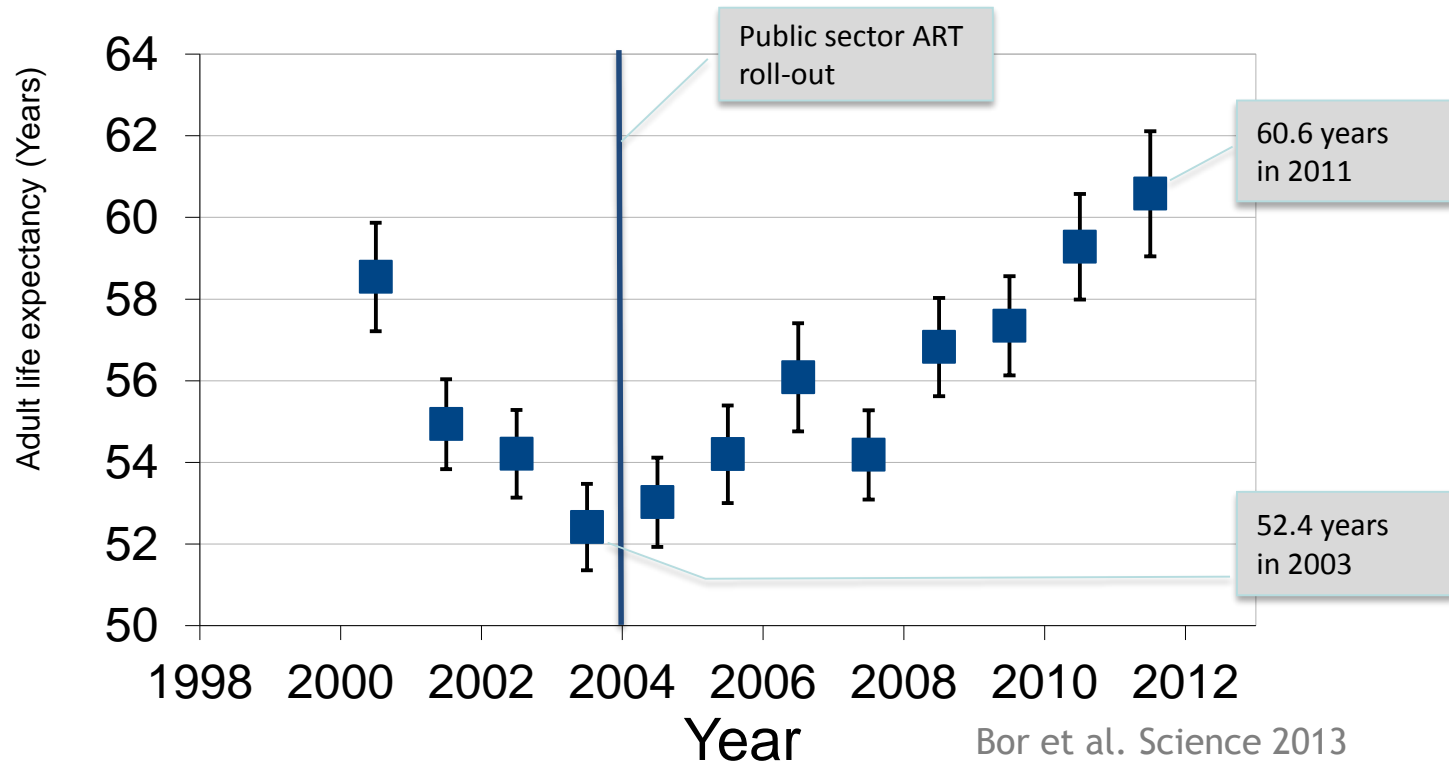
Cause of death	Deaths	%
HIV/AIDS	180,870	29.4
Hypertensive heart disease	39,272	6.4
Lower respiratory infections	38,576	6.3
Cerebrovascular disease	37,913	6.2
Tuberculosis	37,519	6.1
Diarrhoeal diseases	26,564	4.3
Ischaemic heart disease	24,510	4.0
Interpersonal violence	20,155	3.3
Road injuries	18,166	3.0
Diabetes mellitus	13,667	2.2
COPD	11,458	1.9
Nephritis/nephrosis	9,130	1.5
Top 12 causes	457,800	74.3
Total	615,788	100.0



ART roll-out leading to major gains in life expectancy



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GAINS MADE BY ART ROLL OUT

Elimination of HIV infection in infants?



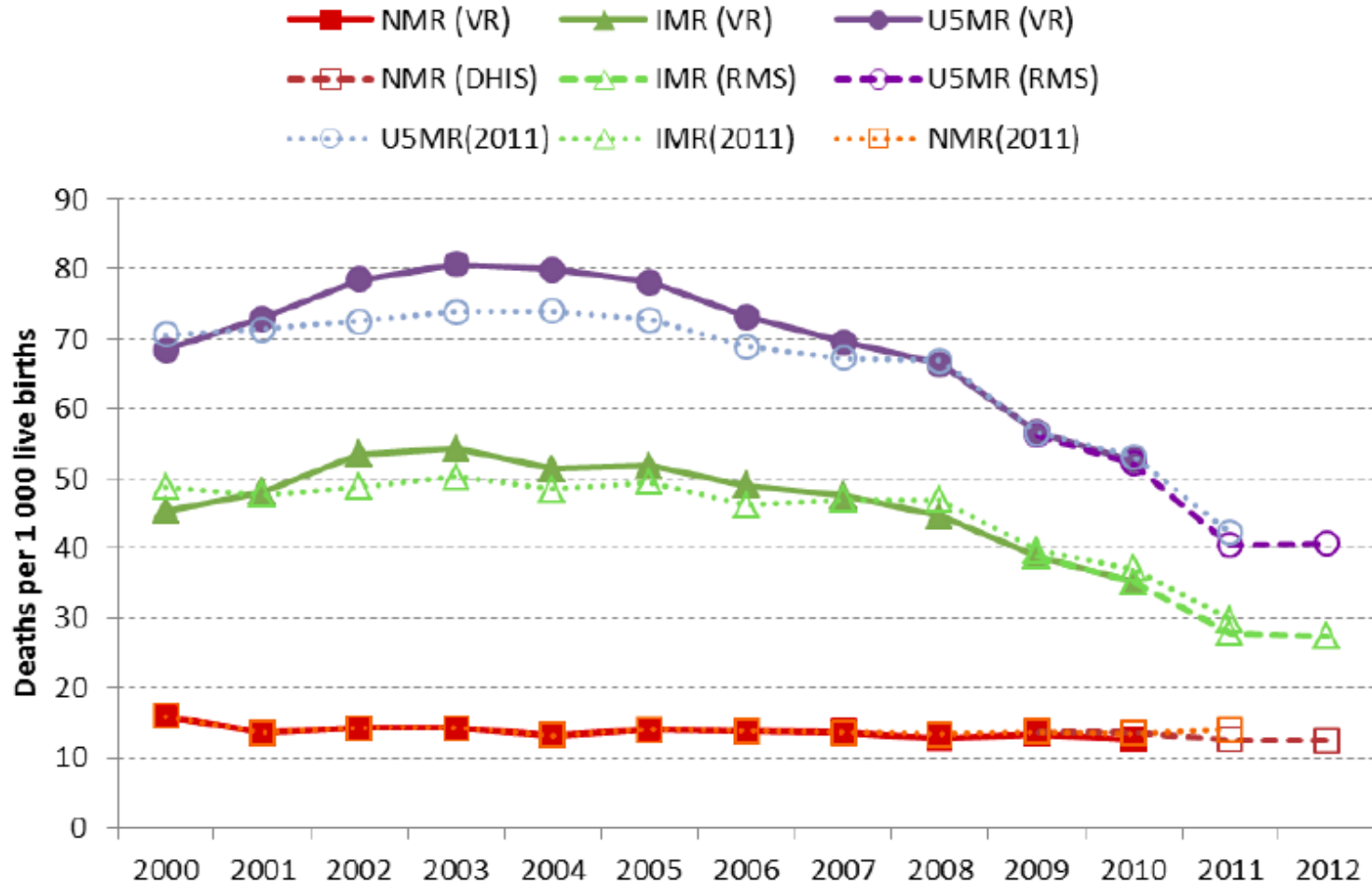
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© UNICEF/NYHQ2011/2151/Estevé

- South Africa progresses to elimination of HIV infection in children!
- Prevention of mother to child transmission (PMTCT) programme with antiretroviral (ART) had reduced the infection rate from 25% (2004) to less than 2% (2013).

Mortality in Children

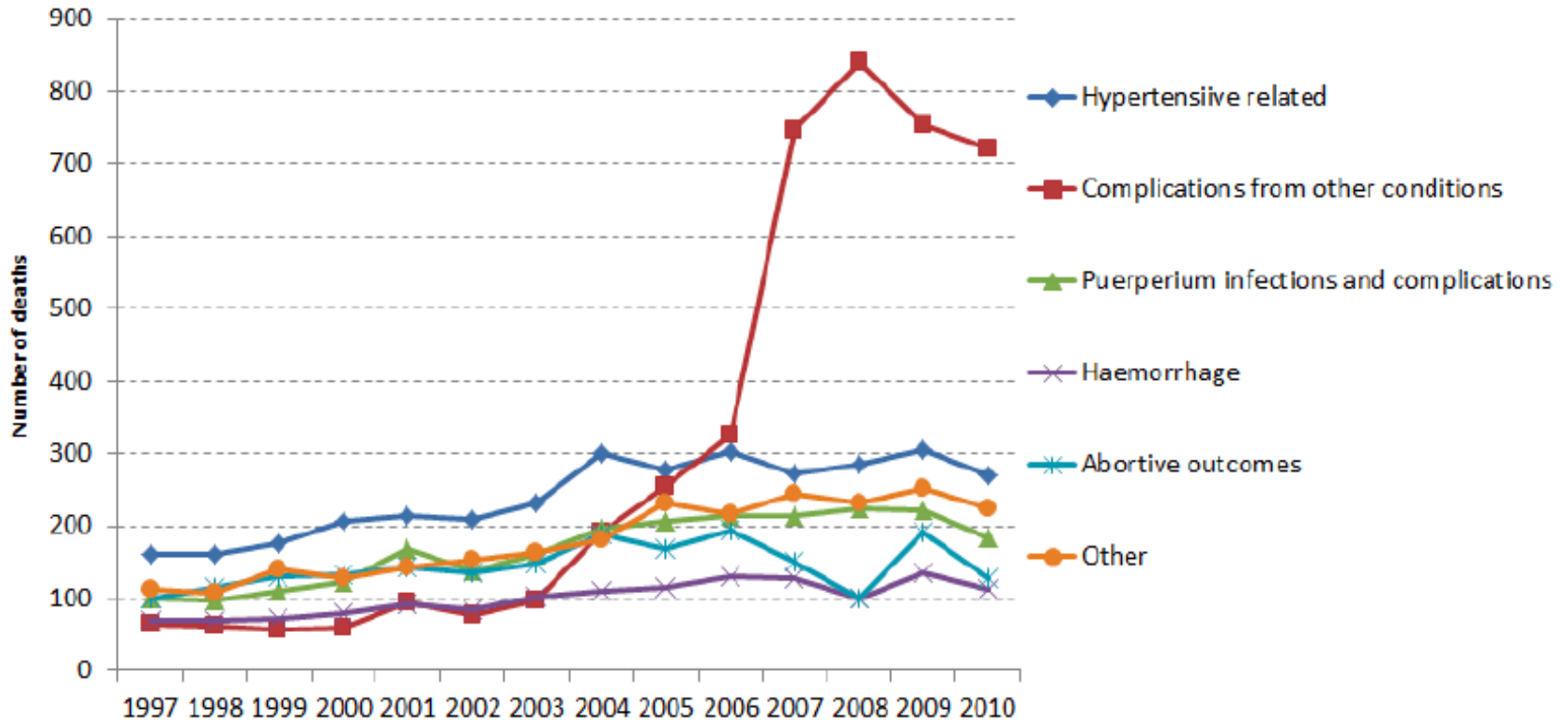


SAMRC IS PRIORITISING RESEARCH IN THIS AREA

Maternal Mortality



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SAMRC IS PRIORITISING RESEARCH IN THIS AREA

Tuberculosis



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Size of the problem

- Worldwide:
 - ~450,000 prevalent cases of MDR-TB in 2012
- South Africa:
 - 2012 - 14 419 MDR-TB cases (culture-confirmed)
 - 2011 - 10 085 cases
- Only 6,500 started on treatment in 2012
- ~ 10% were culture confirmed XDR-TB

Global TB Report, WHO, 2013 & 2012 & 2010
South African National Department of Health Report, 2008
NHLS communicable diseases survey bulletin; vol 9; August 2011

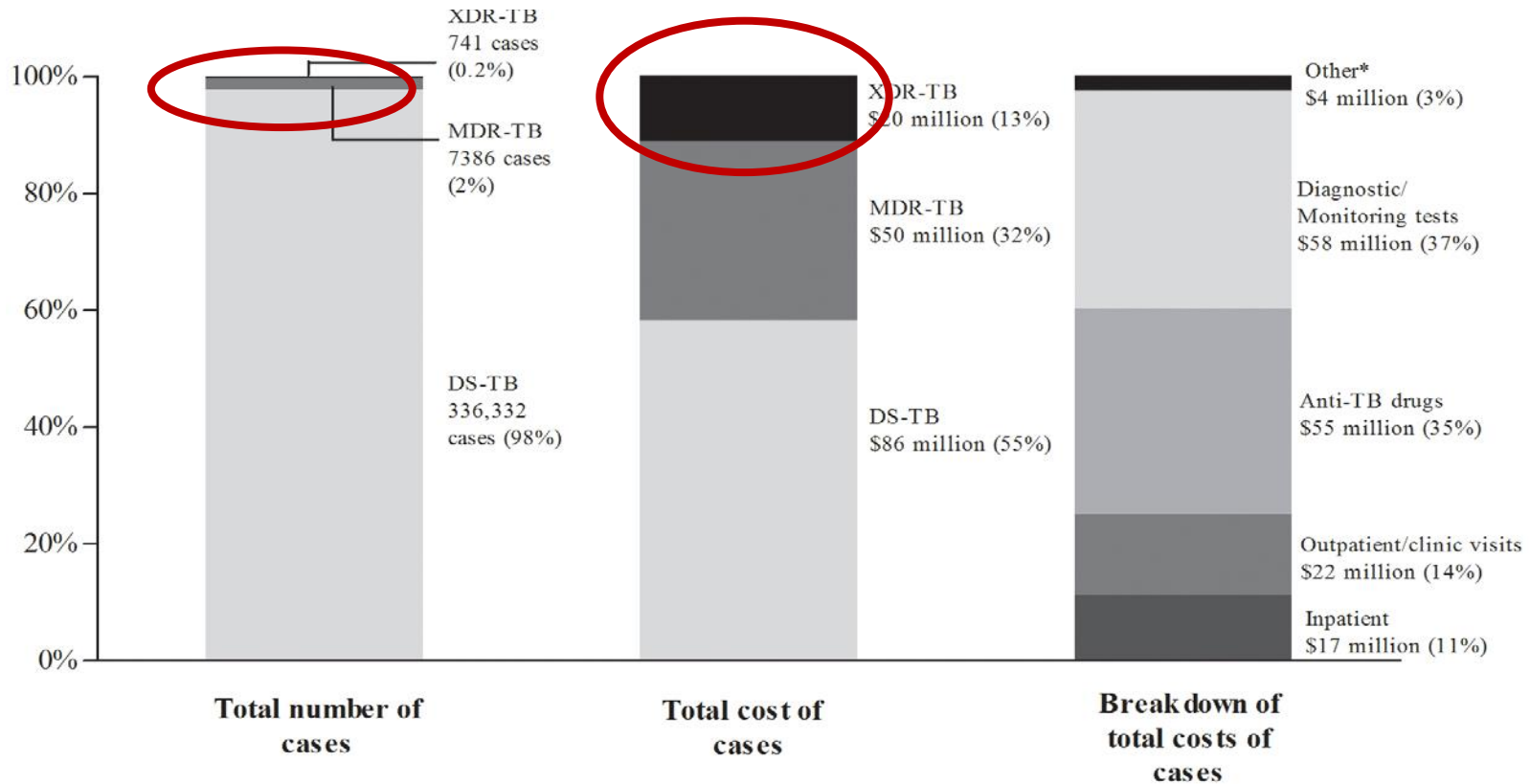
SAMRC IS PRIORITISING RESEARCH IN THIS AREA



What is the Cost of Diagnosis and Management of Drug Resistant Tuberculosis in South Africa?

Anil Pooran, Elize Pieterse, Malika Davids, Grant Theron, Keertan Dheda*

Lung Infection and Immunity Unit, Division of Pulmonology and UCT Lung Institute, Department of Medicine, University of Cape Town, Cape Town, South Africa



SAMRC IS PRIORITISING RESEARCH IN THIS AREA

The MRC's strategic goals



Building a healthy nation through research

Administer South African health research
effectively and efficiently

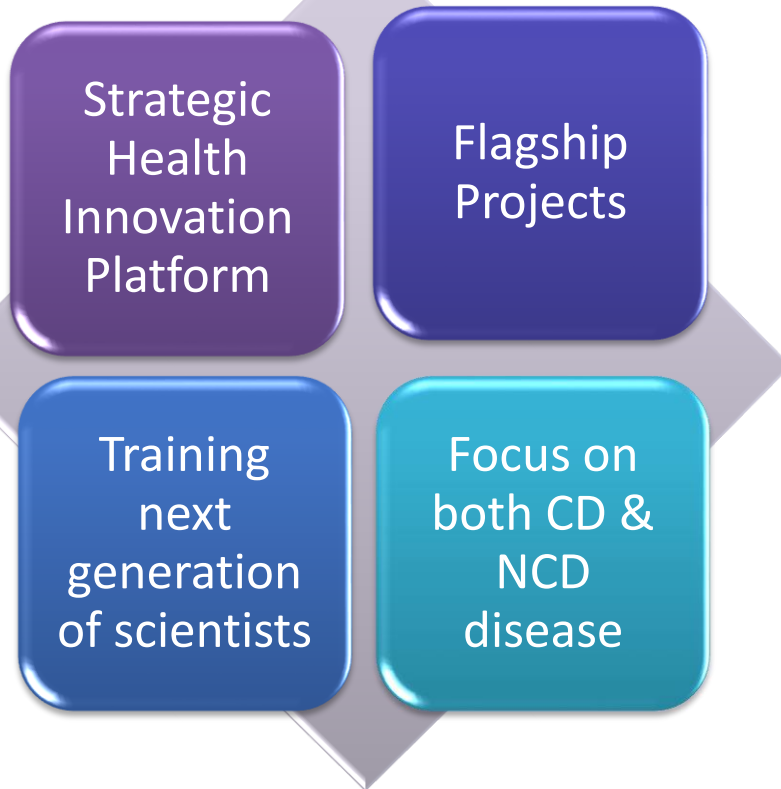


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- Big ideas, big science, high impact – promoting knowledge economy.
- Developing health solutions – Improving health of the nation.
- Building research infrastructure and human capacity.



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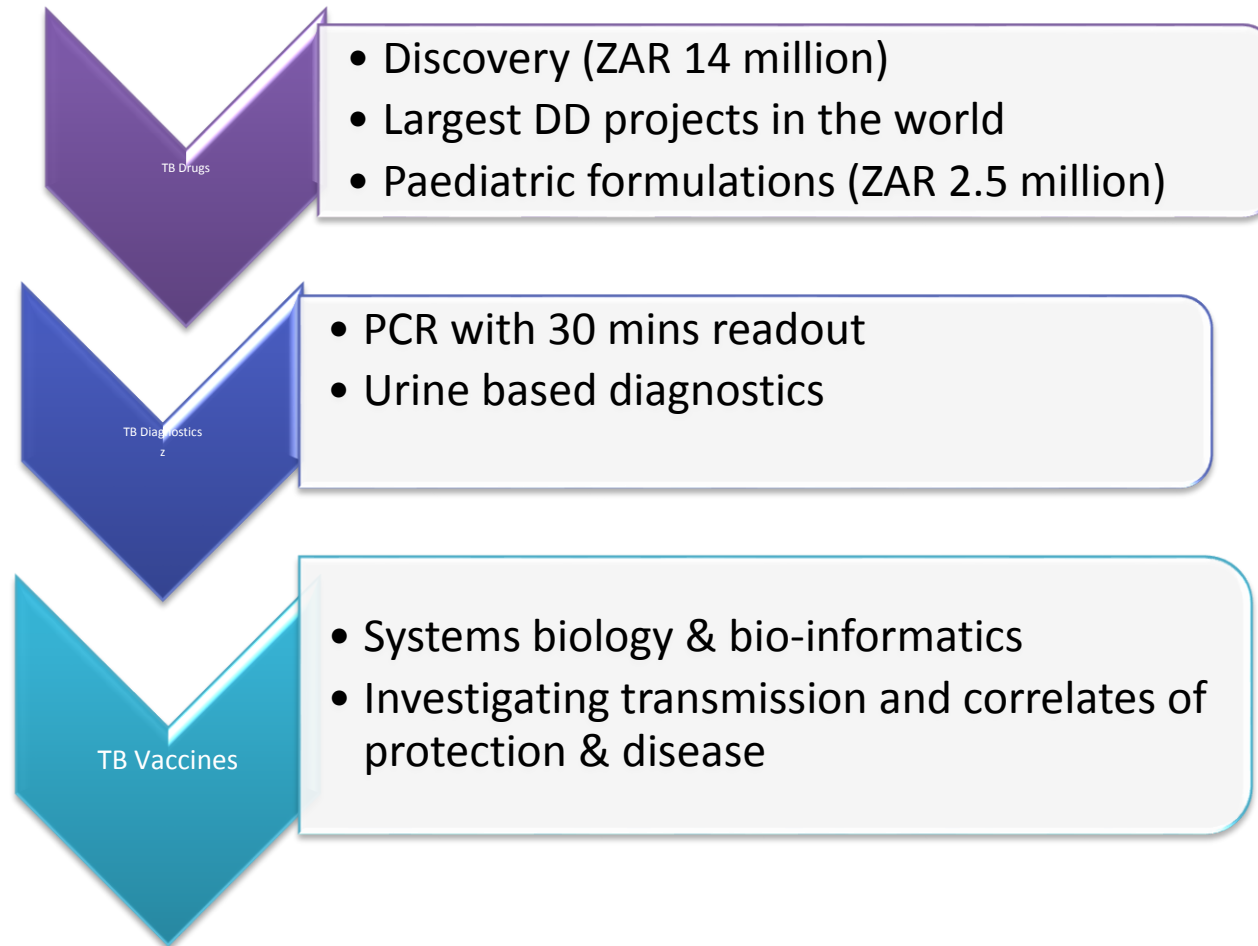
- Receive government funding through DOH & DST
- Fund intramural & extramural research
- Leverage government funding to increase spend on research e.g. NIH, BMGF, Wellcome
- Investigating disease pathogenesis & drug/vaccine discovery
- Validating models for predicting type-2 diabetes
- Discovery of links between HLA & clinical TB disease
- Prevention of brain injuries during sports
- RESEARCH PLATFORMS
 - Non Human Primate Facilities

SAMRC CO-FUNDS PROJECTS

ZAR23,5 million per year



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MALARIA ZAR 10 MILLION/YEAR IN PARTNERSHIP WITH TIA, BMGF, MMV



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Malaria Drug Discovery

- Largest drug discovery project in Africa
- Entire lifecycle of parasite

Malaria clinical candidate

- 1 clinical candidate delivered in 2014
- 1 back up series profiles

Insectary

- Two insectaries in RSA

GIS service to SADAC

The MRC's strategic goals



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Support innovation and technology
development to improve health

SHIP UP TO ZAR 100 million per year



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SHIP is a new MRC unit based on the Product Development Partnership approach.

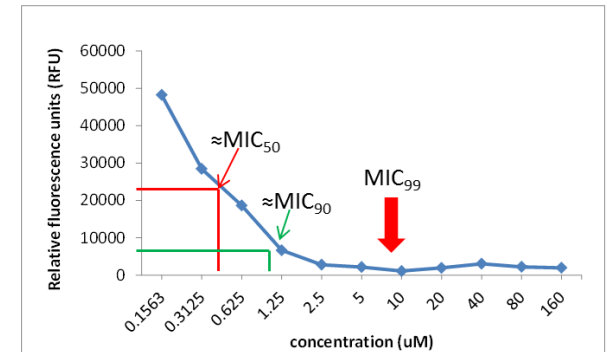
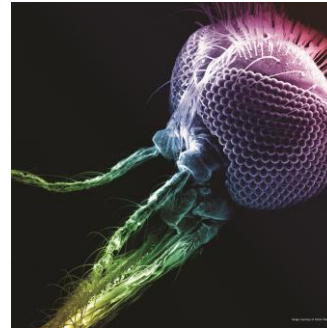
- Built on an unprecedented DST and MRC/DOH partnership.
- BMGF (ZAR 120 million)
- The focus of SHIP is multidisciplinary translational research and product development.
- SHIP's goal is to seek, manage and fund multi-disciplinary projects aimed at developing new:
 - Diagnostics and medical devices
 - Vaccines
 - Drugs



Doppler to avert still birth and early neonatal death



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COLLABORATING WITH CSIR



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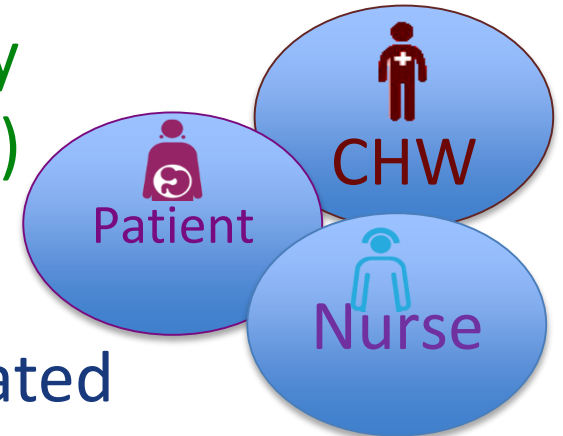
- **Umbiflow = Umbilical Artery Doppler:**
 - Doppler software app
 - Doppler handheld probe
- **Mobile-connected notebook:**
 - Hosts Umbiflow app
 - Computer terminal for nurses at clinical level to generate and access EHR, book/refer patients
- **Central database/ health information exchange**
 - Store, filter, access EHR by authenticated users
 - Allows community health care workers to book patients, facilitate feed-back loop





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Tshwane “Mamelodi Khulelwe” Study (CSIR-Tshwane Municipality-UP-MRC)



- Create evidence for **effectiveness** of integrated community-based antenatal care to increase the number of pregnant women who attend antenatal care.
- Create evidence for **clinical significance** of routine Doppler screening (operated by nurses) at primary antenatal care to reduce the number of unexplained stillbirths. *Approx R10m?*



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Triage Prototype





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Sticker Printing Solution,
Integration into the clinical
workflow





Funding Areas:

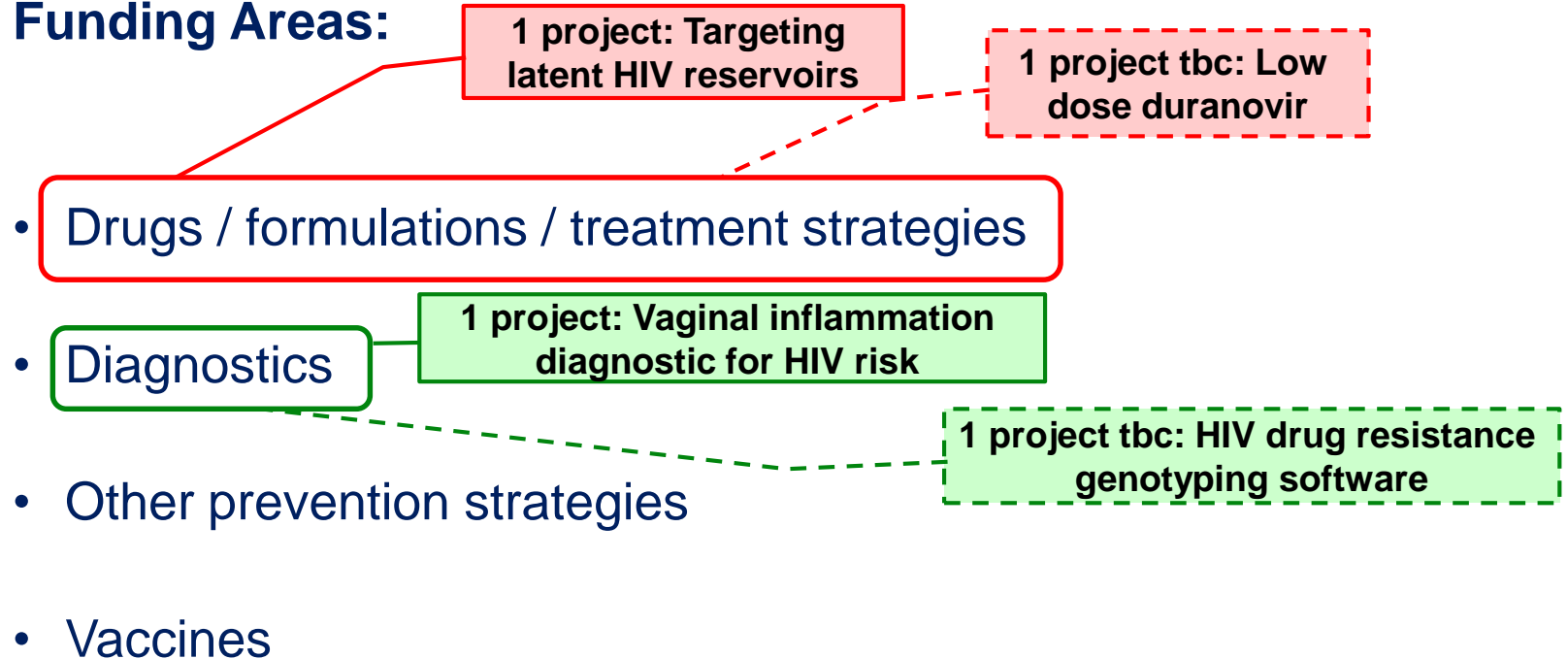
1 project: Targeting latent HIV reservoirs

1 project tbc: Low dose duranovir

- Drugs / formulations / treatment strategies
- Diagnostics
- Other prevention strategies
- Vaccines

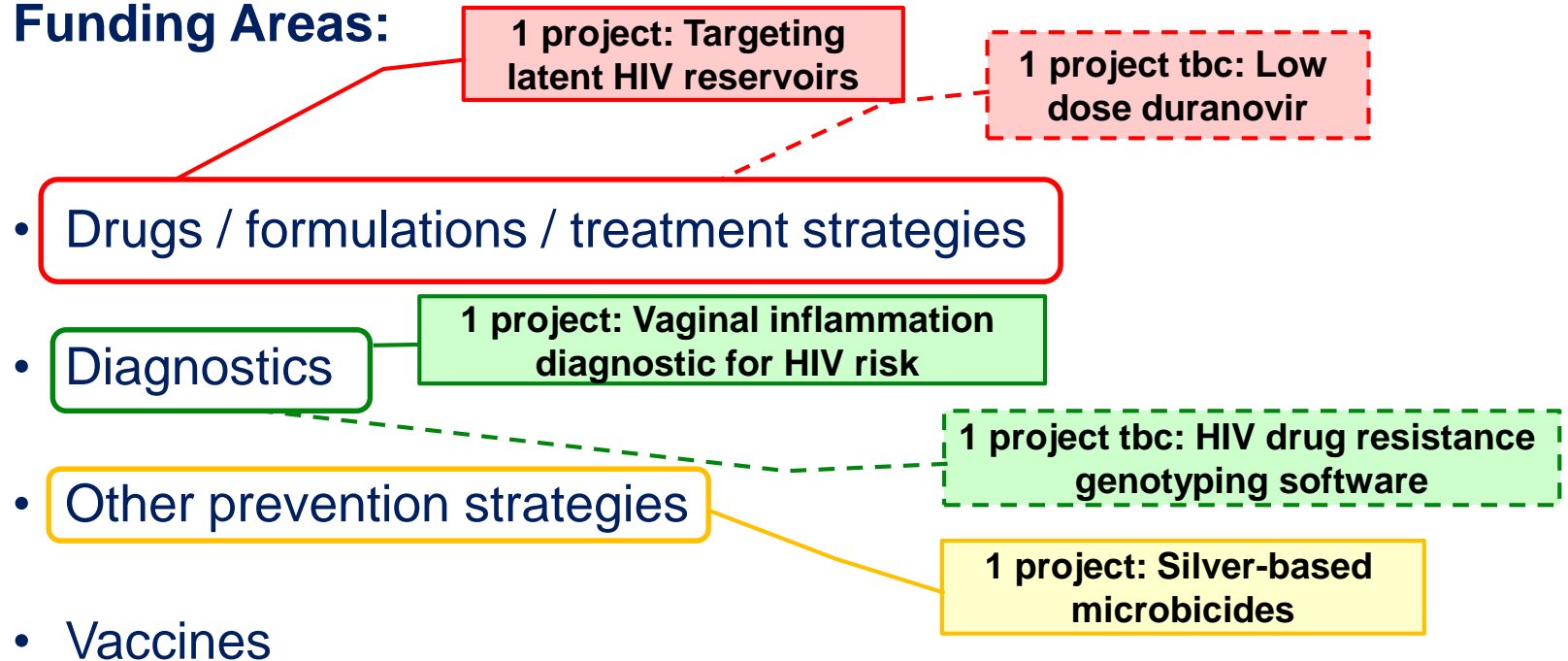


Funding Areas:



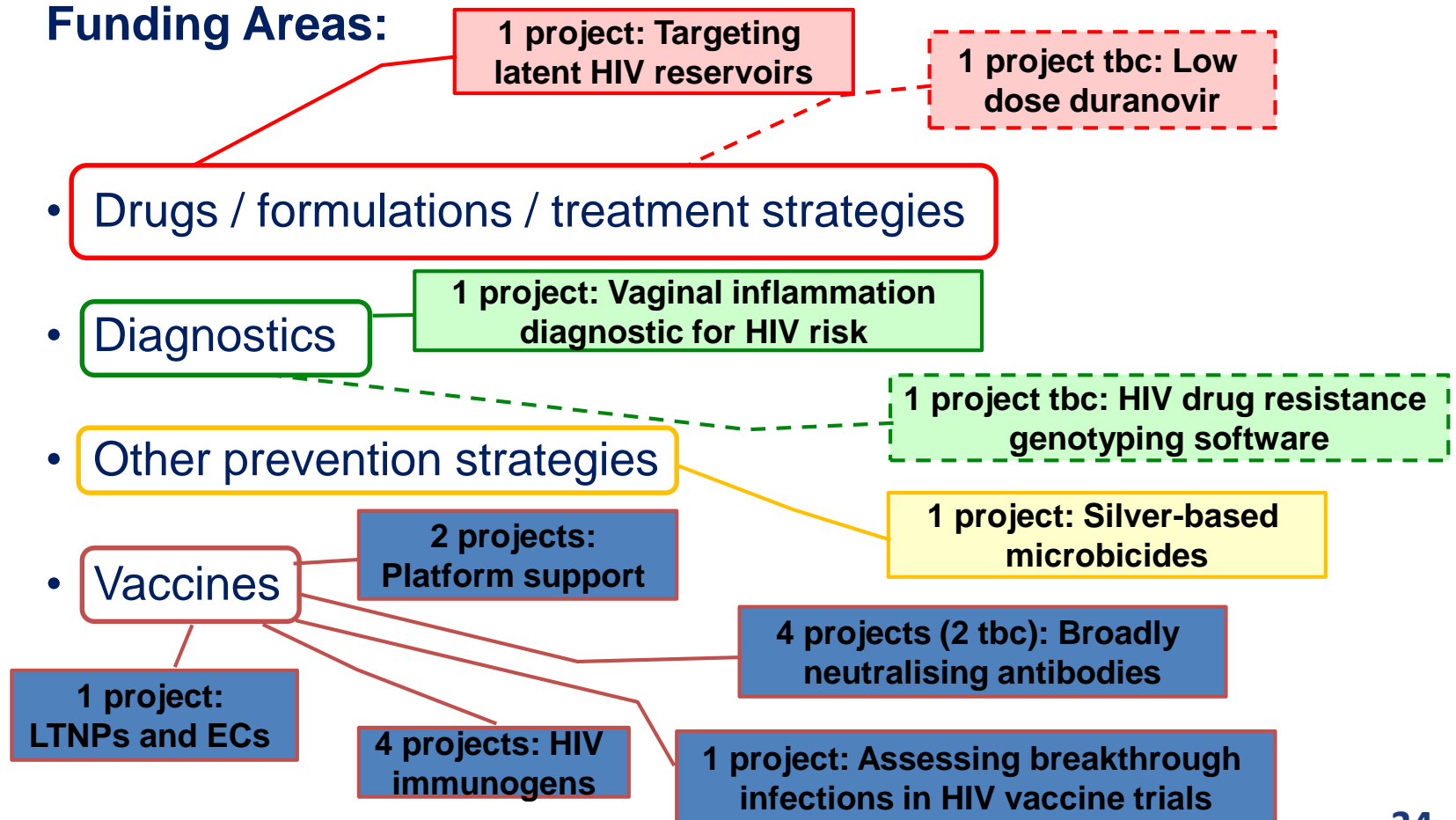


Funding Areas:





Funding Areas:

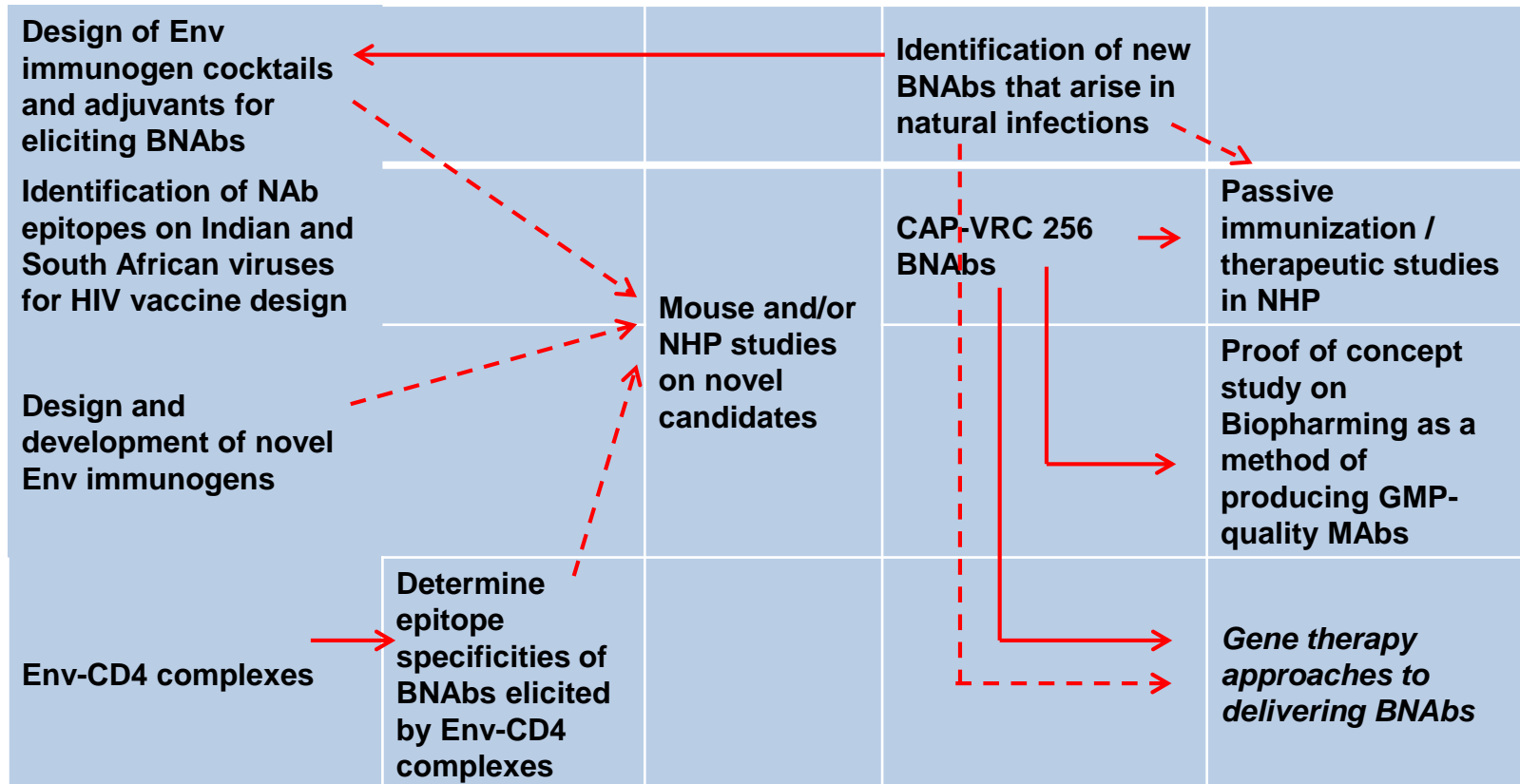




Holistic approach – e.g. Broadly Neutralising Antibodies

Active Immunization

Passive Immunization



HIV Vaccines – Platform Support



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- Maintenance of the rhesus macaque facility at the MRC – SHIP-supported studies are conducted on a direct cost basis
- Establishment of the humanized mouse and SHIV challenge models for HIV vaccine development in South Africa – Clade C SHIV and Chinese vs Indian macaques
- Bridging support for the Walter Sisulu University HIV Clinical Research Unit
- Support for national community engagement efforts (in relation to HIV vaccine trials)

HIV Vaccines – Global Participation



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- Member of the P5 Consortium
 - Funding immunology assays for HVTN 097
 - Supporting site leadership training in South Africa for the P5 trials
 - Supporting community engagement at a national and (from next year) a site level
- Facilitate participation of South Africa in the global HIV vaccine effort



Early Diabetes Diagnostic

- Blood & Urine
- Clinical validation

Early Diabetes Drug

- Comprehensive pharmacology evaluation
- Vivo support model



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Pharmacogenomic: Breast Cancer



Pharmacogenomic: Diabetes

Flagship projects



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- Concept
 - Big ideas, big science, high impact – promoting knowledge economy
 - Developing health solutions – Improving health of the nation
 - Building research infrastructure and equipment – long-term benefit
 - New scientists, technicians, etc – creating new jobs
 - Provide masters and PhD opportunities – building capacity
- Funding levels
 - Category 1: R16.5m over 3 years
 - Category 2: R8.25m over 3 years

Flagship projects –



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Institution	PI	Title	Research Program Area
Stellenbosch University	Professor Soraya Seedat	Understanding the SHARED ROOTS of Neuropsychiatric Disorders and Modifiable Risk Factors for Cardiovascular Disease	Mental Health /Cardiovascular and Metabolic Diseases
University of Cape Town	Professor Robin Wood	Tuberculosis Transmission: Host, Bacterium and Environment	TB
University of KwaZulu-Natal	Dr Tulio de Oliveira	A multi-disciplinary approach to understand the causes and consequences of HIV transmission and drug resistance in hyper-epidemic setting in rural South Africa	HIV
University of Limpopo (MEDUNSA)	Professor Akhter Goolam-Mahomed	Evaluating a new drug regimen for patients with multi-drug resistant TB – a randomised controlled trial	TB
University of Pretoria	Professor Michael S Pepper	Stem cell research and therapy – addressing South Africa’s disease burden	Stem cells
University of Witwatersrand	Professor Lynn Morris	Antiviral properties of HIV vaccine-elicited antibodies	HIV

SIR Grants



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- **Purpose**

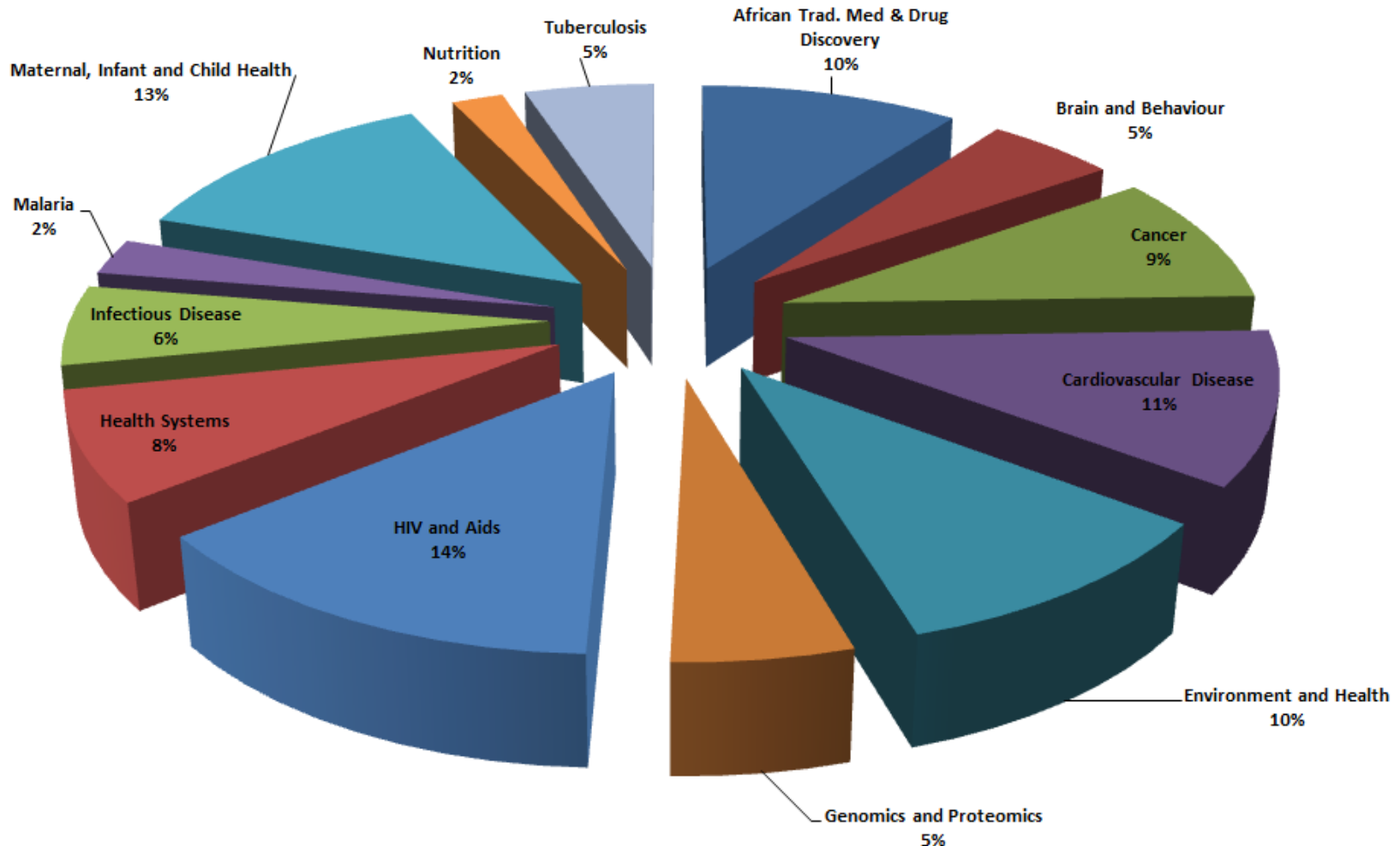
Caters for health research applications that propose novel studies initiated by a researcher at a recognized research institution.

SIR Grants



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Applications by Research Priority Area - SIRs



The MRC's strategic goals



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Build capacity for long-term sustainability
of the country's health research



- The new MRC Clinician Researcher Programme (for MDs wanting to do a PhD)
- The Career Development Award (funding for Post docs)
- MRC/NRF Health and Allied Disciplines Scholarship Programme
- The Local Post Graduate PhD scholarships (phasing out)
- The MRC Internship Programme (phasing out)
- The new National Health Scholars Programme (NHSP)

Clinicians



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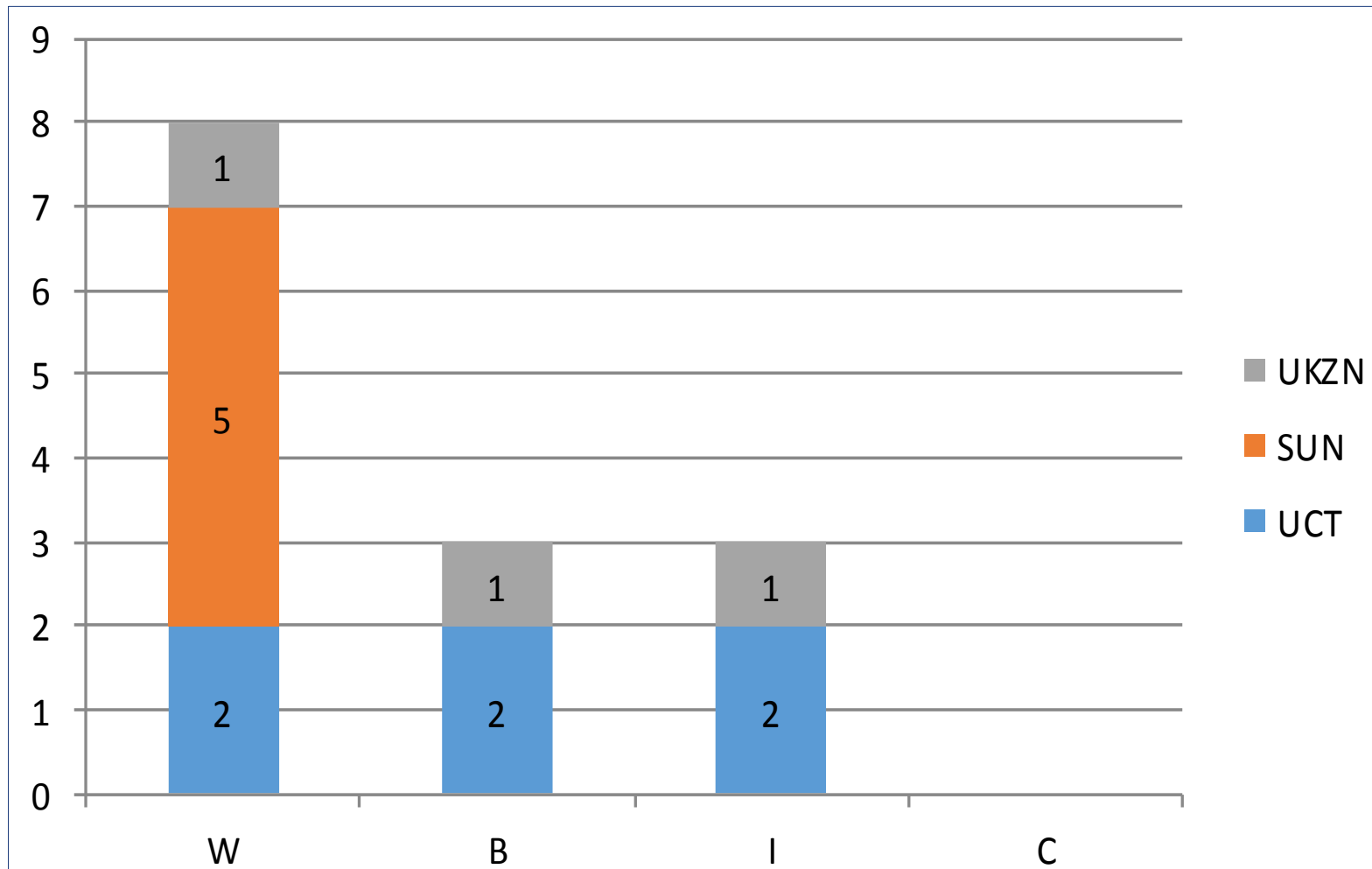
- MBChB studying towards PhD
- R500 000.00 pa (South Africans only)

Call	Date of call	Award letters	Budget / Funder	Number of successful candidates	Gender	No. of institutions represented
1 st	2 nd quarter 2013	3 rd quarter 2013	7 million	14	7 M 7F	Three 5 SUN 7 UCT 2 UKZN
2 nd	June (Call open) 2014	3 rd quarter 2014	7.5 million	15		

Number of Clinician PhDs by Race and Institution



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The Career Development Award (Post doc)

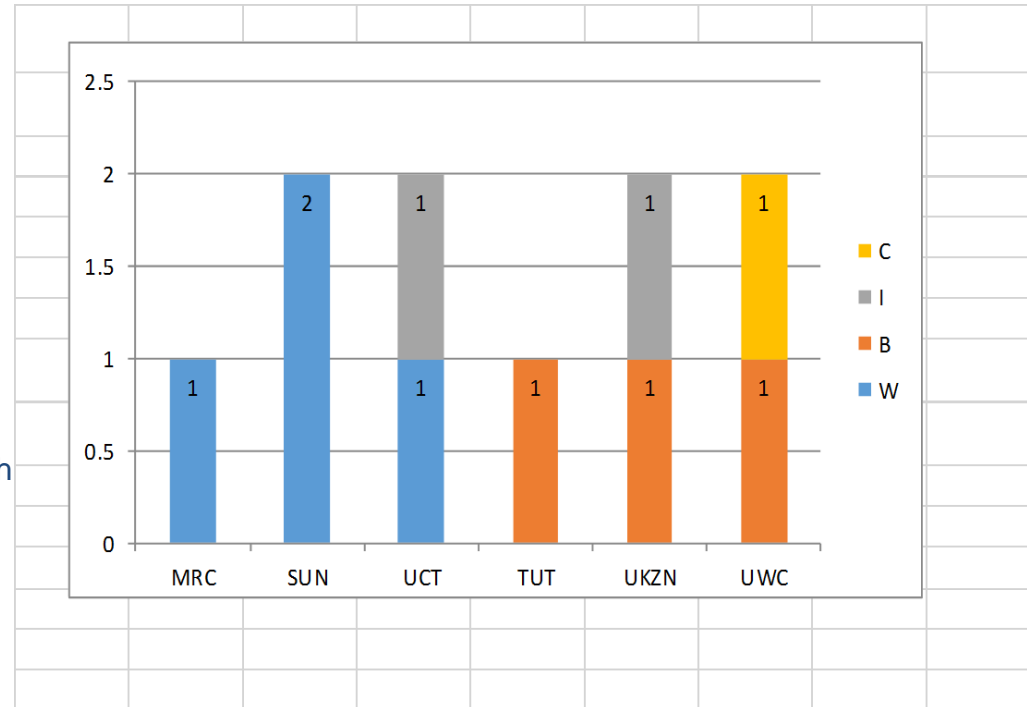


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- Post doc funding: 10 nationally (annually): R300 000.00 renewable over 4 years

R200 000.00 top up to university salary

R100 000.00 contribution to matched research costs





Funding for health and Allied disciplines research degrees

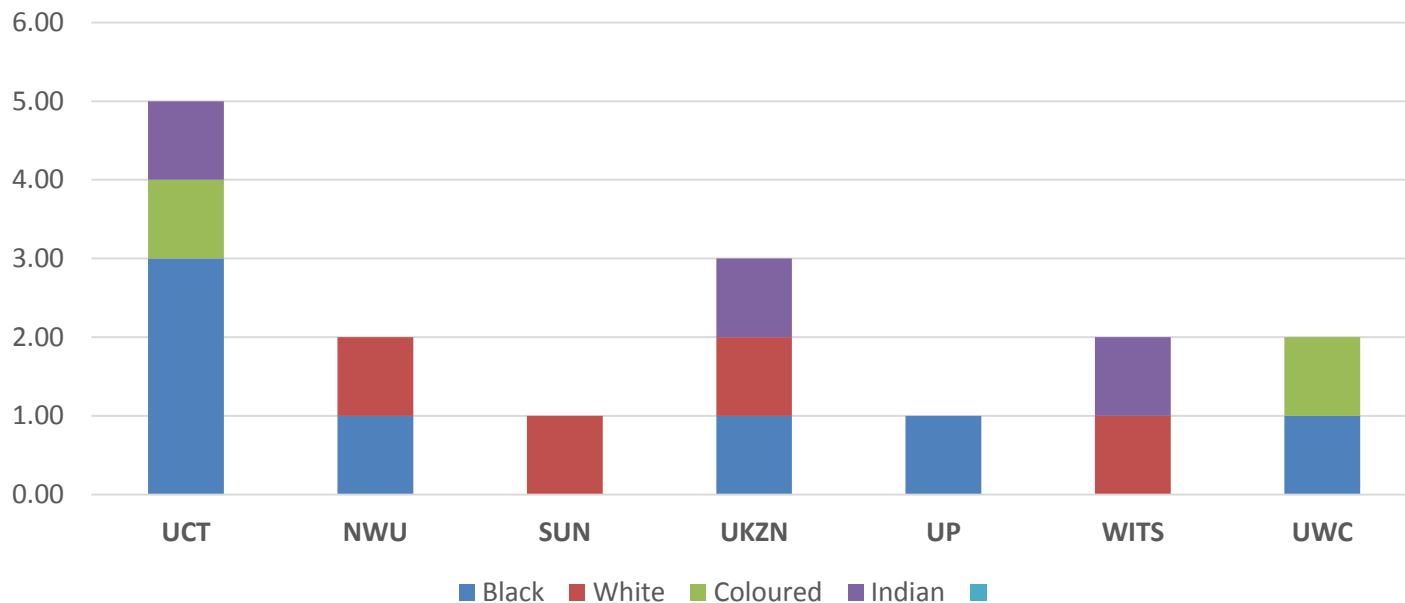
R70 000.00 for Masters: 32 candidates for 2015 intake

R100 000.00 for PhD: 32 candidates for 2015 intake



Total 17: 15 Females and 2 Males

17 PhD scholarships: R60 000.00 pa
Budget = R1 020 000.00
Race by Institution

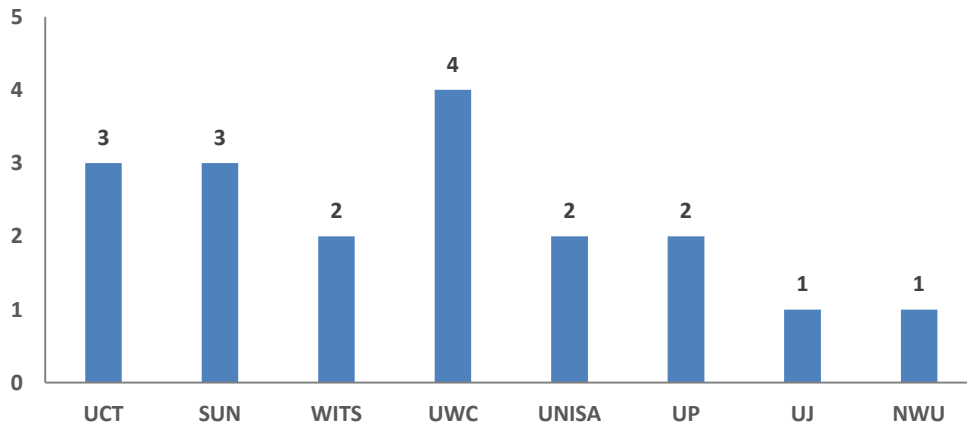




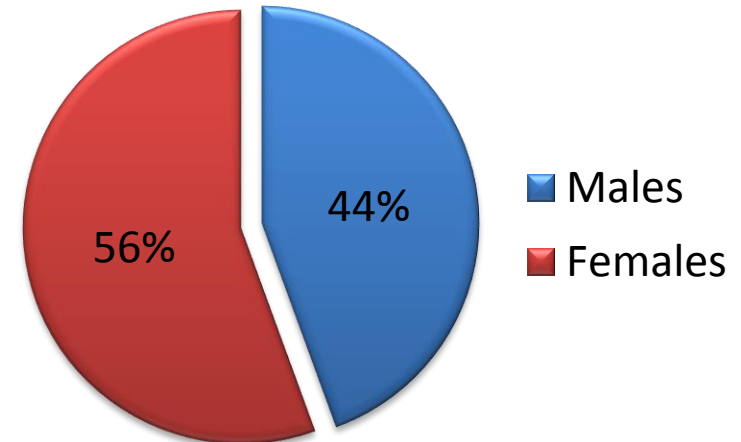
18 Generic Black MRC PhD Internship Programme Candidates by University

MRC Internship Programme: Gender representation 10 Females, 8 Males

University



Gender



National Health Scholars Programme (NHSP)

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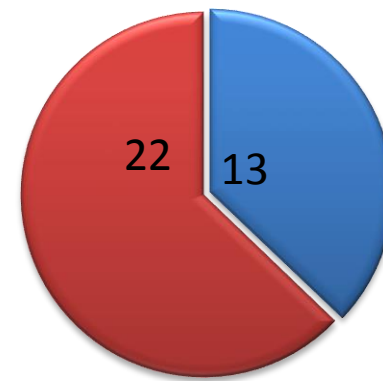
- a **tax free scholarship** for full-time **PhD degree** awarded to eligible South Africans

TOTAL VALUE OF BUDGET (1ST AND 2ND CALL):
R15 000 000

Total number of Candidates: 35

- 1st call Budget: 5 mil
 - 13 Candidates
- 2014 Budget: 10 mil
 - 22 Candidates

Number of Candidates



■ 1st Call
■ 2nd Call



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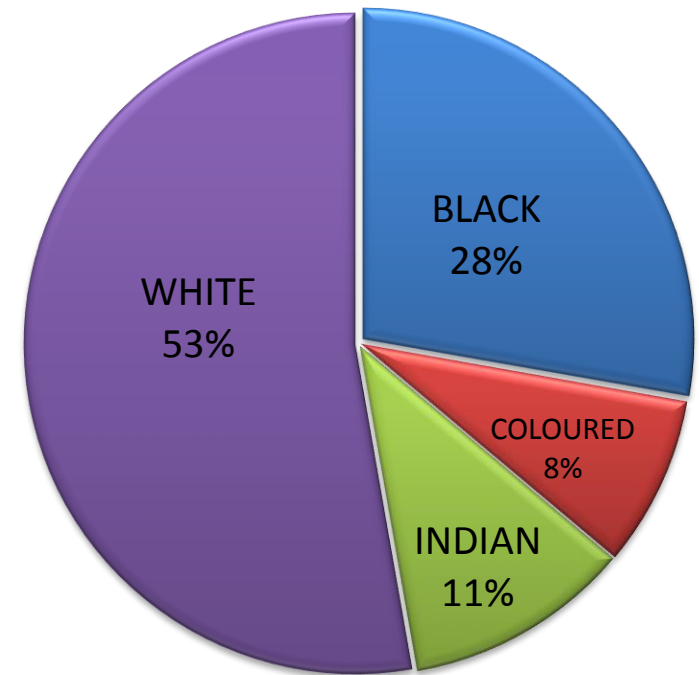
Race Representation in 1st and 2nd Call

Race Representation

BUDGET RECEIVED: 15 MIL

Total Supported: 35

- BLACK 10
- COLOURED 3
- INDIAN 4
- WHITE 19



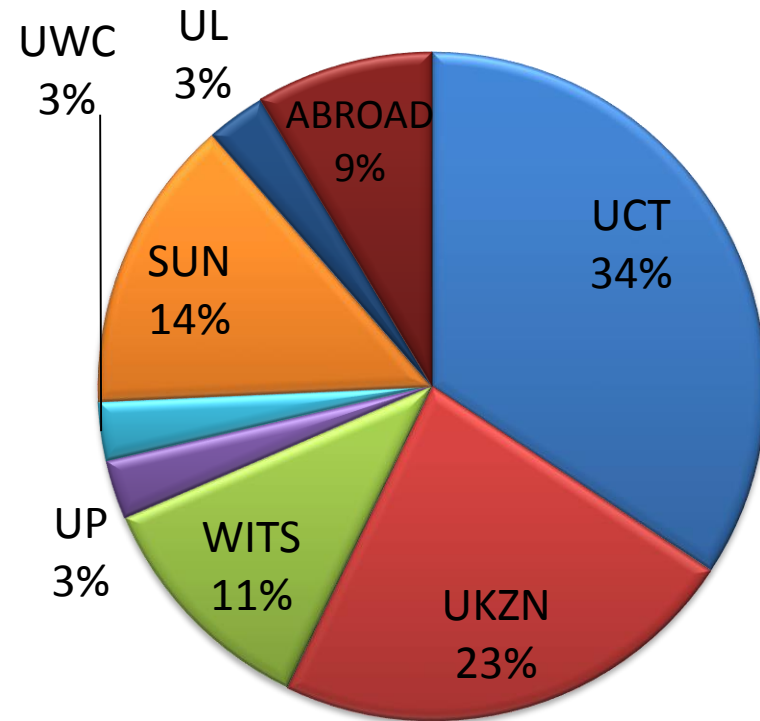


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BUDGET RECEIVED: 15 MIL

Total Supported: 35

– UCT	12
– UKZN	8
– SUN	5
– WITS	4
– UP	1
– UWC	1
– UL	1
– ABROAD	3

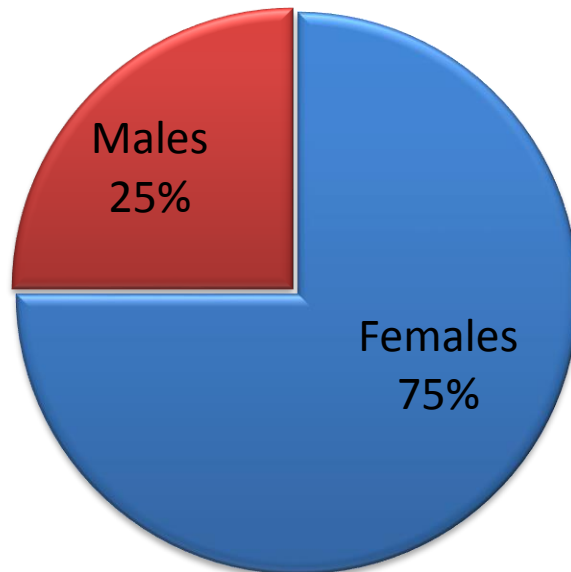


Gender Representation

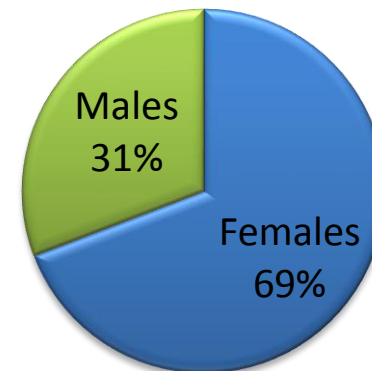


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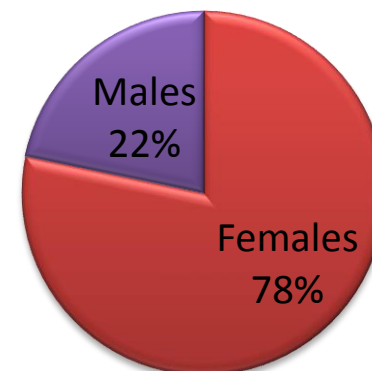
1st and 2nd Call



1st Call



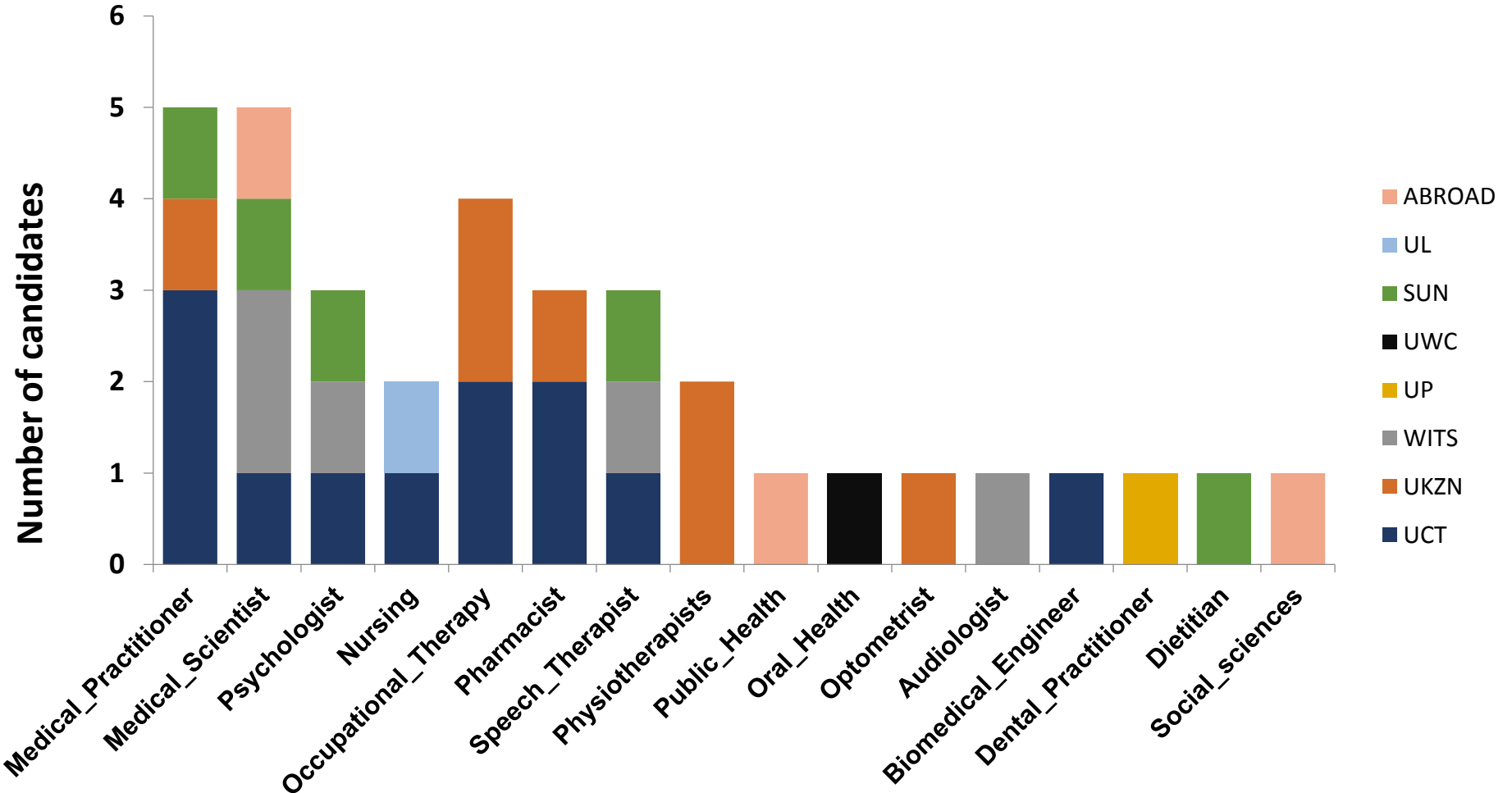
2nd Call





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Representation of Field in Universities



The MRC's strategic goals



Building a healthy nation through research

Lead the generation of new knowledge and facilitate its translation into policies and practices to improve health



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Imogen Wright

RAMICS: TRAINABLE, HIGH-SPEED AND BIOLOGICALLY RELEVANT ALIGNMENT OF HIGH-THROUGHPUT SEQUENCING READS TO CODING DNA



Novel Chegou

BEYOND THE IFN- γ HORIZON: BIOMARKERS FOR IMMUNODIAGNOSIS OF INFECTION WITH MYCOBACTERIUM TUBERCULOSIS



Theresa Rossouw

CIRCULATING BIOMARKERS OF IMMUNE ACTIVATION DISTINGUISH VIRAL SUPPRESSION FROM NONSUPPRESSION IN HAART-TREATED PATIENTS WITH ADVANCED HIV-1 SUBTYPE C INFECTION



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Marian Loveday

ASSOCIATION BETWEEN HEALTH SYSTEMS PERFORMANCE AND TREATMENT OUTCOMES IN PATIENTS CO-INFECTED WITH MDR-TB AND HIV IN KWAZULU-NATAL, SOUTH AFRICA: IMPLICATIONS FOR TB PROGRAMMES



Shabir Madhi

116E ROTAVIRUS VACCINE DEVELOPMENT: A SUCCESSFUL ALLIANCE



Philippa Black

ENERGY METABOLISM AND DRUG EFFLUX IN MYCOBACTERIUM TUBERCULOSIS



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Abrahams N

WORLDWIDE PREVALENCE OF NON-PARTNER SEXUAL VIOLENCE: A SYSTEMATIC REVIEW



Gray GE

RECOMBINANT ADENOVIRUS TYPE 5 HIV GAG/POL/NEF VACCINE IN SOUTH AFRICA: UNBLINDED, LONG-TERM FOLLOW-UP OF THE PHASE 2B HVTN 503/PHAMBILI STUDY



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Zani B

DIHYDROARTEMISININ-PIPERAQUINE FOR TREATING UNCOMPLICATED PLASMODIUM FALCIPARUM MALARIA



Ramokolo V

HIV INFECTION, VIRAL LOAD, LOW BIRTH WEIGHT, AND NEVIRAPINE ARE INDEPENDENT INFLUENCES ON GROWTH VELOCITY IN HIV-EXPOSED SOUTH AFRICAN INFANTS



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MEDICAL RESEARCH COUNCIL CHILDREN'S ENVIRONMENTAL HEALTH FACT SHEET

Is your child at risk of Lead Poisoning?

THE YOUNGER THE CHILD, THE GREATER THE RISK.

Lead is a useful, but toxic, heavy metal that is used in petrol, paint, computers, television sets, electrical appliances, motor cars, batteries and many other products. Because of its widespread use, lead has caused environmental contamination throughout the world. Lead particles tend to concentrate in dust and soil, but may also be found in the air.

IMPORTANT SOURCES OF LEAD EXPOSURE IN SOUTH AFRICA

Lead in petrol

Lead in paint peeling or flaking from old houses, schools and other buildings

Lead-related activities at home such as fixing television sets, toasters and other appliances, fixing motor cars, and spray painting

Bringing lead particles into homes from work settings in which lead is used

Children may get lead particles into their bodies when they chew their nails, suck their fingers or put toys, sticks, stones and other items into their mouths (the "hand-to-mouth" pathway). Children who eat non-food items such as soil, paint chips and cigarette butts (also known as pica) are at particular risk of lead exposure. Because lead is added to petrol, children living or attending schools close to busy roads tend to have high blood lead levels. When lead solder is used at home, for example in fixing television sets, toasters and other appliances, or if car repairs or spray painting is undertaken, the living environment

can become contaminated and result in high blood lead levels in children. Adults who work with lead, for example in a battery factory or lead mine, may bring lead particles from work into their homes on their clothes, shoes, skin or hair.

Studies done in cities and certain rural areas have shown that many South African children have high blood lead levels, well above the internationally accepted action level of 10 µg/dl. High lead levels in children have been linked to lowered IQ scores, learning difficulties and poor performance at school, hyperactivity, short concentration

spans, hearing problems, decreased growth, anaemia and even brain damage. High lead levels have also been associated with lowered lifetime achievement and earnings. In pregnant women lead can pass to the growing baby, and cause development problems. In adults high lead levels have been linked to high blood pressure and sperm abnormalities.

Children can have high blood lead levels without anyone knowing it, because you can't taste or smell lead. Only a blood test can tell whether a child's blood lead level is too high.



The good news is that simple steps can be taken to protect children from exposure to lead in the environment – turn over the page to learn more.



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SOUTH AFRICAN MEDICAL RESEARCH COUNCIL
CHILDREN'S ENVIRONMENTAL HEALTH ALERT

BE AWARE OF LEAD IN PAINTED TOYS

What is lead?

Lead is a heavy metal that is widely used in modern life. Lead exposure and poisoning is an age-old problem that persists to this day. Lead is a powerful poison that mostly affects the brain.

Children, whose bodies are still growing, are highly vulnerable to lead. The aim of this leaflet is to provide information on the hazards of lead, and how to prevent lead poisoning in children.

Where does lead come from?

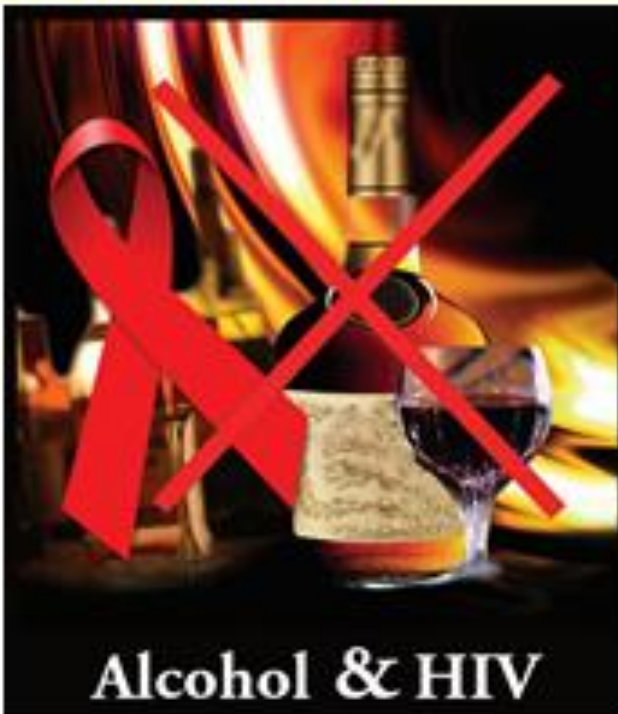
Lead is used in many products, including paint, petrol, batteries, plumbing, computers, cellular telephones, electrical appliances, radios, music and television sets, jewellery, cables, protective clothing, fishing weights and many other items.

The focus of this information leaflet however, is the lead added to paint and used on children's toys.



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1. Research in the area of alcohol and HIV



Alcohol & HIV

KEY STEPS TOWARD EXCELLENCE: DEVELOPING QUALITY MEASURES FOR SOUTH AFRICAN SUBSTANCE ABUSE SERVICES

Shaneq Myer, Dale Petersen, Barbara Kuder, Kim Johnson, Charles Parry

Overview

The Service Quality Measures (SQM) project, initiated in 2004, is aimed at improving routine measurement of the quality of services provided to substance abuse treatment programmes, and providing standardized sets for collecting information on treatment outcomes. This project is following strategies and other efforts to improve service delivery in the country, including the new National Drug Master Plan, public sector service monitoring by the National Planning Commission, and the development of standards for substance abuse treatment services.

The SQM project was initiated by the Alcohol and Drug Abuse Research Unit of the Medical Research Council together with US consultants Drs Randy Koch, John Bartel, and Rex Vandendorp, as well as many years of experience in developing and implementing similar quality measures. One of the strengths of the project is that it is a participatory process. It relies heavily on the input and guidance from key stakeholders in the substance abuse treatment and policy arena. An advisory regarding the choice of quality measures have been reached through consensus and with the input of a broad range of stakeholders.

The project has three aspects. There is a policy advisory group that provides overall direction for the project and ensures that strategies are consistent with other relevant policy and programme initiatives. There are also two work groups that comprise a mix of service providers and academic experts: the current service group, responsible for developing the South African Treatment Services Assessment (SATS), and the administrative measures group.

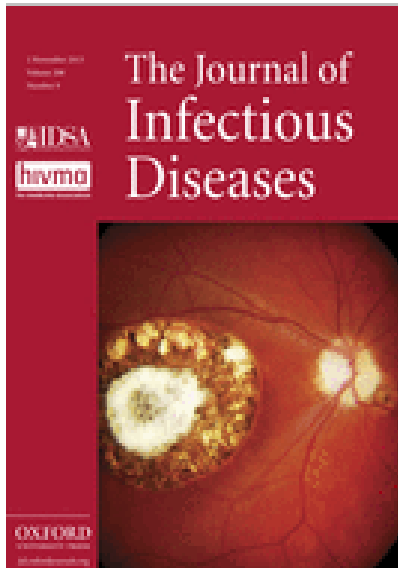
Project organisation, including working groups



2. Service Quality Measures



Discovery of links between HLA & clinical TB disease



The Journal of Infectious Diseases

Associations Between Human Leukocyte Antigen Class I Variants and the Mycobacterium tuberculosis Subtypes Causing Disease.

Salie M, van der Merwe L, Möller M, Daya M, van der Spuy GD, van Helden PD, Martin MP, Gao XJ, Warren RM, Carrington M, Hoal EG.

MRC Centre for Molecular and Cellular Biology and the DST/NRF Centre of Excellence for Biomedical TB Research, Division of Molecular Biology and Human Genetics, Stellenbosch University, Tygerberg

Abstract

Background. The development of active tuberculosis disease has been shown to be multifactorial. Interactions between host and bacterial genotype may influence disease outcome, with some studies indicating the adaptation of *M. tuberculosis* strains to specific human populations. Here we investigate the role of the human leukocyte antigen (HLA) class I genes in this biological process. **Methods.** Three hundred patients with tuberculosis from South Africa were typed for their HLA class I alleles by direct sequencing. Mycobacterium tuberculosis genotype classification was done by IS6110 restriction fragment length polymorphism genotyping and spoligotyping. **Results.** We showed that Beijing strain occurred more frequently in individuals with multiple disease episodes ($P < .001$) with the HLA-B27 allele lowering the odds of having an additional episode (odds ratio, 0.21; $P = .006$). Associations were also identified for specific HLA types and disease caused by the Beijing, LAM, LCC, and Quebec strains. HLA types were also associated with disease caused by strains from the Euro-American or East Asian lineages, and the frequencies of these alleles in their sympatric human populations identified potential coevolutionary events between host and pathogen. **Conclusions.** This is the first report of the association of human HLA types and *M. tuberculosis* strain genotype, highlighting that both host and pathogen genetics need to be taken into consideration when studying tuberculosis disease development.



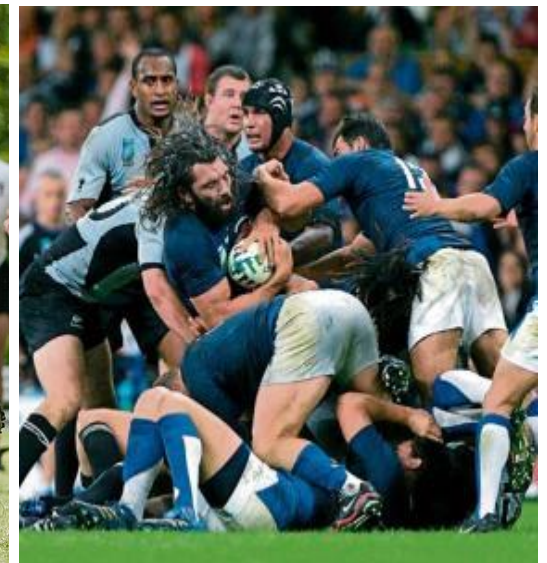
Prevention of brain injuries during sports

BMJ

Risk factors for sports concussion: an evidence-based systematic review.

Abrahams S, Mc Fie S, Patricios J, Posthumus M, September AV.

MRC researchers:
S Abrahams, S Mc Fie, M Posthumus, AV September (UCT/MRC Research Unit for Exercise Science and Sport Medicine)



MRC science impacts global policy on Intimate partner violence



The Global Prevalence of Intimate Partner Violence Against Women

K. M. Devries,^{1†} J. Y. T. Mak,¹ C. García-Moreno,^{2*} M. Petzold,³ J. C. Child,¹ G. Falder,¹ S. Lim,⁴ L. J. Bacchus,¹ R. E. Engell,³ L. Rosenfeld,⁴ C. Pallitto,^{2*} T. Vos,⁴ **N. Abrahams**,⁵ C. H. Watts¹

¹Gender Violence and Health Centre, London School of Hygiene and Tropical Medicine, London WC1E 7HT, UK. ²World Health Organization (WHO), 1211 Geneva, Switzerland. ³University of Gothenburg, 411 37 Gothenburg, Sweden. ⁴Institute for Health Metrics and Evaluation, University of Washington, Seattle, WA 98121, USA. ⁵Medical Research Council, Tygerberg 7505, South Africa.



THE LANCET



The global prevalence of intimate partner homicide: a systematic review

Heidi Stöckl, Karen Devries, Alexandra Rotstein, **Naeemah Abrahams**, Jacquelyn Campbell, Charlotte Watts, Claudia Garcia Moreno

World Health Organization

Embargoed until 13:00 GMT, 20 June 2013

Responding to intimate partner violence and sexual violence against women

WHO clinical and policy guidelines

External experts and WHO staff involved in the preparation of the guidelines

Guideline Development Group members

* Members of the Steering Group

Rachel JEWKES*
Director
Gender & Health Research Unit
Medical Research Council
Private Bag X385
Pretoria 0001
South Africa

This report was written by Claudia García-Moreno and Christina Pallitto of the Department of Reproductive Health and Research (RHR) of the World Health Organization (WHO), Karen Devries, Heidi Stöckl and Charlotte Watts of the London School of Hygiene and Tropical Medicine (LSHTM), and **Naeemah Abrahams from the South African Medical Research Council (SAMRC)**. Max Petzold from the University of Gothenburg provided statistical support to all of the analyses.

No public health response is complete without prevention. Violence against women can and should be prevented. Promising programmes exist and many hinge on promoting gender equality so that the full potential of the world's women and girls can be realized. Let this report serve as a unified call to action those working for a world without violence against women.

Flavia Bustreo

Flavia Bustreo
Assistant Director General
Family, Women and Children's Health
World Health Organization

Salim S. Abdool Karim

Professor Salim S. Abdool Karim
President: South African Medical
Research Council

Peter Piot

Peter Piot
Director and Professor of Global Health,
London School of Hygiene & Tropical Medicine

Oleg Chestnov

Oleg Chestnov
Assistant Director General
Noncommunicable Diseases and Mental Health
World Health Organization



Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence

Embargoed until 20 June 2013, 13:00hr GMT



Building a healthy nation through research

BMJ

Effect of home based HIV counselling and testing intervention in rural South Africa: cluster randomised trial.

Doherty T, Tabana H, Jackson D, Naik R, Zembe W, Lombard C, Swanevelder S, Fox MP, Thorson A, Ekström AM, Chopra M.

Medical Research Council, Parow, Cape Town, 7535, South Africa. tanya.doherty@mrc.ac.za



Conclusions: Home based HIV counselling and testing increased the prevalence of HIV testing in a rural setting with high levels of stigma. Benefits also included higher uptake of couple counselling and testing and reduced sexual risk behaviour.



Leveraging Resources



Building a healthy nation through research

- SAMRC & NIH
- SAMRC & GATES
- SAMRC & PATH
- SAMRC & Newton fund (British MRC, Wellcome & GSK)

Scope of Presentation



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SAMRC financial report: Nick Buick



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ESTIMATED INCOME OVER MTEF PERIOD

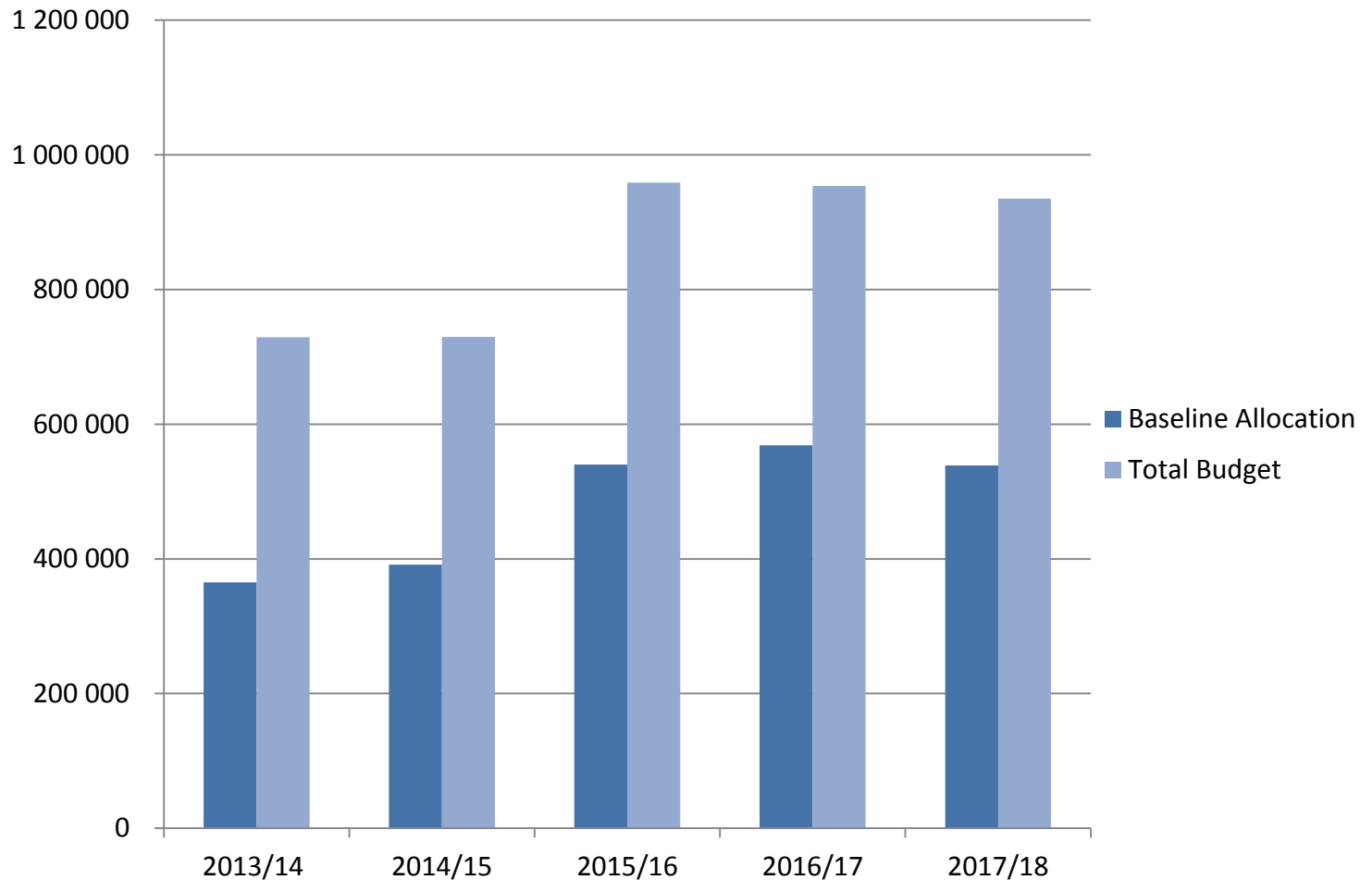
DESCRIPTION	2013/14	% Incr	2014/15	% Incr	2015/16	% Incr	2016/17	% Incr	2017/18
BASELINE FUNDING									
Permanent Baseline Allocation	286,367,000	6%	303,799,421	34%	408,598,000	5%	430,649,123	5%	451,131,579
Economic Competitive & Support Package	<u>78,947,000</u>	11%	<u>87,719,000</u>	50%	<u>131,578,947</u>	5%	<u>138,157,895</u>	-37%	<u>87,719,298</u>
* Total Allocation from National Treasury	<u>365,314,000</u>	7%	<u>391,518,421</u>	38%	<u>540,176,947</u>	5%	<u>568,807,018</u>	-5%	<u>538,850,877</u>
Other Income									
Investment Income	22,000,000		23,000,000		27,000,000		27,000,000		28,000,000
Overheads Recovered	26,000,000		20,000,000		23,000,000		25,000,000		27,000,000
Sundry Income	<u>7,000,000</u>		<u>13,269,000</u>		<u>14,000,000</u>		<u>15,000,000</u>		<u>16,000,000</u>
Total Baseline Allocation	<u>55,000,000</u>	2%	<u>56,269,000</u>	14%	<u>64,000,000</u>	5%	<u>67,000,000</u>	6%	<u>71,000,000</u>
Total Estimated Baseline Income	<u>420,314,000</u>	7%	<u>447,787,421</u>	35%	<u>604,176,947</u>	5%	<u>635,807,018</u>	-4%	<u>609,850,877</u>
CONTRACT FUNDING									
DST funding for SHIP	29,000,000		36,000,000		57,000,000		54,000,000		54,000,000
Gates Foundation funding	30,000,000		30,000,000		40,000,000				
Leverage Funding					35,000,000		35,000,000		35,000,000
MRC Contract Research Funding (estimated)	250,000,000		216,000,000		222,480,000		229,154,400		236,029,032
TOTAL ESTIMATED FUNDING	<u>729,314,000</u>	0%	<u>729,787,421</u>	31%	<u>958,656,947</u>	0%	<u>953,961,418</u>	-2%	<u>934,879,909</u>

* Baseline Vat incl. 416,457,960 446,331,000 615,801,720 648,440,000 614,290,000

Projected Growth in Income



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SOUTH AFRICAN MEDICAL RESEARCH COUNCIL												
SUMMARY BUDGET												
	2014/15 (R'000')					2015/16 (R'000')						
	Total Baseline	%	Contract Funded	Total	Total %	Total Baseline	% of Total Budget	% Year on Year	Contract Funded	Total	Yr on Yr Incr	Total %
Budgeted Expenses												
Intramural Research	116,672	24%	216,228	332,900	43%	146,599	24%	26%	213,708	360,308	8%	38%
Extramural Research	178,090	36%	2,000	180,091	23%	210,011	35%	18%	0	210,012	17%	22%
Research Capacity Development	23,195	5%	8,772	31,967	4%	24,355	4%	5%	8,772	33,127	4%	3%
SHIP	22,740	5%	55,000	77,740	10%	54,361	9%	139%	132,000	186,362	140%	19%
Support	133,838	27%	0	133,838	17%	139,651	23%	4%	0	139,652	4%	15%
Other	17,253	4%	0	17,253	2%	29,200	5%	69%	0	29,197	69%	3%
Total Budgeted Expenses	491,787		282,000	773,788		604,177			354,480	958,657		
Income												
Baseline Allocation	303,799			303,799	42%	408,598				408,598	34%	43%
Competive Allocation	87,719			87,719	12%	131,579				131,579	50%	14%
Contract Income			282,000	282,000	39%				354,480	354,480	26%	37%
Investment Income/Interest	23,000			23,000	3%	27,000				27,000	17%	3%
Sundry Income	13,269			13,269	2%	14,000				14,000	6%	1%
Overhead Recovery from contracts	20,000			20,000	3%	23,000				23,000	15%	2%
Total Income	447,787		282,000	729,787		604,177			354,480	958,657		
Surplus / (Deficit)	-44,000		0	-44,001		0			0	0		
Total Projected Deficit	-44,000					0						

Expenditure by Strategic Objective



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	Audited outcome				Revised estimate	Average growth rate (%)	Expenditure/total: Average (%)	Medium-term estimate			Average growth rate (%)	Expenditure/total: Average (%)
	2011/12	2012/13	2013/14	2014/15				2011/12 - 2014/15	2015/16	2016/17		
R thousand												
Administration	143,962	156,463	175,327	161,793	4.0%	23.9%	181,965	187,978	181,215	3.9%	18.3%	
Core research	423,423	406,011	471,099	549,329	9.1%	68.6%	615,386	646,742	639,468	5.2%	62.9%	
Innovation and technology	4,951	7,752	59,015	83,247	156.2%	5.1%	201,230	161,612	151,242	22.0%	15.0%	
Capacity development	8,207	6,726	22,311	34,231	61.0%	2.4%	35,700	37,261	38,444	3.9%	3.7%	
	-	-	-	-	-	-	-	-	-	-	-	
Total expense	580,543	576,952	727,752	828,600	12.6%	100.0%	1,034,281	1,033,593	1,010,369	6.8%	100.0%	

Highlights/Concerns



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- Income will grow by 31% in 2015/16
 - Increase in Economic Competitive Support Package funding by R50m
 - Anticipated Leverage funding of R35m p.a for three years from Newton and Wellcome Trust (UK funding) and Grand Challenges 2015 from Gates Foundation (USA funding)
- Further leverage funding from National Institutes of Health (NIH in USA) to the value of R40m p.a. for 3 years will benefit South African researchers
- Spending on Administration in relation to total costs will decrease from 23.9% in 2014/15 to 18.3% in 2017/18
- Reduction of funding by R50m in 2017-18 a concern

Scope of Presentation



Building a healthy nation through research

Why funding science is critical to the wealth and health of the nation: Glenda Gray



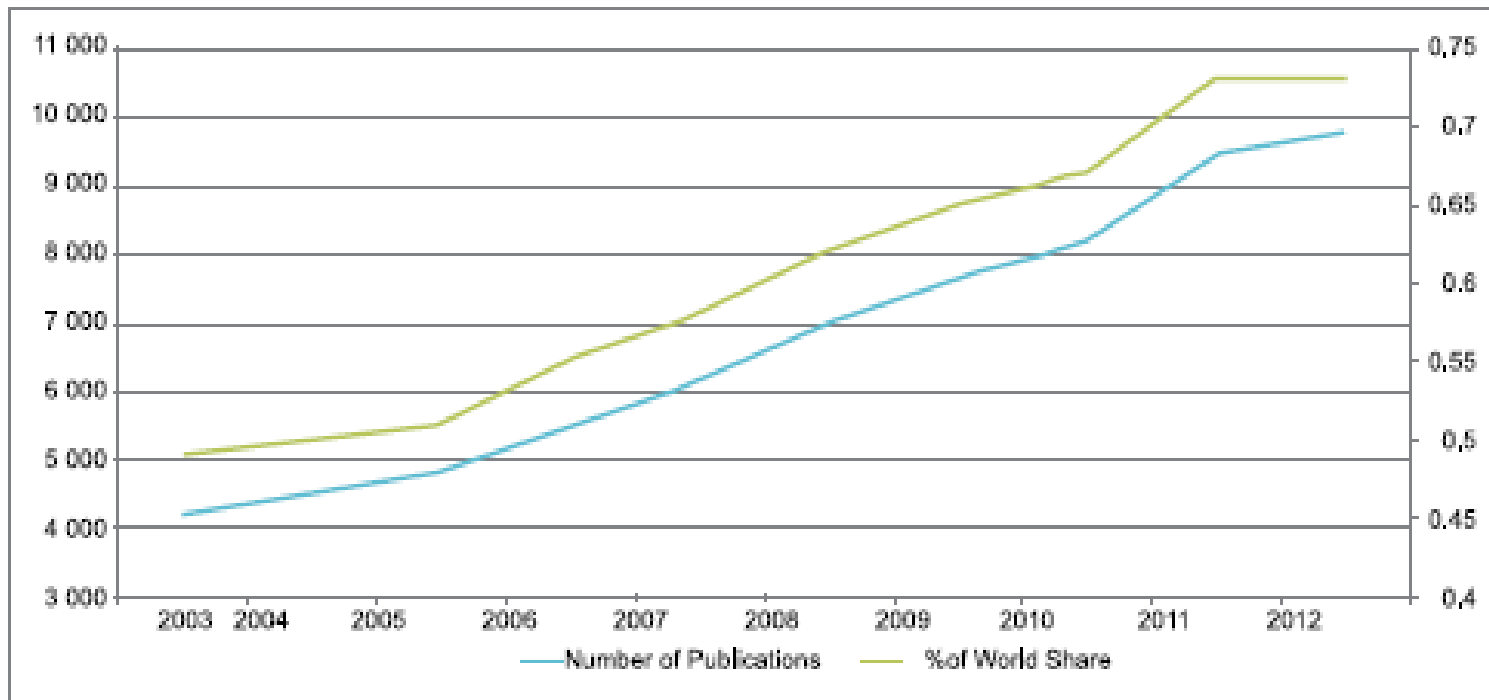
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Table 7: Number of Web of Science Journal Publications by South Africans

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of Publications	4 173	4 526	4 799	5 448	6 117	6 949	7 629	8 155	9 437	9 793
% of World Share	0.49	0.50	0.51	0.55	0.58	0.62	0.65	0.67	0.73	0.73

Source: Thomson Reuters "InCites"

Figure 4: SA Scientific Publications in We





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	South Africa	Brazil	China	India	Russia	Japan	United Kingdom	United States
ISI Journal Publications	9 793	37 346	186 577	48 151	28 050	77 125	103 528	369 258
Number of Citations	6 442	14 315	88 164	19 045	11 863	43 166	88 794	282 590
Publications per Million Capita (pmc)	192	192	138	38	196	604	1 638	1 176
% Share of the World	0.73	2.78	13.90	3.59	2.09	5.75	7.71	27.51
Publications per 100 Researchers FTE	52	28	14	32	6	12	40	26
Citations per 100 Researchers FTE	34	11	7	13	3	7	34	20
Publications per 100 Million \$ PPP R&D Expenditure	244	147	105	198	84	55	262	90
Citations per 100 Million \$ PPP R&D Expenditure	161	56	49	78	35	31	220	69

Sources: Citations data from Thomson Reuters "InCites"; 2012 population data from Population Reference Bureau; 2010/11 R&D expenditure and FTE researchers from OECD "Main Science and Technology Indicators"; South Africa's R&D expenditure and FTE researchers from DST "National Survey of Research and Experimental Development", 2010/11; R&D expenditure and FTE researchers data for Brazil and India from UNESCO "2010 Science Report"



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	South Africa	Brazil	China	India	Russia	Japan	United Kingdom	United States
Tertiary, Gross Enrolment Ratio	18	26	24	23	75	60	61	95
Publications per 100 Researchers FTE	52	28	14	32	6	12	40	26
Publications per 100 Million \$ PPP R&D Expenditure	244	147	198	105	84	55	262	90
GERD as % of GDP	0.76	1.16	1.84	-	1.09	3.39	1.77	2.77
Technology Payments to GERD (%)	50	14	10	12	23	14	21	10
Researchers per 1 000 FTE Employed	1.4	-	1.6	-	6.3	10.2	8.2	-
Patents Applications per 100 Researchers FTE	9	5	36	11	7	72	20	31
Patents Published per 100 Million \$ PPP R&D Expenditure	44	25	245	65	94	340	128	108
Manufacturing Value Added (% of GDP)	12	13	30	14	16	19	11	13
Life Expectancy at Birth (Years)	59	73	75	66	69	83	81	79
Unemployment Rate (%)	24.7	8.3	4.1	3.5	6.6	4.5	7.8	8.9
GDP per Capita (\$ PPP)	11 440	11 909	9 233	3 878	23 504	35 178	36 901	49 965



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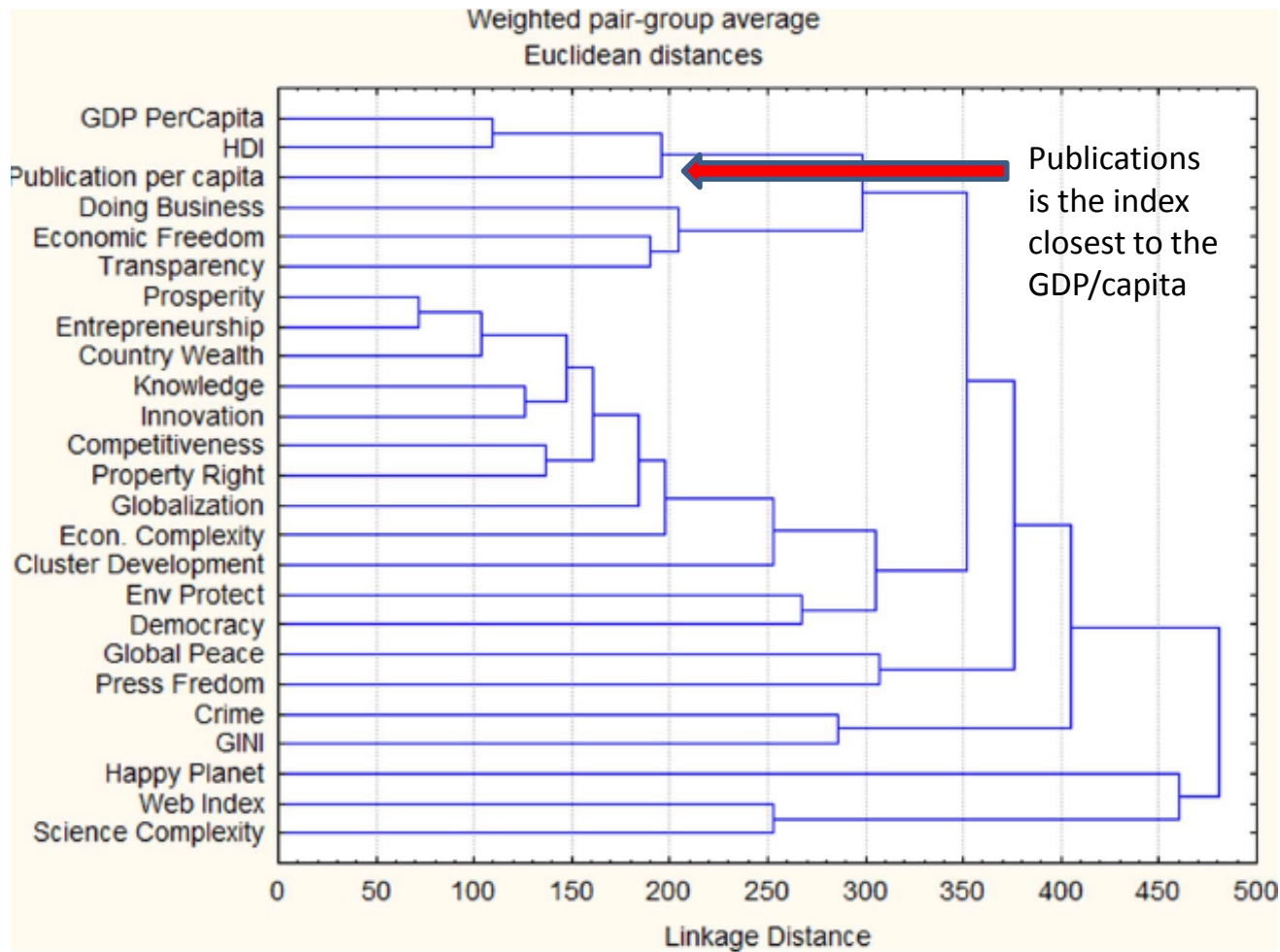
Knowledge & Wealth have been recognised as related since ancient times

“there cannot be a great nation without great mathematics”

Napoleon



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Scientific Productivity is a much better predictor of economic wealth and human development than any other variables

Jaffe K et, al Plos one, June 2013

Acknowledgements



Building a healthy nation through research

- DOH
- DST
- CSIR
- NRF
- NICD
- TIA
- TREASURY