

# SAMRC InfoSpace

## South African Medical research Council Annual Report 2014-2015

Item Type	Technical Report
Authors	South African Medical Research Council
Publisher	South African Medical Research Council
Rights	Attribution 3.0 United States
Download date	2026-04-22 14:59:17
Item License	<a href="http://creativecommons.org/licenses/by/3.0/us/">http://creativecommons.org/licenses/by/3.0/us/</a>
Link to Item	<a href="https://hdl.handle.net/11288/596920">https://hdl.handle.net/11288/596920</a>



**THE SOUTH AFRICAN  
MEDICAL RESEARCH  
COUNCIL**

//ANNUAL REPORT

**2014/15**

## // CONTACT INFORMATION

**Registered name:**  
SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

**Registration number (if applicable):**  
Not applicable

**Physical address:**  
Headquarters  
Francie van Zijl Drive  
Parow Valley  
Cape Town

**Postal address:**  
PO Box 19070  
Tygerberg  
7505

**Telephone number(s):**  
+ (0)27 21 938-0911

**Fax number:**  
+ (0)27 21 938-0200

**Email address:**  
[info@mrc.ac.za](mailto:info@mrc.ac.za)

**Website address:**  
[www.samrc.ac.za](http://www.samrc.ac.za)

**External auditors:**  
Auditor General of South Africa

**Banks:**  
First National Bank of South Africa

**Company/Board secretary:**  
Mr Nizar Davids

**Information officer:**  
Mr Aziel Gangerdine  
[Aziel.gangerdine@mrc.ac.za](mailto:Aziel.gangerdine@mrc.ac.za)

**ISBN:**  
978-1-920618-48-3



## // TABLE OF CONTENTS

Foreword by our Board Chairperson	4		
Foreword by our President & CEO of the South African Medical Research Council	6		
SAMRC new Corporate Identity	8		
<b>PART A: GENERAL INFORMATION</b>	<b>11</b>		
Our strategic overview	13		
Legislative and other mandates	15		
High level organisational structure	16		
<b>PART B: PERFORMANCE INFORMATION</b>	<b>19</b>		
Statement of Responsibility for performance information for the year ended 31 March 2015	19		
Strategic outcome oriented goals	20		
Programme information and some key research highlights	22		
<b>PROGRAMME 1: HEALTH PROMOTION AND DISEASE PREVENTION</b>	<b>23</b>		
Purpose of programme			
Units that constitute this programme			
Programme strategic objectives			
Selected research highlights from certain units within the programme			
<b>PROGRAMME 2: WOMEN, MATERNAL AND CHILD HEALTH</b>	<b>31</b>		
Purpose of programme			
Units that constitute this programme			
Programme strategic objectives			
Selected research highlights from certain units within the programme			
<b>PROGRAMME 3: HIV, AIDS AND OTHER COMMUNICABLE DISEASES</b>	<b>37</b>		
Purpose of programme			
Units that constitute this programme			
Programme strategic objectives			
Selected research highlights from certain units within the programme			
<b>PROGRAMME 4: HEALTH SYSTEMS STRENGTHENING</b>	<b>45</b>		
Purpose of programme			
Units that constitute this programme			
Programme strategic objectives			
Selected research highlights from certain units within the programme			
<b>PROGRAMME 5: PUBLIC HEALTH INNOVATION</b>	<b>55</b>		
Purpose of programme			
Units that constitute this programme			
Programme strategic objectives			
Selected research highlights from certain units within the programme			
<b>PROGRAMME 6: BIOMEDICAL RESEARCH</b>	<b>61</b>		
Purpose of programme			
Units that constitute this programme			
Programme strategic objectives			
Selected research highlights from certain units within the programme			
Strategic objectives, performance indicators, planned targets and actual achievements	68		
Media communication and stakeholder engagements	73		
<b>PART C: GOVERNANCE</b>	<b>79</b>		
Introduction	80		
Portfolio committees	80		
Our Board	82		
Risk management	92		
Internal control unit	93		
Compliance with laws and regulations	93		
Fraud and corruption	93		
Minimising conflict of interest	94		
Code of conduct	94		
SAMRC's materiality and significance framework	94		
<b>PART D: HUMAN RESOURCE MANAGEMENT</b>	<b>99</b>		
Overview	102		
Expenditure	104		
Employment and vacancies	105		
Job evaluation	106		
Employment changes	107		
Employment equity	108		
Performance rewards	112		
Foreign workers	114		
Leave utilisation, 1 January 2014 to 31 December 2014	115		
HIV and AIDS & health promotion programmes	117		
Labour relations	118		
Skills development	119		
Injury on duty	121		
<b>PART E: FINANCIAL INFORMATION</b>	<b>123</b>		
Report of the CEO/President	124		
General financial review	124		
Spending trends	124		
Requests for roll-over of funds	124		
Supply chain management	124		
Audit report matters	124		
Events after the reporting date	124		
Economic viability	124		
Report of the Auditor General to Parliament on the South African Medical Research Council	125		
<b>LIST OF ABBREVIATIONS</b>	<b>192</b>		

## // FOREWORD BY OUR BOARD CHAIRPERSON



*"...we continue to build a transformed organisation within which employees are able to deliver on the country's imperative medical research and innovation mandate..."*

In embracing diversity that characterises both science and the talents that we leverage for everyone's benefit, we continue to build a transformed organisation within which employees are able to deliver on the country's imperative medical research and innovation mandate in a motivated and stimulating working environment. The year in review has been paved with milestones.

The Board and the Executive Management Committee (EMC) continue to work closely to review the South African Medical Research Council (SAMRC) Act to ensure that the organisation is better able to realise its evolving strategic vision in the interest of the country. Secondary to the review of the Act has been the dawn of an exercise to redesign the corporate identity of the SAMRC to improve its overall communication and marketing ability. This will ensure that the organisation enhances its visual recognition and is corporatised as a professional research organisation.

A number of key successes were noted during the reporting period, primary to many, is the appointment of the two vice-presidents, both of international acclaim in medical research. It is reassuring to the Board that the leadership of the SAMRC is now fully constituted and that the organisation, following two clean audit reporting periods, can assure its key stakeholders, the South African community and global collaborating partners of its commitment to excellence in medical research and innovation.

Ensuring that the medical research capacity of the SAMRC is reflective of the country has been an imperative agenda item during the year in

review and in due consideration of future recruitment considerations. A budget was allocated to attract the desired calibre of scientists and to create opportunities of progression within the organization to fast track transformation. To improve the operational stability of the SAMRC, the Board also approved a new organogram that is strategically categorised in terms of organisational redesign. Board has also concluded on several fundamental policies that enables the SAMRC to operate effectively and efficiently.

The Board is pleased with the significant effort of the President and CEO in attracting and securing additional funding through joint collaborations with the Gates Foundation, UKMRC-Newton Fund and PATH, which will see a flow of over R100 million into the organisation over the next three years. This success is coupled with a significant increase in the number of publications, in particular, work published in high-impact journals and must be attributed to the dedication of the SAMRC's staff.

Other significant matters of strategic and oversight importance that received the attention of the Board during the reporting period were the following:

- The review of the ethics approval processes coupled with improving the effectiveness of the SAMRC ethics office
- Transforming the profile of SAMRC grant funding recipients
- A rigorous review of the Board's charter

- A renewed focus on the Board's role as the custodian of corporate governance
- The adoption of cost containment measures in respect of the operating of the Board with the focus on curtailing travel and meeting costs

The SAMRC is a national asset within the medical research and development space of our country. The organisation has made significant efforts to secure cash injections and improve its overall ability to deliver on a mandate that continues to advance the quality of South African lives.

It is important for me to express, on behalf of the Board, our gratitude for the invaluable contribution and fiscal support from the Minister of Health, Deputy Minister of Health, the Director-General of Health and staff of the Public Entities Directorate, as well other key stakeholders without whom the mandate of this organisation would not be possible. Ultimately, I also wish to acknowledge the continued efforts of the President and the EMC to enhance the impact of the SAMRC's mandate.

Yours faithfully

**Professor Mike Sathekge**  
Board Chairperson

## // FOREWORD BY OUR PRESIDENT & CEO OF THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

*Michael Onyebuchi Eze described the core of Ubu ntu as 'a person is a person through other people'. He further states that this term strikes an affirmation of one's humanity through the recognition of an 'other' in his or her uniqueness and difference.*

The SAMRC is an organisation that funds and conducts medical research with the overall objective to improve the lives of South Africans. In further understanding the extent of what this prodigious organisation aims to achieve both in South Africa and globally, it is easy to believe why the skilled professionals and medical researchers who deliver on its mandate can be thought of as being inspired by the core of Ubuntu.

I reminisce to 5 December 2013, when we lost the father of our nation, Nelson Mandela, also fondly known as Tata, after suffering a prolonged respiratory infection. He passed away surrounded by his family. Nelson Mandela believed in Ubuntu and it reminds me that the South African Medical Research Council fulfils a purpose far greater than can be measured through strategic objectives, indicators and measurable targets.

South Africa's burden of disease, with the top 10 most common causes of mortality in the country, including HIV/AIDS, hypertensive heart disease, lower respiratory infections, cerebrovascular disease, tuberculosis, diarrhoeal diseases, interpersonal violence, and road injuries in adults and children, are the areas that require study and intervention if we remain true to our overall mission to improve the lives of South Africans. Our country, with its imploding epidemics of communicable and non-communicable diseases, requires medical science to be conducted that leads to discoveries to improve health outcomes and survival. Addressing the needs of pregnant women and their infants is paramount, as is our endeavour to reduce unnecessary deaths from violence, injury and accidents.

The SAMRC is a national treasure that allocates resources into researching how to address our burden of disease. We are also critically aware of the need to build the next generation scientist, and the need to develop world class medical scientists. We are proud to host the National Health Scholarship Programme, an initiative of the Department of Health and the Public Health Enhancement Fund to train much needed MD/PHDs to improve clinical research in South Africa.

I am not able to outline the immeasurable contribution of our skilled staff and medical researchers to address these burdens our people are faced with and I must acknowledge and express my sincere gratitude to the Departments of Health and Science Technology, without whose financial contribution our mandate would not be possible. It is also fitting for me to recognise both local and international funding organisations that allow our intramural and extramural research teams to investigate and address key

questions that will lead to finding solutions to the many health challenges we are faced with.

The SAMRC remains financially strong with accumulated reserves of R24 million. The 2014/15 reporting period introduced significant challenges for our organisation and allowed our management team to identify new opportunities of continued improvement. Revenue for the year showed a small increase in government grants of 7.1% to R391 million and a decrease in contract income of 3.5% to R275 million.

While further detail on the financial position of the SAMRC is outlined in the *general financial review* section, I must allude to the fact that our operating expenses showed a small increase of 3.9% to R696 million largely in line with the increase in income. Collaborative research costs increased by 37.8% to R261 million, reflecting the continued growth of our Strategic Health Innovation Partnerships (SHIP) grants and the first payment of R44 million to the US National Institute of Health in terms of a three year collaboration.

Our staff have been exposed to a series of changes within the reporting period. A significant highlight was the finalisation and approval of our new high-level organogram, which was approved by our Board. As with any organisation, the SAMRC experienced challenges and opportunities of progress related to our human resources capital. Some of the laudable achievements include, but are not limited to the following:

- Appointing two vice-presidents and our first African female unit director
- Refreshing our organisation's remuneration benchmarks in line with 2015 market trends
- Promoting 41 employees to higher job levels across all categories, levels, race and gender

The South African Medical Research Council also prides itself on its Strategic Health Innovation Partnerships (SHIP) platform, which is a new innovative product development programme with the goal of developing new or improved diagnostics, vaccines, prevention strategies and treatments to address our country's major health problems. SHIP also leads our Diabetes Discovery Platform, which conducts research into diabetes, obesity and other innovative medical solutions.

We are investing in diagnostic issues and treatment strategies to try to avert extreme and multi-drug-resistant (MDR) tuberculosis, which constitutes about 3% of the TB burden in South Africa. The pipeline of TB drugs in South Africa is drying up, hence the need to fund innovations in drug development that could provide affordable TB drugs to our people. This platform, through its funding calls, focuses on TB diagnostic

and therapeutic vaccines, non-communicable diseases, malaria and HIV prevention. Through a solid financial investment exceeding R25 million, this programme supports the largest malaria drug discovery project in Africa.

The reporting period was also marked by the announcement of eight new extramural research units with a total fiscal commitment of R40 million rand over a five-year period. These units will be led by some of our country's best medical researchers who are based at universities and research institutions across the country. We also identified the need to respond to cancer research and announced, during the reporting period, an investment exceeding R37 million over a five-year period for cancer centres at leading South African universities.

We understand and know the imperative need to conduct research that ultimately seeks to tackle what has become one of our country's leading causes of death.

The reporting period is also highlighted by the announcement to invest R30 million into historically disadvantaged South African universities under the SAMRC Research Capacity Building Fund. These five universities are:

- University of Fort Hare
- University of Limpopo
- Walter Sisulu University
- University of Venda, and the
- University of Zululand

Our research affirms that the roll-out of antiretroviral drugs (ARVs) has increased the life expectancy of South Africans from 2003 to the present. Much paediatric HIV infection had been eliminated by diagnosing HIV in pregnant women, and immediately starting treatment to prevent mother-to-child transmission (PMTCT), which has reduced the infection rate from 25% in 2004 to less than 2% in 2013.

I am also pleased to share that we have committed, through a long-term strategic goal, to developing medical doctors to become PhD clinical researchers. We want to ensure that we transform our medical capacity to reflect our country, and to keep growing the areas of research and development and health innovation.

As we continue to conduct and fund medical research, and work collaboratively with other research organisations and tertiary institutions, it is imperative for me to express my gratitude to you, our communities, who continue to inspire us to work hard and who allow us to conduct medical research with you. It is only through you that we are able to find true inspiration to answer those questions that affect our communities – personally, collectively as society and as a nation.



Sincerely yours

**Professor Glenda E. Gray**

President and CEO of the South African Medical Research Council

## WE HAVE OPTIMISED AND MODERNISED OUR CORPORATE IDENTITY (CI) TO IMPROVE OUR COMMUNICATION AND MARKETING ABILITY.

### BRAND PROMISE

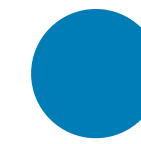
We strive to advance the understanding of human existence through excellence in research and collaboration

Our team of world class experts collaborate in their efforts to attain excellence in everything that they do, for the benefit of the people we serve.

SAMRC has gone through a transformation, a rebirth. We are breathing new life into the scientific research field by widening our horizons as to what we can do and by presenting ourselves as the organisation we have always been: One for the people.



### ICON AND COLOURS



#### BLUE

The SAMRC blue represents health, intelligence and stability. It is also considered beneficial to the mind and body.



#### SILVER

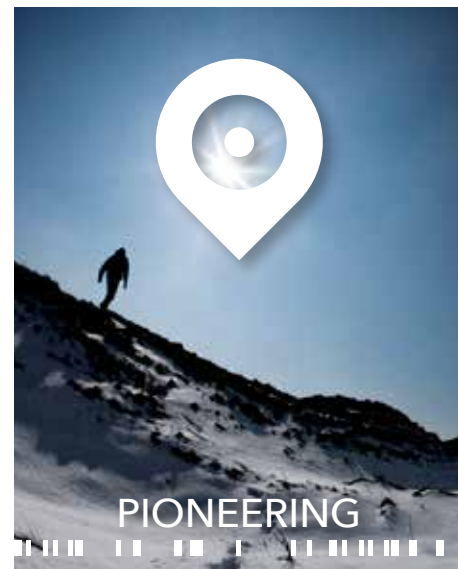
The use of silver in the logo represents the level of sophistication of the SAMRC. It is clean, modern and intuitive.

### OUR SLOGAN

advancinglife

In everything we do, we ultimately strive to improve life through research. Our promise is that we will advance and better the lives of people we serve through our diligent and unwavering mandate to gain as much knowledge across as many fields as possible that will be beneficial to all. We offer a practical step forward in advancing life for all.

### OUR NEW VALUES



PIONEERING

We push the boundaries between the known and the unknown to further our knowledge of human existence.



COLLABORATIVE

We celebrate the capacity of collective minds toward a common goal.



EXCELLENCE

Distinction is in everything we do.



#### HUMAN FIGURE

The figure is a personification of the ultimate goal of the SAMRC – to improve life. The human figure leaps in celebration of health and vitality.



#### SOUTH AFRICAN FLAG

Our icon stands tall in a "Y" position, resembling the South African flag. Although the MRC has an impact on the health of all people. The primary mandate is to improve the health of its own nation.



#### DNA HELIX

A DNA strand emanates from the body of the human figure, forming a leg that advances the figure forwards. The DNA strand represents the tools we use to achieve our goal – advanced medical research.



## // PART A: GENERAL INFORMATION

### **NOTE TO OUR READERS**

This part of the Annual Report provides an overview of the South African Medical Research Council, and is presented as follows:

### **STRATEGIC OVERVIEW**

This information provides the strategic description of why our organisation exists, as well as an overview of our mandate. We include a brief list of our key stakeholders, without whom our work would not be possible.

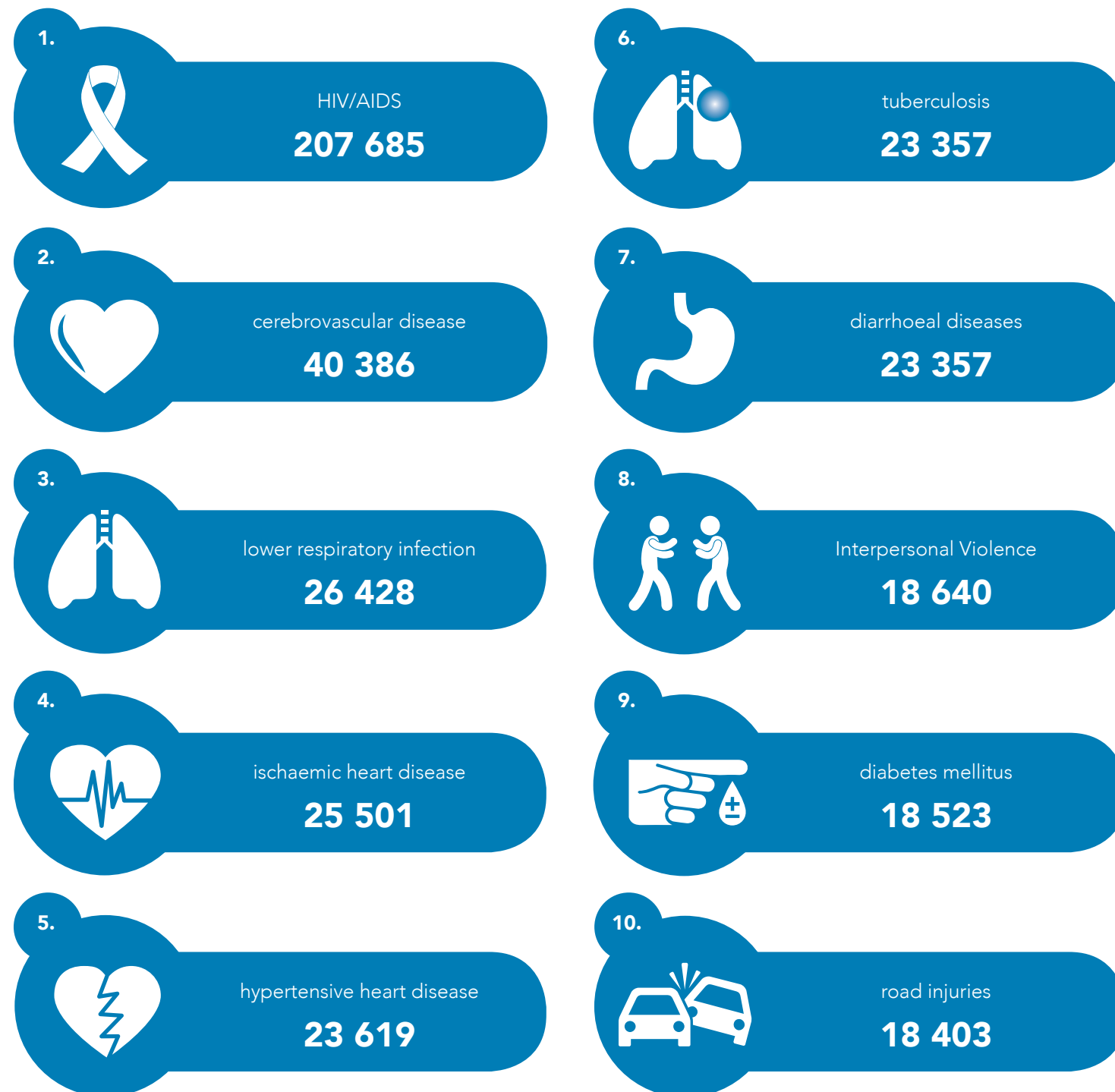
### **LEGISLATIVE AND OTHER MANDATES**

This information outlines the legislative frameworks that govern and direct the manner in which we work and deliver on our mandate.

### **OUR RESEARCH UNITS**

This section lists the research units that constitute the research programmes. Our research units are made up of research teams who deliver on our mandate.

## // PART A: GENERAL INFORMATION



CAUSES OF DEATH ACCORDING TO THE SAMRC SECOND NATIONAL BURDEN OF DISEASE STUDY FOR SOUTH AFRICA

Causes of Death Profile, 1997-2010

## OUR STRATEGIC OVERVIEW

The South African Medical Research Council was established in 1969, and has an obligation to fund and conduct medical research. The SAMRC's mandate is guided by the SAMRC Act, and it invests financial and human resources into medical research that may lead to drug or vaccine discovery, affordable diagnostics and devices that will impact on the well-being of South Africans.

The primary scope of the SAMRC's research includes basic laboratory investigations, clinical research and public health studies. Research at the SAMRC focuses on the top 10 causes of death in South Africa, and includes TB, HIV, burden of disease, chronic diseases, alcohol and drug abuse, and women's health.

In order to deliver on this imperative mandate, the organisation is led by the National Department of Health and works with other key stakeholders such as the Department of Science and Technology, South African and international science councils, medical schools, universities, research institutions, and international collaborators.

Over the years, the SAMRC has conducted clinical trials, epidemiological research and surveys that provide vital information that is used by the Department of Health and government in general for health planning and assessing progress towards realising government's objectives. Some of these studies are conducted at regular intervals as they form part of internationally accepted surveillance systems such as the demographic and health survey. They include the following:

- The Burden of Disease Survey (BOD)
- The Comparative Risk Assessment (CRA)
- The Perinatal Problem Identification Programme (PPIP)
- The South African Community Epidemiology Network on Drug Use (SACENDU)

This research enables the Department of Health to plan programmes. Findings from these surveillance platforms, and results from our clinical and epidemiological research has the potential to be translated into policy and practice.

### OUR VISION

Building a healthy nation through research and innovation

### OUR 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

### OUR MANDATE

The mandate of the South African Medical Research Council, in terms of the MRC Act 58, 1991 (as amended) is to promote the improvement of the health and quality of life of South Africans. This needs to be realised through research, development and technology transfer.

### OUR ORGANISATIONAL VALUES

The five key values of the SAMRC and the keywords relating to each are the following:

- Excellence and innovation: high quality, original, scientific integrity, peer review
- Relevance: high impact, needs-driven
- Accountability: responsibility, teamwork, leadership, participation
- Respect and communication: dignity, honesty, fairness, integrity, transparency, freedom to challenge
- Capacity development: reward, recognition

## // PART A: GENERAL INFORMATION

*“The promise of the Legal and Compliance Division at the SAMRC is to provide sound legal assurance protecting the SAMRC. In our endeavour to deliver on this promise, we depart from the premise that the growth of the SAMRC shall not be realised by avoidance of risk, but shall be brought about by ability of the SAMRC to turn the risk into a commercially feasible and legally defensible opportunity”.*

Nkosinathi Bhuka



Back Row: L-R: Nkosinathi Bhuka, Alma Purcell, Lusani Nelufule-Mugivhi and Liewellyn Strydom

Front Row: L-R: Noluthando Dyaphu, Leslie-Ann Steenberg and Nobuhle Jacob

## LEGISLATIVE AND OTHER MANDATES

### CONSTITUTIONAL

The constitutional (Constitution of the Republic of South Africa Act, 1996; Act 108 of 1996, as amended) bases that support the SAMRC's mandate are the following:

- Section 10 (right to human dignity)
- Section 11 (right to life)
- Section 12 (right to freedom and security of the person)
- Section 14 (right to privacy)
- Section 24 (right to environment that is not harmful to health)
- Section 27 (right to health care, food, water and social security)

In the constitutional context, the outcome of SAMRC work must translate to some tangible/realisable proposition addressing one of these areas.

### STATUTORY AND OTHER MANDATES

The Legal and Compliance Services Division of the SAMRC has identified 51 Acts of Parliament (with 21 of those categorised as primary (i.e. non-compliance therewith or parts thereof would be catastrophic to the business/mandate of the SAMRC)). Further to that, seven good practice standards (local and international) have been identified that apply to the SAMRC. Finally, 10 regulatory authorities have been identified to have authority over the business or conduct of the SAMRC.

#### The 51 Acts include the following:

- SAMRC Act 58 of 1991, as amended

*This is the enabling and founding legislation creating the SAMRC. It is instructive on the mandate of the SAMRC and the prioritisation of its research programmes. The SAMRC Act empowers the functional and authoritative structures of the SAMRC to source/employ such resources and engage the executive authority and such other key stakeholders as may be appropriate to give effect to the mandate of the SAMRC.*

*The SAMRC Act is currently under review. The SAMRC Board, the NDoH, the NDoST and the Parliamentary Portfolio Committee of Health have been briefed about the contemplated review of the SAMRC Act.*

- The Health Act 61 of 2003
- Intellectual Property, Rights from Publicly Financed Research and Development Act of 2008
- Employment Equity Act 55 of 1998
- Basic Conditions of Employment Act 75 of 1997
- Public Finance Management Act (No.1 of 1999 as amended by Act 29 of 1999)
- Relevant Treasury Guidelines
- The Patents Act 57 of 1978
- Copyright Act 98 of 1978
- Trade Marks Act 194 of 1993
- Designs Act 195 of 1993
- Implementation of Official Languages Act 12 of 2012

#### The good practice codes include:

- King Code on Corporate Governance
- Good Clinical Practices (GCP)
- Good Laboratory Practices (GLP)

#### The regulatory authorities include:

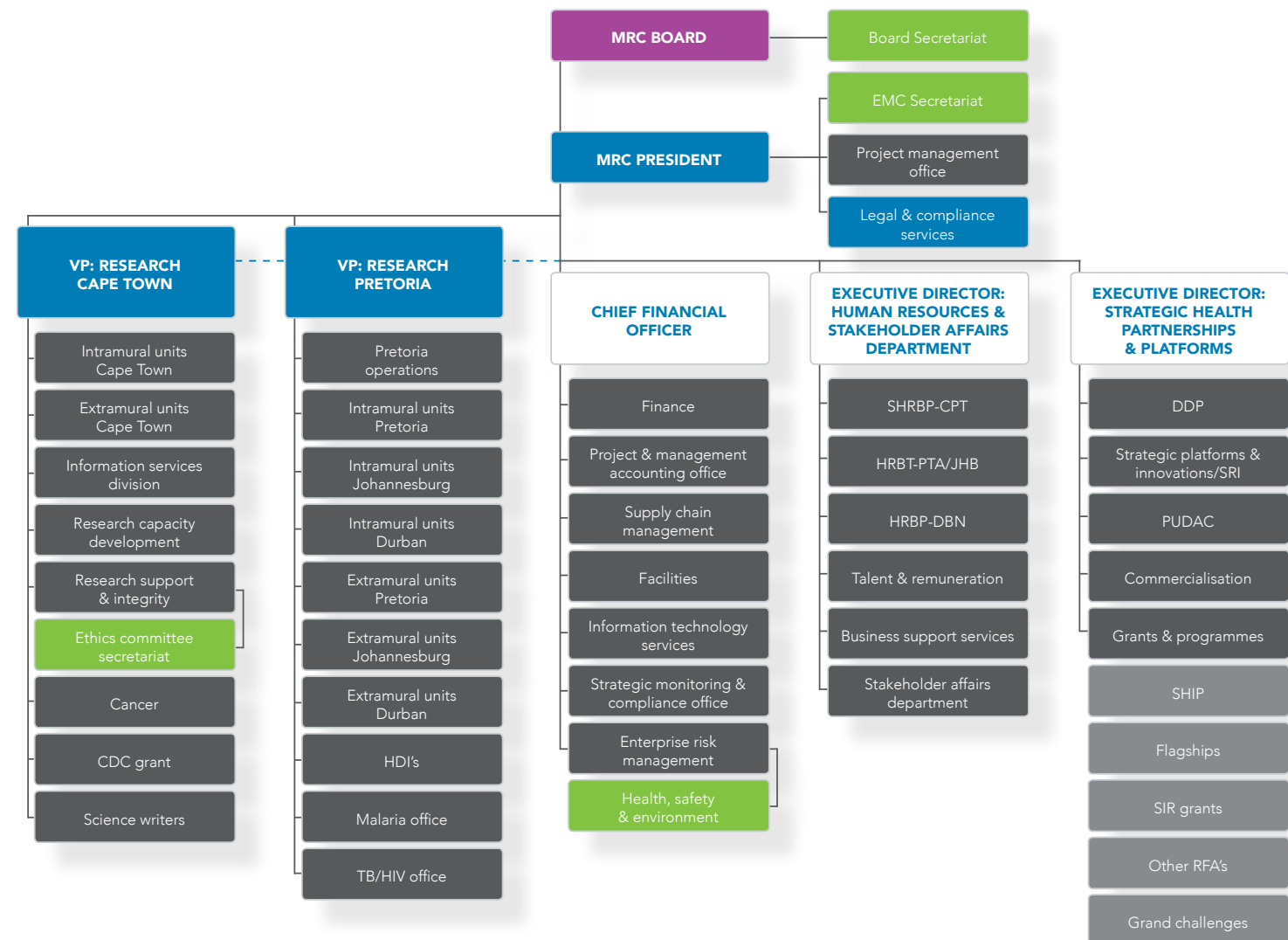
- Information regulator created in terms of the Protection of Personal Information Act
- South African Revenue Services
- Health Professions Council of South Africa

## // PART A: GENERAL INFORMATION

### HIGH LEVEL ORGANISATIONAL STRUCTURE

The SAMRC's newly appointed President, Professor Glenda Gray, a medical doctor who specialised in paediatrics, will lead the SAMRC for the next five years (2014-2019). Professor Gray is the first woman president of the SAMRC since its inception in 1969. She is an NRF A-rated scientist, with more than 200 publications, of international acclaim, who brings vast knowledge and expertise in the field of HIV (mother-to-child transmission, HIV vaccines and microbicides). This is evident from the fact that she was awarded the Nelson Mandela Health and Human

Rights Award for pioneering work conducted in the field of mother-to-child transmission of HIV-1. She is one of the few South African medical scientists who is a member of the IOM of the US Academies of Science, and serves on their Global Health Board. Our President is a member of the Academy of Science of South Africa and chairs their Standing Committee on Health. She has received the Order of Mapungubwe and the EDTCP's African Scientist Award. She is considered an international leader in global health.



### RESEARCH PROGRAMMES AND UNITS

The SAMRC engaged in a period of revitalisation from 2011-2013 to position itself as globally relevant. The organisation is now poised to meet its objectives as the steward of health research in South Africa.

RESEARCH PROGRAMMES	RESEARCH UNITS
<b>HEALTH PROMOTION AND DISEASE PREVENTION</b> NSDA 1: INCREASING LIFE EXPECTANCY	<ul style="list-style-type: none"> <li>Alcohol, Tobacco and Other Drug Research Unit</li> <li>Anxiety and Stress Disorders Research Unit</li> <li>Non-Communicable Diseases Research Unit</li> <li>Exercise Science and Sports Medicine Research Unit</li> <li>Environment and Health Research Unit</li> <li>Rural Public Health and Health Transition Research Unit</li> <li>Violence, Injury and Peace Research Unit</li> </ul>
<b>MATERNAL, CHILD AND WOMEN'S HEALTH</b> NSDA 2: DECREASING MATERNAL AND CHILD MORTALITY	<ul style="list-style-type: none"> <li>Gender and Health Research Unit</li> <li>Maternal and Infant Health Care Strategies Research Unit</li> <li>Development Pathways Research Unit</li> </ul>
<b>HIV, AIDS, TB AND OTHER COMMUNICABLE DISEASES</b> NSDA 3: COMBATING HIV AND AIDS, AND DECREASING THE BURDEN OF DISEASE FROM TB	<ul style="list-style-type: none"> <li>HIV Prevention Research Unit</li> <li>Centre for Tuberculosis Research Unit</li> <li>Molecular Mycobacteriology Research Unit</li> <li>Respiratory and Meningeal Pathogens Research Unit</li> <li>Diarrhoeal Pathogens Research Unit</li> </ul>
<b>HEALTH SYSTEMS STRENGTHENING</b> NSDA 4: STRENGTHENING HEALTH SYSTEM EFFECTIVENESS	<ul style="list-style-type: none"> <li>Burden of Disease Research Unit</li> <li>Biostatistics Research Unit</li> <li>South African Cochrane Centre</li> <li>Health Systems Research Unit</li> <li>Health Policy Research Unit</li> </ul>
<b>PUBLIC HEALTH INNOVATION</b>	<ul style="list-style-type: none"> <li>Drug Discovery and Development Research Unit</li> <li>Primate Unit and Delft Animal Centre</li> <li>Medical Imaging Research Unit</li> <li>Diabetes Discovery Platform</li> </ul>
<b>BIOMEDICAL RESEARCH</b>	<ul style="list-style-type: none"> <li>Inter-University Cape Heart Research Unit</li> <li>Receptor Biology Research Unit</li> <li>Human Genetics Research Unit</li> <li>Bioinformatics Capacity Development Research Unit</li> <li>Immunology of Infectious Diseases Research Unit</li> </ul>



## // PART B: PERFORMANCE INFORMATION

### STATEMENT OF RESPONSIBILITY FOR PERFORMANCE INFORMATION

FOR THE YEAR ENDED 31 MARCH 2015

The President is responsible for the preparation of the South African Medical Research Council's performance information and for the judgments made in this information. The President is responsible for establishing and implementing a system of internal controls designed to provide reasonable assurance as to the integrity and reliability of performance information.

In my opinion, the performance information fairly reflects the actual achievements against planned objectives, indicators and targets as per the Strategic and Annual Performance Plan of the South African Medical Research Council for the financial year ended 31 March 2015.

The South African Medical Research Council's performance information for the year ended 31 March 2015 has been examined by external auditors and their report is presented on page 125 to 126.

The performance information of the South African Medical Research Council is set out on pages 68 to 71 and has been approved by the Board.

**Professor Glenda E. Gray**  
President and Chief Executive Officer  
South African Medical Research Council  
31 March 2015

## // PART B: PERFORMANCE INFORMATION

### STRATEGIC OUTCOME ORIENTED GOALS

The SAMRC has four strategic goals that link with the four outputs of the health sector NSDA that contribute to Outcome 2 'A long and healthy life for all South Africans'. When necessary and relevant, the SAMRC's mandate will be reviewed after due strategic consideration, and its goals aligned accordingly.

Strategic goal 01	Administer health research effectively and efficiently in South Africa
Goal statement	Strengthening of financial processes towards an unqualified audit opinion from the Auditor General
Strategic objectives	1.1 To ensure good governance, effective administration and compliance with government regulations 1.2 To promote the organisation's administrative efficiency to maximise the funds available for research
Objective statement	To strengthen financial management, monitoring and evaluation
Baseline (2014-15)	Improved financial management at all levels within the SAMRC and an unqualified audit.
Indicator/s	1.1 A clean audit opinion on the SAMRC from the Auditor-General 1.2 percentage of the government allocated SAMRC budget spent on administration

Strategic goal 02	Lead the generation of new knowledge, and facilitate its translation into policies and practices to improve health
Goal statement	Promote the improvement of health and quality of life (prevention of ill health, improvements in public health and treatment) in South Africa through research
Strategic objectives	2.1 To produce and disseminate new scientific findings and knowledge on health 2.2 To promote scientific excellence and the reputation of South African health research 2.3 To provide leadership in the generation of new knowledge in health 2.4 To facilitate the translation of SAMRC research findings into health policies and practices 2.5 To provide funding for the conduct of health research
Objective statement	Number of high-impact journal articles published during the year to create new quality knowledge through research with expert endorsement from specialists in the field
Baseline (2014-15)	2.1 400      2.2 100      2.3 10      2.4 160      2.5 4      2.6 100
Indicator/s	2.1 Number of published journal articles, book chapters and books by South African Medical Research Council (SAMRC) MRC (Medical Research Council) and Medical Research Council of South Africa (MRCSA) researchers within intramural and extramural research units, and collaborating centres at the SAMRC (malaria, TB, HIV and cancer) and self-initiated research, SHIP and the flagship projects 2.2 Number of published journal articles by SAMRC /MRC/MRCSA grant-holders during the reporting period, with an acknowledgement of SAMRC/MRC/MRCSA funding support 2.3 Number of published indexed high-impact factor journal articles with an SAMRC/MRC/MRCSA-affiliated author 2.4 Number of journal articles where the first-author and/or last author is affiliated with the SAMRC/MRC/MRCSA during the reporting period 2.5 Number of new local/international policies and guidelines that reference SAMRC research 2.6 Number of research grants awarded by the SAMRC

Strategic goal 03	Support innovation and technology development to improve health
Goal statement	Promote the improvement of health and quality of life (prevention of ill health and improvements in public health and treatment) in South Africa through innovation, technology development and transfer
Strategic objective	3.1 To provide funding for health research innovation and technology development
Objective statement	Number of innovations to promote the improvement of health and quality of life in the country through innovation, and technology development and transfer (innovation projects supported, invention disclosures, patents filed and licences concluded) developed in the year
Baseline (2014-15)	30 innovation and technology developments
Indicator/s	3.1 Number of innovation and technology projects funded by the SAMRC to develop new diagnostics, devices, vaccines and therapeutics

Strategic goal 04	Build capacity for the long-term sustainability of the country's health research
Goal statement	To provide research support in the broad field of health research, describing original research initiated by a researcher at a recognised research institution, and creating and maintaining collaborative research initiatives in collaboration with research programmes. The guiding elements for each initiative/project are long-term and sustainable; focused; strong, corrective action; private-public arrangements; Africa-centric perspective; innovation; operationally best business practices; technology infrastructure
Strategic objectives	4.1 To enhance the long-term sustainability of health research in South Africa by providing funding for the next generation of health researchers
Objective statement	Study bursaries/scholarships/fellowships are awarded to students towards a postgraduate degree in health research
Baseline (2014-15)	60 bursaries/scholarships/fellowships
Indicator/s	4.1 Number of SAMRC bursaries/scholarships/fellowships provided for post-graduate study at masters, doctoral and post-doctoral levels

## // PART B: PERFORMANCE INFORMATION

### PROGRAMME INFORMATION AND RESEARCH HIGHLIGHTS

This section comprises information that explains the purpose of each programme as defined by the organisation, and lists the units that constitute each programme, its defined strategic objectives and some key research highlights delivered by some units during the reporting period. A limited number of research highlights are listed for each programme. However, these are not a comprehensive reflection of the research delivered by the organisation in the reporting period. *More information of research delivered in the reporting period can be requested.*



### PROGRAMME 1: HEALTH PROMOTION AND DISEASE PREVENTION

#### PURPOSE OF PROGRAMME

To conduct research using a life course approach to healthy lifestyles, early diagnosis, and cost-effective prevention and management of diseases through health promotion

#### UNITS THAT CONSTITUTE THIS PROGRAMME

- Alcohol, Tobacco and Other Drug Research Unit
- Anxiety and Stress Disorders Research Unit
- Non-Communicable Diseases Research Unit
- Exercise Science and Sports Medicine Research Unit
- Environment and Health Research Unit
- Rural Public Health and Health Transition Research Unit
- Violence, Injury and Peace Research Unit

#### PROGRAMME STRATEGIC OBJECTIVES

- To contribute towards the body of evidence by gaining a better understanding of how factors such as nutrition, physical activity, mental health, healthy behaviours, environment and stress factors affect life expectancy
- To be a leader in scientific research through contributing towards new knowledge in the area of health promotion and disease prevention
- To train and mentor high-quality postgraduate students and postdoctoral fellows who are able to compete in the science, health and/or education sectors locally and abroad to advance the cause for health promotion and disease prevention
- To assist the National Cancer Registry in the production of cancer surveillance statistics and cancer trend reports
- Translate research results into health and education policy, the practice of health-care professionals, and the configuration of health and education systems
- To develop interventions that affect and address poor nutrition, lack of physical activity, excessive alcohol intake and risky sexual behaviours
- To add to evidence-based interventions that look into factors affecting life expectancy
- To train and educate health-care staff and community members to manage, control and reduce the incidence of NCDs

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

#### UNIT NAME: ALCOHOL, TOBACCO AND OTHER DRUG RESEARCH UNIT

<b>Study/Programme</b>	
Study of alcohol and HIV as part of the MRC Cooperative Agreement with the US Centres for Diseases Control (CDC) and Prevention	
<b>Principal investigator/First author</b>	
Dr Rehana Kader	
<b>Purpose of the programme/study</b>	
To understand the impact of hazardous and harmful use of alcohol and/or other drugs on ARV adherence and disease progression among HIV patients. 1503 patients attending HIV clinics in Cape Town were screened for problematic substance use and a sub-sample of 607 patients (303 patients who screened positive for problematic substance use and 304 who did not) participated in this sub-study.	
<b>Key findings</b>	<ul style="list-style-type: none"> <li>Participants reporting hazardous or harmful use of alcohol were significantly more likely to either stop, miss, forget or be careless about taking their ARVs than their counterparts without alcohol problems.</li> <li>Participants with problematic drug use were much more likely to stop their ARVs and were three times more likely to miss taking their ARVs than participants without drug problems.</li> <li>Problematic drug users were also almost twice as likely to forget to take their ARVs or be careless about taking them compared to their counterparts without these drug problems.</li> </ul>
<b>What does this mean?</b>	The findings of this study underscore the need for an integrated approach to managing substance-use disorders in people living with HIV or AIDS (PLWHA). Screening for substance use in PLWHA should be standard practice and conducted routinely at primary health-care centres. Furthermore, the integration of substance use and HIV services should be considered to ensure that patients are seen at a single facility and similarly cross-training of staff at HIV and substance abuse centres should also be considered.

<b>Study/Programme</b>	
Bar study	
<b>Principal investigator/First author</b>	
Prof. Neo Morojele	
<b>Purpose of the programme/study</b>	
The purpose of the study was to examine the role of alcohol use in sexual risk behaviour, and determine the feasibility and acceptability of a sexual risk reduction intervention in urban and rural bar settings in Tshwane. The researchers responded to this call by conducting primary research on alcohol consumption and sexual risk behaviour among bar patrons, and developing and implementing a sexual risk reduction intervention in bar settings.	
<b>Key findings</b>	<ul style="list-style-type: none"> <li>A survey, conducted within bar settings, revealed that the consumption of alcohol was strongly associated with the engagement in sexual risk behaviours among male and female bar patrons who frequented the bars in the rural and urban locations.</li> <li>It also indicated that alcohol plays a key role, along with other well-recognised risk factors, such as sexual relationship power, in sexual risk behaviour among both males and females in bar settings.</li> </ul>
<b>What does this mean?</b>	Despite being less likely than non-drinkers to engage in sexual risk reduction activities or to seek HIV testing or treatment, individuals who engage in harmful and hazardous use of alcohol are seldom considered as being among populations who are most at risk for HIV infection (MARPs). Our research reaffirms the importance of alcohol consumption in sexual risk behaviour, and suggests that bars are ideal settings in which to deliver sexual risk reduction interventions for alcohol-using MARPs. It also suggests that bar-based interventions should target bar patrons' alcohol consumption, sexual relationship power issues and sexual risk behaviours in order to reduce their risk of HIV transmission and increase their access to HIV services.

<b>Study/Programme</b>	
Women's Health CoOp study	
<b>Principal Investigator/First author</b>	
Prof. Bronwyn Myers	
<b>Purpose of the programme/study</b>	
As a sub-study of a randomised-controlled trial, we sought to identify the profile of variables associated with perceived need for treatment among young substance-using women from disadvantaged communities in Cape Town, South Africa. We also compared the profile of variables associated with perceived need for treatment among young women with and without recent methamphetamine use.	
<b>Key findings</b>	Initiation of treatment for substance use disorders is low among young women from disadvantaged communities in Cape Town, South Africa, and little is known about the factors that influence perceived need for treatment (a determinant of treatment entry) within this population. Baseline data on 720 young, drug-using women, collected as part of a randomised-controlled trial were analysed to identify predisposing, enabling and health need factors associated with perceived need for treatment. Overall, 46.0% of participants perceived a need for drug treatment. Of these participants, 92.4% wanted treatment for their drug problems but only 50.1% knew where to access services. In multivariable logistic regression analyses, ethnicity, income, greater anxiety and not having family members with drug problems were significantly associated with perceived need for drug treatment. When the sample was stratified by methamphetamine use, income, awareness of treatment services, greater anxiety and poorer physical health status were significantly associated with perceived need for drug treatment among participants who did not use methamphetamine. No variables were significantly associated with perceived need for drug treatment among participants who were methamphetamine-positive.

**What does this mean?**

This study shows that a considerable proportion of young women who could potentially benefit from treatment for substance use disorders do not think they need treatment. As perceived need is a critical step in help-seeking for substance use, these findings suggest that a substantial proportion of substance-using women from disadvantaged communities in Cape Town, South Africa may benefit from brief interventions that build readiness to change and enhance perceived need for treatment. Findings also reflect the need for interventions that link women who perceive a need for treatment to care. Such interventions should address the information barriers that hamper treatment uptake, as well as develop organisational readiness to provide appropriate and acceptable services to women with multiple service needs. Finally, our failure to find variables associated with perceived need for treatment among women who use methamphetamine point to the need for additional research in this population. This is needed in order to inform interventions to improve treatment initiation. In conclusion, a multi-pronged approach to improving treatment initiation among this vulnerable and underserved population is essential for reducing the public health burden of untreated substance use disorders in the region.

Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director: Prof. Charles Parry: Charles.parry@mrc.ac.za

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: ENVIRONMENT AND HEALTH RESEARCH UNIT

<b>Study/Programme</b>	
The extent, nature and environmental health implications of backyard cottage industries in settings of poverty in Johannesburg	
<b>Principal investigator/First author</b>	
June Teare	
<b>Purpose of the programme/study</b>	
A study was undertaken in five poor neighbourhoods in Johannesburg to determine the extent and nature of cottage industries involving the use of toxic metals, for example, electrical repairs, spray painting, jewellery manufacture, motor vehicle repairs, scrap metal recycling, hairdressing and welding. The results showed that overall, metal-related cottage industries were being operated in 19% of dwellings, 30% of which ran multiple cottage industries in the same home. The prevalence of cottage industries varied significantly from one neighbourhood to another, for example, 7% of the sample in Hillbrow operated cottage industries, compared to 37% in Riverlea. The high prevalence of hazardous cottage industries in certain neighbourhoods holds serious implications for the contamination of the residential environment and the health of the immediate families, as well as the surrounding neighbours. Currently, despite the risks to the health of a significant proportion of the population, those operating cottage industries are usually excluded from mainstream, formal health protections, and levels of awareness of the hazardous nature of the substances being handled, are often low.	
<b>Key findings</b>	<ul style="list-style-type: none"> <li>Cottage industries are highly prevalent in certain settings of urban poverty – as many as 37% of households in a suburb or neighbourhood may operate one or more cottage industries involving toxic metals.</li> <li>Little is known about the management and disposal of toxic substances used in cottage industries in South Africa, and the associated health risks.</li> </ul>
<b>What does this mean?</b>	<ul style="list-style-type: none"> <li>In settings of poverty, large numbers of households operate cottage industries at home, and in so doing, family members (including children) are exposed to toxic chemicals on a daily basis, and may live in increasingly contaminated environments.</li> <li>In the light of the high prevalence of cottage industries and the dim prospects for growth in the South African formal economy, a strategy is needed for environment and health protection in neighbourhoods in which cottage industries are widely prevalent.</li> </ul>

<b>Study/Programme</b>	
Lead poisoning from the consumption of an Ayurvedic medicine in Durban	
<b>Principal Investigator/First Author</b>	
Angela Mathee	
<b>Purpose of the programme/study</b>	
To ascertain the current health status of victims of, and the factors associated with, a past lead poisoning outbreak from the consumption of an Ayurvedic medicine (Durban, South Africa)	
<b>Key findings</b>	<p>Ayurvedic medicines have been gaining popularity around the globe in recent decades, in part because of ready access through internet sales. However, Ayurvedic medicines have also been associated with lead contamination and incidents of poisoning in several countries. In 2012, the National Department of Health requested the assistance of the SAMRC's Environment and Health Research Unit in resolving a lead poisoning outbreak (12 individuals) among predominantly adolescents, associated with the consumption of an Ayurvedic medicine for the treatment of skin conditions. Two years later, we traced eight of those affected to conduct a follow-up study to determine their current blood lead levels and health status. In addition to blood lead testing (victims and their family members), we administered questionnaires and reviewed medical records. Samples of the implicated medicines were analysed to determine lead levels. The results showed that blood lead levels had declined significantly (blood lead levels during the acute phase ranged from 34 to 116 µg/dl, and during the current study from 12.5 to 34.0 µg/dl) and that a narrower range of ill-health effects were currently being experienced by those affected. The implicated lead capsules had a lead content of 125 to 235 µg/g. Those involved endured multiple, often invasive, tests and a protracted delay before the diagnosis of lead poisoning. Examination of the implicated capsules showed that the lead content exceeded international guideline levels by a factor exceeding 12 000.</p>
<b>What does this mean?</b>	<ul style="list-style-type: none"> <li>There is a need for greater awareness, including amongst health practitioners, of the risk of lead (and other metal) poisoning in those using Ayurvedic and other traditional medicines.</li> <li>Further research is needed to identify sub-populations in South Africa who use Ayurvedic medicines and determine their risk of detrimental health outcomes.</li> </ul>

<b>Study/Programme</b>	
Prenatal exposure to manganese in South African coastal communities	
<b>Principal Investigator/First Author</b>	
Prof. Halina Röllin	
<b>Purpose of the programme/study</b>	
Manganese is an essential nutrient for humans and helps the body form connective tissue, bones and blood clotting factors. Manganese also plays a role in fat, protein and energy metabolism and regulates blood sugar. Manganese assists in the maintenance of a healthy reproductive system and is also necessary for normal brain and nerve function. The main source of manganese is through foods such as whole grains, nuts and seeds. However, human exposure to manganese can occur through the environment because manganese is abundant in the earth's crust and can be found in the air, water and soil. Studies have shown that lower levels of manganese in pregnancy are associated with foetal growth restriction and lower birth weight. On the other hand, exposure to high levels of manganese in early life can affect the developing foetal brain and can result in poor cognitive performance in school children. A study was undertaken in three rural maternity hospitals situated across the Indian Ocean coast of KwaZulu-Natal and one urban maternity hospital along the Atlantic Ocean of the Western Cape. We studied the relationship between maternal manganese blood levels and socioeconomic, environmental and dietary factors, and birth outcomes in a cohort of 550 mother-infant pairs.	
<b>Key findings</b>	<ul style="list-style-type: none"> <li>Rural pregnant women reported higher levels of manganese than urban women.</li> <li>High manganese levels are also associated with younger mothers; women drinking potable water from an outdoor or communal tap sourced from municipality and drinking water from river or stream; women consuming vegetables once a week and mothers with elevated blood lead concentrations.</li> </ul>
<b>What does this mean?</b>	<ul style="list-style-type: none"> <li>The study indicates the need for vigilance regarding possible over-exposure to manganese in rural and urban coastal South African communities. Coastal rural populations, in particular, are at risk of manganese exposure during pregnancy, and manganese levels increase with intake of food and water.</li> <li>This study highlights the need to investigate possible co-exposure to a mixture of toxic substances e.g. lead.</li> </ul>

Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director: Prof. Angie Mathee: [angie.mathee@mrc.ac.za](mailto:angie.mathee@mrc.ac.za)



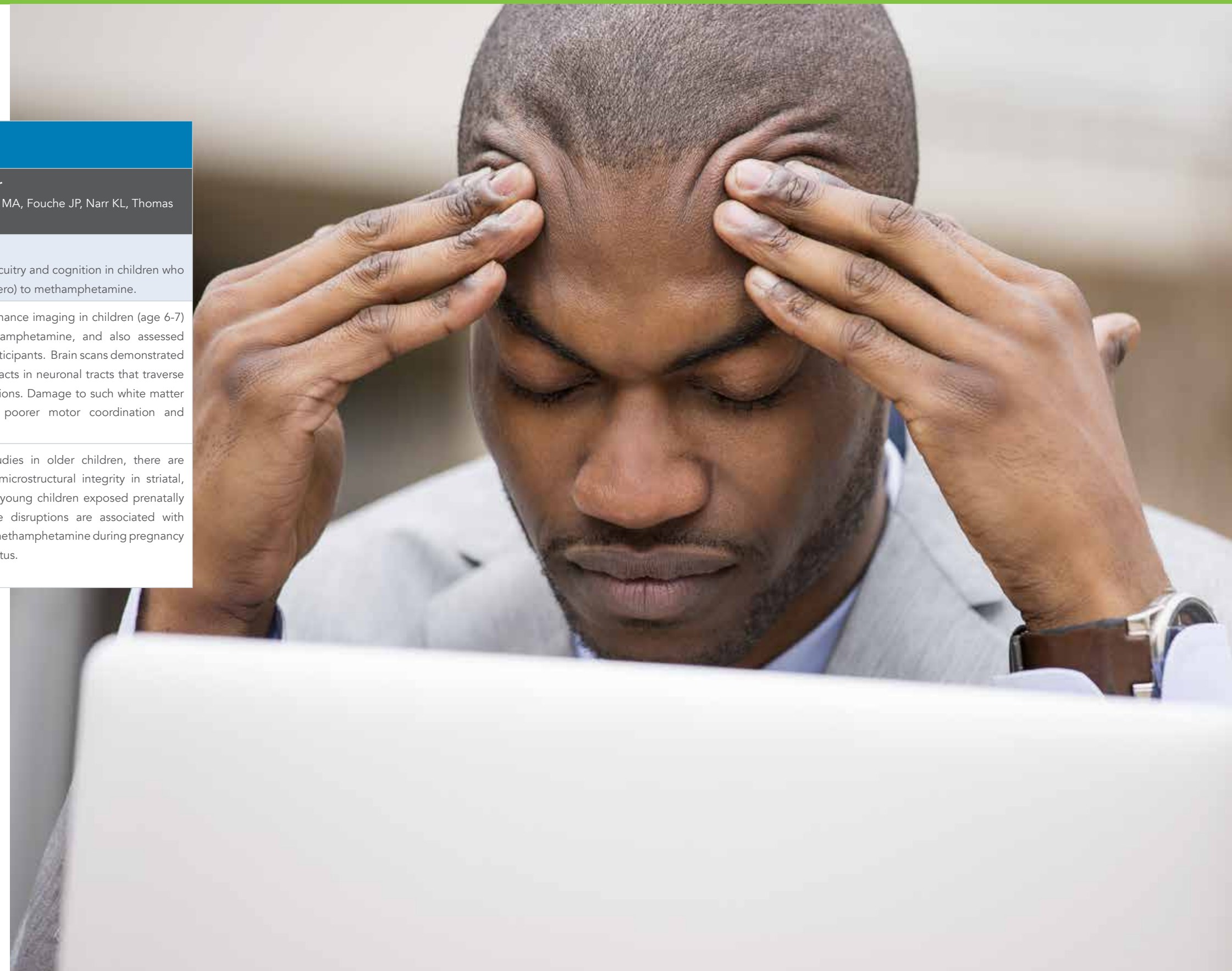
## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

#### UNIT NAME: ANXIETY AND STRESS DISORDERS RESEARCH UNIT

<b>Study/Programme</b> Obsessive-compulsive and related disorders	
<b>Principal investigator/First author</b> Stein DJ, Craske MA, Friedman MJ, Phillips KA	
<b>Purpose of the programme/study</b> The Diagnostic and Statistical Manual of Mental Disorders is the most widely used psychiatric classification system, and it was recently updated to DSM-5. Members of the SAMRC Unit were closely involved in the revision of those aspects of the classification system related to anxiety and related disorders, such as the obsessive-compulsive spectrum disorders. We conducted a range of systematic reviews and empirical studies that aimed to inform the revision. This editorial refers to this research, and provides an overview of key decisions taken in the DSM-5.	
<b>Key findings</b>	Our systematic reviews and empirical research indicated that the construct of 'obsessive-compulsive and related disorders' is clinically useful and diagnostically valid. The decision was therefore made to separate these disorders from the anxiety disorders and from other conditions, and to have for the first time, a separate chapter in the Diagnostic and Statistical Manual of Mental Disorders on obsessive-compulsive and related disorders. These disorders include obsessive-compulsive disorder, body dysmorphic disorder, hoarding disorder, trichotillomania (hair-pulling disorder) and excoriation (skin-picking) disorder. This new DSM-5 chapter is important, because these disorders are common, but under-recognised and under-treated by clinicians. The new chapter describes these disorders for clinicians, explaining their similarities and differences. As the DSM-5 is widely used, the new chapter will help clinicians to recognise these conditions, to diagnose them appropriately, and treat them more effectively. Furthermore, the new edition of the International Classification of Diseases (ICD-11) will follow the DSM-5, and will also recognise these disorders in a new chapter.
<b>What does this mean?</b>	Members of the SAMRC Anxiety and Related Disorders Unit have played a key role in research that has led to the recognising of a set of conditions called the 'obsessive-compulsive and related disorders'. This is important because it will help clinicians to diagnose these conditions appropriately and treat them effectively.

<b>Study/Programme</b> Primary care psychiatry	
<b>Principal investigator/First author</b> Kirsty Donald, Roos A, Kwiatkowski MA, Fouche JP, Narr KL, Thomas KG, Stein DJ, Donald KA	
<b>Purpose of the programme/study</b> This study aimed to assess brain circuitry and cognition in children who had been exposed prenatally (in utero) to methamphetamine.	
<b>Key findings</b>	We undertook magnetic resonance imaging in children (age 6-7) exposed prenatally to methamphetamine, and also assessed cognitive function in these participants. Brain scans demonstrated disruptions to white matter tracts in neuronal tracts that traverse striatal, limbic and frontal regions. Damage to such white matter tracts was associated with poorer motor coordination and impaired executive functions.
<b>What does this mean?</b>	Consistent with previous studies in older children, there are disruptions of white matter microstructural integrity in striatal, limbic and frontal regions of young children exposed prenatally to methamphetamine. These disruptions are associated with cognitive dysfunction. Using methamphetamine during pregnancy may be dangerous for the foetus.



Two research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director: Prof. Dan Stein: dan.stein@uct.ac.za

## // PART B: PERFORMANCE INFORMATION

**PROGRAMME 2: WOMEN, MATERNAL AND CHILD HEALTH****PURPOSE OF PROGRAMME**

To improve the health status and quality of life of women and children through high-quality scientific research that informs policy and practice, improves health services, and promotes health

**UNITS THAT CONSTITUTE THIS PROGRAMME**

- Gender and Health Research Unit
- Maternal and Infant Health Care Strategies Research Unit
- Development Pathways Research Unit

**PROGRAMME STRATEGIC OBJECTIVES**

- To conduct and promote research for the improvement of maternal, child and women's health, while also making an impact on gender inequity and gender-based violence (GBV)
- To train and mentor high-calibre postgraduate students in the field of maternal, child and women's health
- To synthesise evidence, optimise information and knowledge flow, and influence policy and practice within the health sector and other sectors of government in relation to issues affecting maternal, child and women's health
- To develop interventions for the prevention of gender-based violence for testing and evaluating effectiveness in affected communities
- To test or evaluate interventions (programmes) to prevent GBV, and reduce maternal and neonatal deaths in primary and secondary levels of care

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

#### UNIT NAME: MATERNAL AND INFANT HEALTH CARE STRATEGIES UNIT

<b>Study/Programme</b>	
Scale-up of the Essential Steps in Managing Obstetric Emergencies (ESMOE) and Emergency Obstetric Simulation Training (EOST) programme throughout South Africa	
<b>Principal investigator/First author</b>	
RC Pattinson	
<b>Purpose of the programme/study</b>	
To reduce maternal and neonatal deaths by improving emergency obstetric and neonatal care.	
<b>Key findings</b>	The scale-up programme started by performing a detailed baseline assessment of the ability of community health centres (CHC) and district hospitals (DH) to provide the seven basic and nine comprehensive emergency obstetric care functions in 12 of the most in need districts. No CHC provided all seven basic emergency care signal functions with the majority providing 3-4 of the functions. Only 48% of the DHs provided all nine signal functions for comprehensive emergency obstetric care, but 75% provided 8 of the 9 functions. Concurrent with the baseline assessment, an analysis of staffing of the maternity units was made. If the WHO standards are used, then all of the 12 most in need districts had sufficient nursing staff for the population of each district, but per facility, the number of nursing staff was mostly inadequate. There were too many facilities providing maternity services resulting in a dilution of staff and unsafe maternity units.
<b>What does this mean?</b>	To reduce maternal and neonatal deaths, there will need to be significant changes to the health system to ensure that the facilities can provide the essential emergency obstetric and neonatal services. There is sufficient nursing staff per district, but too many facilities. In order to provide safer and more effective maternity services consolidation of facilities and personnel is urgently needed.

<b>Study/Programme</b>	
Quality of Care audit of perinatal and child care	
<b>Principal investigator/First author</b>	
RC Pattinson	
<b>Purpose of the Programme / Study</b>	
To provide on-going information on the quality of perinatal and child health-care services, identify the missed opportunities in these service and provide evidence-based recommendations, which if implemented would reduce perinatal and child deaths.	
<b>Key findings</b>	The Saving Babies and Saving Children reports have been used by the National Perinatal Morbidity and Mortality Committee and the Committee on Morbidity and Mortality in Children to assess the quality of care in health-care facilities caring for pregnant women and their children. Intrapartum asphyxia and spontaneous preterm birth are the most common primary causes of perinatal death, especially in the primary level of care. Almost half of the deaths due to intrapartum asphyxia were thought to have been possibly or probably preventable if the quality of intrapartum care had been adequate. The factor most often identified in deaths of preterm infants was the lack of facilities in the primary level of care to deal with premature infants. Acute respiratory tract infections, diarrhoea and malnutrition with the background of HIV infection, were the most common causes of deaths of children. Most child deaths occurred in infants, and in facilities most died within 24 hours of admission to the facility.
<b>What does this mean?</b>	Improving the quality of care at the primary level is one of the most important factors to reduce deaths of pregnant women, their babies and children.

<b>Study/Programme</b>	
Implementation of kangaroo mother care (KMC)	
<b>Principal investigator/First author</b>	
Anne-Marie Bergh	
<b>Purpose of the programme/study</b>	
Operational research on and evaluation of the implementation and scale up of kangaroo mother care, and other maternal and newborn health interventions at different health-system levels	
<b>Key findings</b>	The kangaroo mother care implementation programme has been running since 1999 and continues to evolve. A conceptual framework of stages of change was developed as a result of the initial research and has been applied to other areas of interventions such as audit and feedback, and emergency obstetric and neonatal care. The original progress-monitoring tool to track implementation and scale up at different levels of the health system is currently under review to include a stronger focus on quality of care. The SAMRC unit also conducted two randomised trials to test different outreach strategies for implementing and scaling up KMC. The expertise of the unit has been used in seven African and five Asian countries over the past years to facilitate the development of educational materials, and the design and evaluation of implementation programmes. The tool for monitoring KMC implementation progress has been applied in six African and three Asian countries, and was adapted for Colombia. During the period 2014/15, an evaluation of KMC services was conducted in all hospitals in the Tshwane District in South Africa, as well as in five hospitals in Liberia.
<b>What does this mean?</b>	Kangaroo mother care is currently highlighted on the global newborn health agenda as a high-impact, cost-effective intervention earmarked for accelerated implementation and scale up. The results of the studies in which the SAMRC unit has been involved are widely used in countries that are currently developing scale-up programmes. Members of the unit are also involved in the international KMC research group that is part of the acceleration process.

Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director: Prof. R.C Pattinson: [rcpattin@kalafong.up.ac.za](mailto:rcpattin@kalafong.up.ac.za)

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

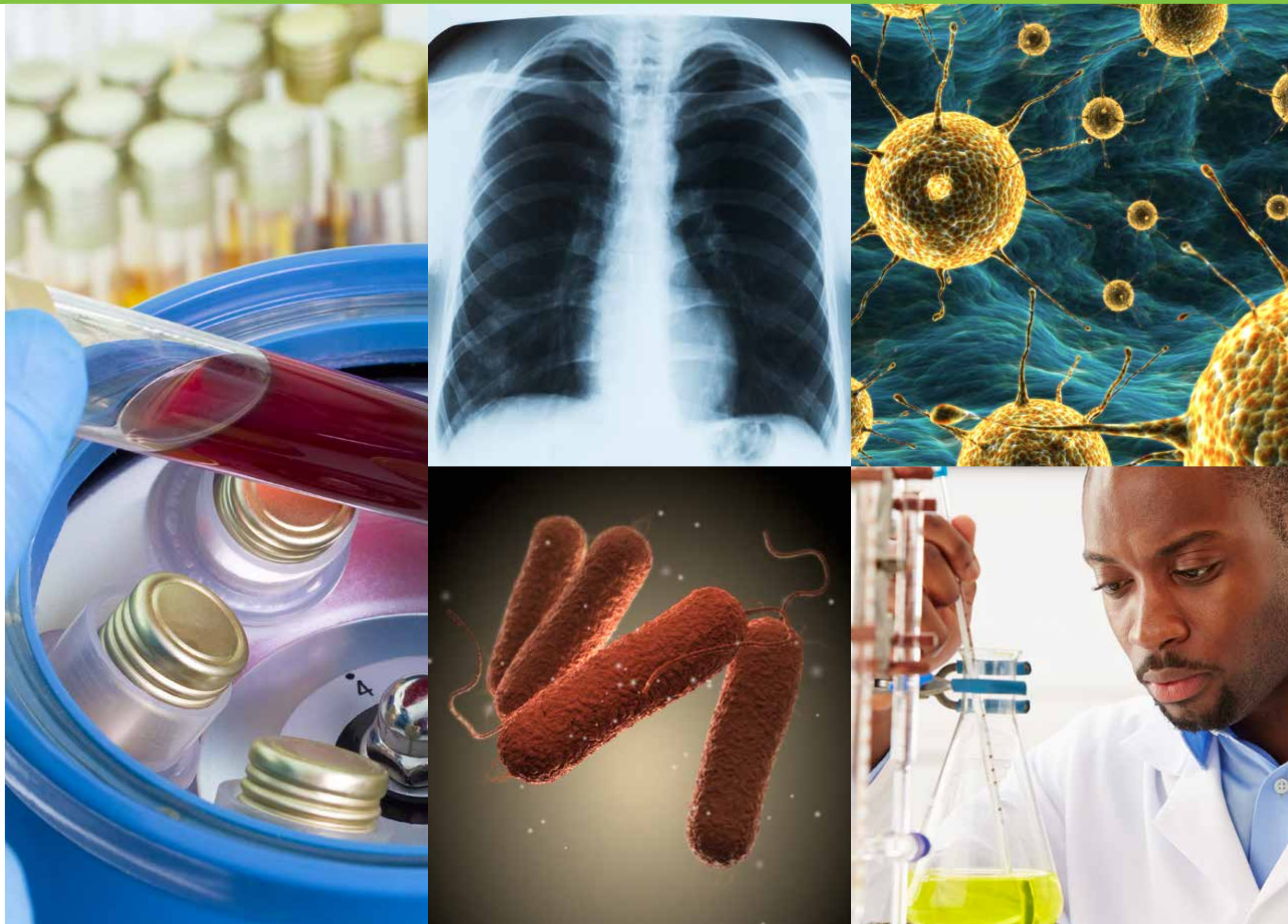
#### UNIT NAME: SAMRC/WITS DEVELOPMENTAL PATHWAYS RESEARCH UNIT

<b>Study/Programme</b>	
Soweto first 1 000 days cohort	
<b>Principal investigator/First author</b>	
Shane Norris	
<b>Purpose of the programme/study</b>	
<p>The purpose of the programme, within an urban-poor African context, is to understand the complexity between multiple maternal factors and fetal and infant outcomes, and identify the levers that could optimise maternal and child health within the first 1 000 days. In particular,</p> <ol style="list-style-type: none"> <li>1. To what extent does maternal biological and social factors (including weight status and adiposity, anemia, glycaemia, blood pressure, diet, psychosocial stress and HIV status) independently and interactively relate to patterns and proportionality of fetal growth, delivery outcomes, neonatal size and body composition, and infant growth, body composition and cognitive development?</li> <li>2. To what extent does paternal factors (education, mental health, body composition and cardiometabolic risk profile) influence fetal and infant outcomes?</li> <li>3. How do maternal factors, patterns of fetal growth, and neonatal and infant body composition relate to placental size and morphology, and to cord blood biomarkers that have been shown to play a key role in regulation of growth and metabolism?</li> <li>4. What are the best buys during the first 1 000 days to strengthen health systems, clinical practice and policy, and inform the development of an intervention?</li> </ol>	
<b>Key findings</b>	<p>Participants were recruited at an average gestational week of 12 (+/-2 weeks). Age ranged from 18-45 years (mean=30.2). The study population is primarily of low to middle SES: 53% had completed secondary school only, 28% had some tertiary education and 58% were single mothers. Women who refused to participate were not different in age, BMI, or education, but participants were more likely to be married. BMI ranged from 15.7-60.6 (mean=28.3 kg/m<sup>2</sup>). Based on weight status at first visit, 2.7% of women were underweight (BMI&lt;18.5 kg/m<sup>2</sup>), 30.6% were normal weight (18.5 &lt;BMI ≤25), 32.3% were overweight (25&lt;BMI ≤30), and 34.4% were obese (BMI&gt;30 kg/m<sup>2</sup>).</p> <p>Mean weight change from the first antenatal visit to delivery was 7.6 kg (SD 3.9). HIV prevalence was 31.2% and nearly all HIV-infected women were receiving cART. In mid-late pregnancy, 36.3% were anaemic, 10.9% had gestational diabetes, 6.3% had gestational hypertension and 39% were at risk of depression; only 25% of pregnant women had none of these six morbidities. The triple burden (HIV+, anaemia and overweight or obese) was present in 8.9% of the study population.</p> <p>In those participants that have delivered (n&gt;400), mean gestational age was 37.1 weeks (SD 4.1) with 36.8% preterm birth based on ultrasound assessment at booking; mean birthweight was 2.98 kg (SD 0.64) with 17.8% LBW and 3.5% macrosomic; mean birth length 48.4 cm (SD 3.8); and mean head circumference 34.1 cm (SD 2.1). The group of pregnant women with none of the morbidities had a higher gestational age of 38.5 (SD 2.9).</p>
<b>What does this mean?</b>	<p>The pilot results highlight the complex and extensive co-morbidity profile of maternal health during pregnancy.</p>

Two research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director: Prof. Shane Norris: shane.norris@wits.ac.za

<b>Study/Programme</b>	
Study of women entering and in endocrine transition (SWEET study)	
<b>Principal investigator/First author</b>	
Nigel Crowther, Nicole Jaff, and Shane Norris	
<b>Purpose of the programme/study</b>	
<p>Drawing upon a sample of over 1 000 urban black women (sample of mothers/caregivers of the Bt20 cohort), we are investigating in detail the cardiometabolic, hormonal and body composition profile of these women, and examining if the menopausal transition is associated with changes in these parameters. This study will draw upon the 20 years of historical data on these women as part of Bt20, but will also to continue to collect extensive longitudinal data on ageing and health as these women get older.</p>	
<b>Key findings</b>	<p>Age is strongly related to menopause stage in black African women. STRAW+10 criteria are accurate in staging reproductive aging, as confirmed by the significant association of FSH and estradiol levels with menopausal transition stage. These guidelines may be appropriate for use in resource-limited settings in the absence of biomarkers. Reporting of age at FMP is unreliable in subjects interviewed ≥4 years after the event. No significant difference in the prevalence of vasomotor symptoms was noted in HIV-positive women. The menopause transition in these women is characterised by lower whole body lean mass and bone mineral density (BMD) in post-menopausal compared to premenopausal subjects, but there are negligible differences in fat mass. Ethnicity may play a role in the effect of adiposity across menopause stage in this population. Lower lean mass and BMD were associated with higher FSH and lower E2 serum levels, respectively. Lower fat mass and BMC were associated with ART use. Metabolic syndrome risk factors were associated with postmenopausal women and were related to changes in FSH (LDL and cholesterol) and estradiol (diastolic blood pressure). These data suggest that the hormonal changes characterising menopause may play a role in the aetiology of metabolic syndrome in these women. Biocultural methods may be useful in assessing the menopause transition in culturally diverse women.</p>
<b>What does this mean?</b>	<p>The public health-care system in South Africa has not focused on the effects of chronological and reproductive aging in midlife black women, but given the indication of increased morbidity in this group, this research provides (a) a validated tool to assess menopause and reproductive age, and (b) that biological changes may exacerbate non-communicable disease. This information and further research may elucidate interventions needed to lower these health risks.</p>

## // PART B: PERFORMANCE INFORMATION



### PROGRAMME 3: HIV, AIDS AND OTHER COMMUNICABLE DISEASES

#### PURPOSE OF PROGRAMME

To conduct research on preventing HIV and related co-morbidities, including TB and other infectious diseases such as malaria. It seeks to contribute to the national and international science system by testing TB drugs and malaria insecticides, and carry out the AIDS Vaccine project coordinating development and testing HIV vaccines in South Africa, in partnership with our funders and our regional counterparts.

#### UNITS THAT CONSTITUTE THIS PROGRAMME

- HIV Prevention Research Unit
- Centre for Tuberculosis Research Unit
- Molecular Mycobacteriology Research Unit
- Respiratory and Meningeal Pathogens Research Unit
- Diarrhoeal Pathogens Research Unit

#### PROGRAMME STRATEGIC OBJECTIVES

- To increase the body of knowledge informing the development of the response to prevention and curative interventions for HIV, AIDS, TB and other communicable diseases
- To increase the contribution to the national health system by maintaining national health research facilities that provide services for the prevention of HIV and related co-morbidities, including TB
- To provide research grants to principal investigators responsible for HIV research in line with the European and Developing Countries Clinical Trials Partnership (EDCTP) TESA mandate, provide financial support to researchers within neighbouring countries for training in laboratory and research techniques, and utilising funds from sponsors and unit savings
- To provide leadership and coordinate activities for training and development of young scientists and employees at different levels, and to work towards retention of critical skills and talent management thereof
- To ensure appropriate training of clinical, laboratory and other research staff, and communities in and around the research sites
- To increase the body of scientific knowledge through research translation into products, patents, papers, policy practice and health promotion (including to the general public) by organising meetings, seminars, workshops and conferences
- To design and construct the most appropriate and promising HIV candidate vaccines for southern Africa, and to increase the number of interventions developed for TB and HIV
- To increase the body of scientific evidence that relates to testing and evaluating medical equipment and devices that are developed for the prevention of HIV and related co-morbidities.

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: HIV PREVENTION RESEARCH UNIT (HPRU)

<b>Study/Programme</b> Wellness programme	
<b>Principal investigator/First author</b> Photini Kiepiela	
<b>Purpose of the programme/study</b> Integration of the SAMRC HPRU with Lancer's Road/Overport Clinics to improve health systems through research agenda and capacity development of personnel. We undertook a study to evaluate the PIMATM point-of-care (POC) test for CD4 counts in predicting antiretroviral initiation in HIV-infected individuals in KwaZulu-Natal, Durban, South Africa.	
<b>Key findings</b>	There was high precision of the control cartridge (low and high beads) using the PIMATM analysers. The overall performance of PIMATM analysers as a diagnostic tool for ART initiation under all three SA guidelines was favourable, evidenced by the high proportion of patients correctly classified (91%, 87% and 91% respectively). The majority (87%) of patients returned for their CD4+ T-cell count test result but only 67% of those eligible for ART were initiate.
<b>What does this mean?</b>	Due to the high positive predictive value (95%), sensitivity (94%) and acceptable specificity (78%), the PIMATM POC CD4 test has the potential role for CD4+ T-cell enumeration in primary health-care settings therefore facilitating rapid linkage to care in ART programmes. A pilot implementation study is underway at the Lancers Road PHC to provide POC CD4 testing with same day results in order to ascertain linkage to care, ART initiation and retention in care. The aim is to ensure rapid linkage to care for people diagnosed with HIV.

<b>Study/Programme</b> A multi-center, randomised, double-blind, placebo-controlled phase 3 safety and effectiveness trial of a vaginal matrix ring containing dapivirine for the prevention of HIV-1 infection in women (ASPIRE)	
<b>Principal investigator/First author</b> Dr Vaneshree Govender (HPRU MTN 020 PI)	
<b>Purpose of the programme/study</b> To assess the safety and efficacy of the dapivirine (25 mg) vaginal ring, when inserted once every four weeks, in preventing HIV-1 infection among healthy, sexually active, HIV-uninfected women.	
<b>Key findings</b>	The clinical trial is still in progress, but these are some of the findings to date from the HIV Prevention Research Unit (HPRU) SAMRC sites: <ul style="list-style-type: none"> <li>• Baseline characteristics of the study population: A total of n=803 women were enrolled across the six SAMRC-HPRU clinical research sites.</li> <li>• The median age of the women is 26 years with 39% &lt; 25 years and 14% &gt; 35 years. Overall, 100% reported having a primary partner in the 3 months prior to enrolment and 18% reported <math>\pm</math> 1 other partner. Eight percent of the participants report being married. Approximately 40 % report no condom use during the last sexual act prior to enrolment. Baseline contraceptive use reflects a wide method mix: 41% injectable depot medroxyprogesterone acetate, 19% contraceptive implants, 14% injectable norethisterone enanthate, 13% intrauterine devices and 11% oral contraceptive pills.</li> </ul>
<b>What does this mean?</b>	If the dapivirine ring is found to be safe and effective, it will represent a major step towards new, self-initiated HIV prevention options for women. A positive outcome of this trial will lead to future open label clinical trials to ascertain use in 'real-world' settings. In addition, efforts for licensure of the product will be conducted to help ensure the ring is made available to women in developing countries at a low cost and as soon as possible.



Two research highlights from this unit are listed below. More information on each of the research highlights can be acquired by contacting the unit director: Prof Gita Ramjee: [gita.ramjee@mrc.ac.za](mailto:gita.ramjee@mrc.ac.za)

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

#### UNIT NAME: CENTRE FOR TUBERCULOSIS RESEARCH UNIT

<b>Study/Programme</b>
Associations between human leukocyte antigen class I variants and the mycobacterium tuberculosis subtypes causing disease
<b>Principal investigator/First author</b>
Prof Eileen Hoal and Dr Muneeb Salie
<b>Purpose of the programme/study</b>
In this study, we investigated how the human leukocyte antigen (HLA) class-I molecules, which have T-cell antigen presentation capabilities and influence NK cell activity, impact <i>Mycobacterium tuberculosis</i> strain susceptibility in a South African population.
<b>Key findings</b>
We showed that the Beijing strain occurred more frequently in individuals with multiple tuberculosis (TB) disease episodes, and the HLA-B27 allele lowered the odds of having more than one disease episode. Associations were also identified for specific HLA types and disease caused by the Beijing, LAM, LCC and Quebec strains. In addition, HLA types were 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 co-evolutionary events between host and pathogen.
<b>What does this mean?</b>
This is the first report of the association of human HLA types and <i>M. tuberculosis</i> strain genotype, highlighting that both host and pathogen genetics need to be taken into consideration when studying TB disease development.

<b>Study/Programme</b>
SA MRC Centre for TB Research
<b>Principal investigator/First author</b>
Collaborative Research: CTBR; UCT; UWC; Univ Texas Southwestern Medical Centre, Dallas; Univ Zurich, Switzerland
<b>Purpose of the programme/study</b>
Optimising drug exposure in tuberculosis treatment regimens to minimise selection of drug resistance
<b>Key findings</b>
The main focus of tuberculosis (TB) treatment is to cure patients, minimise transmission of the causative agent ( <i>mycobacterium tuberculosis</i> ) and prevent the emergence and spread of drug-resistant TB. Suboptimal dosing plays an important role in the development and spread of drug-resistant TB. It is therefore important to optimise established drug regimens and assess new compounds for use in combination with existing drugs. Current dosing strategies are mostly based on minimal inhibition concentrations (MICs) and pharmacokinetics (PKs). However, modern computer-intensive methods use Pharmacodynamic (PD) models, which are better suited to explore complex PK/PD relationships to describe drug exposure and PK breakpoints in order to optimise drug therapy. The aim of our research was to characterise target drug concentrations and select clinical breakpoints on the basis of PK/PD properties in an attempt to prevent the emergence of pre-existing and newly developed mutants. The rationale behind this approach is to define treatment regimens that have a high efficacy against both susceptible (wild-type) bacterial strains as well as newly formed mutants that may be present in low numbers. Reassessing breakpoints for drug susceptibility testing of anti-tuberculosis drugs indicated that the current critical concentrations used for drug susceptibility testing may lack the ability to detect strains within a predominant wild-type population that have acquired mutational resistance. Research has also been conducted to evaluate a TB resistance line probe assay for rapid detection of genetic alterations associated with drug-resistant <i>M. tuberculosis</i> strains. These investigations have improved our knowledge and capacity to better understand the complexity of TB treatment, which is important in making informed decisions regarding dosing recommendations.
<b>What does this mean?</b>
Our findings provide important information that could be used to influence TB treatment strategies which is essential to prolonging the life span of existing and new anti-TB drugs and to minimise the emergence and spread of drug-resistant strains.

<b>Study/Programme</b>
Rapid diagnosis of paediatric mycobacterial lymphadenitis using fine needle aspiration biopsy
<b>Principal investigator/First author</b>
CA Wright and L Coetsee
<b>Purpose of the programme/study</b>
To improve the diagnosis of paediatric tuberculosis lymphadenitis
<b>Key findings</b>
This study developed the methodology of using the Xpert MTB/RIF assay to diagnose the presence of <i>Mycobacterium tuberculosis</i> in fine-needle aspirates from paediatric lymph nodes. Using this methodology, it was possible to rapidly identify tuberculosis in 32 of 40 children with lymphadenitis. This test also informed on the presence of rifampicin resistance, thereby enabling the doctor to initiate the correct treatment in approximately 2 hours.
<b>What does this mean?</b>
The developed methodology can be used to diagnose tuberculosis lymphadenitis in both children and adults. This method can be used in clinics in South Africa to rapidly diagnose tuberculosis.

<b>Study/Programme</b>
Rapid sequencing of the Mycobacterium tuberculosis pncA gene for detection of pyrazinamide susceptibility
<b>Principal investigator/First author</b>
PD van Helden and EM Streicher
<b>Purpose of the programme/study</b>
Rapid identification of resistance to pyrazinamide using DNA sequencing.
<b>Key findings</b>
Pyrazinamide drug susceptibility testing is complex and not conducted routinely. To overcome this limitation we have developed a rapid method to identify pyrazinamide resistance in <i>Mycobacterium tuberculosis</i> , the causative agent of tuberculosis. Our method compared excellently with the culture-based method and showed the advantage that the result could be available in 2 days rather than weeks. Application of this test will guide treatment of drug-resistant tuberculosis and will be used in clinical trials testing new treatments for tuberculosis.
<b>What does this mean?</b>
This study shows that the newly developed method can rapidly identify resistance to pyrazinamide, which will allow for the rapid recruitment of appropriate volunteers for new antibiotic trials and lead to improved treatment regimens; as well as improved future treatment options.

<b>Study/Programme</b>
Using multi-way admixture mapping to elucidate tuberculosis susceptibility in the South African coloured population
<b>Principal Investigator/First Author</b>
Prof Eileen Hoal and Dr Michelle Daya
<b>Purpose of the programme/study</b>
We applied a method of gene mapping, namely admixture mapping, to tuberculosis (TB) in a unique admixed South Africa population
<b>Key findings</b>
The admixed South African coloured (SAC) population is ideally suited to the discovery of TB susceptibility genetic variants and their probable ethnic origins, but previous attempts at finding such variants using genome-wide admixture mapping were hampered by the inaccuracy of local ancestry inference by available methods. In this study, we infer local ancestry using the novel algorithm implemented in RFMix, with the emphasis on identifying regions of excess San or Bantu ancestry, which we hypothesised may harbour TB susceptibility genes. We identified and fine-mapped the regions of the genome indicated as important in the admixture mapping of the SAC population for TB. We also developed bioinformatics methods and computational approaches for admixture mapping in populations with a complex ancestry, such as the SAC population.
<b>What does this mean?</b>
Admixture mapping is feasible in the SAC population and a number of novel TB susceptibility genomic regions were uncovered.

Five research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Paul van Helden: pvh@sun.ac.za

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

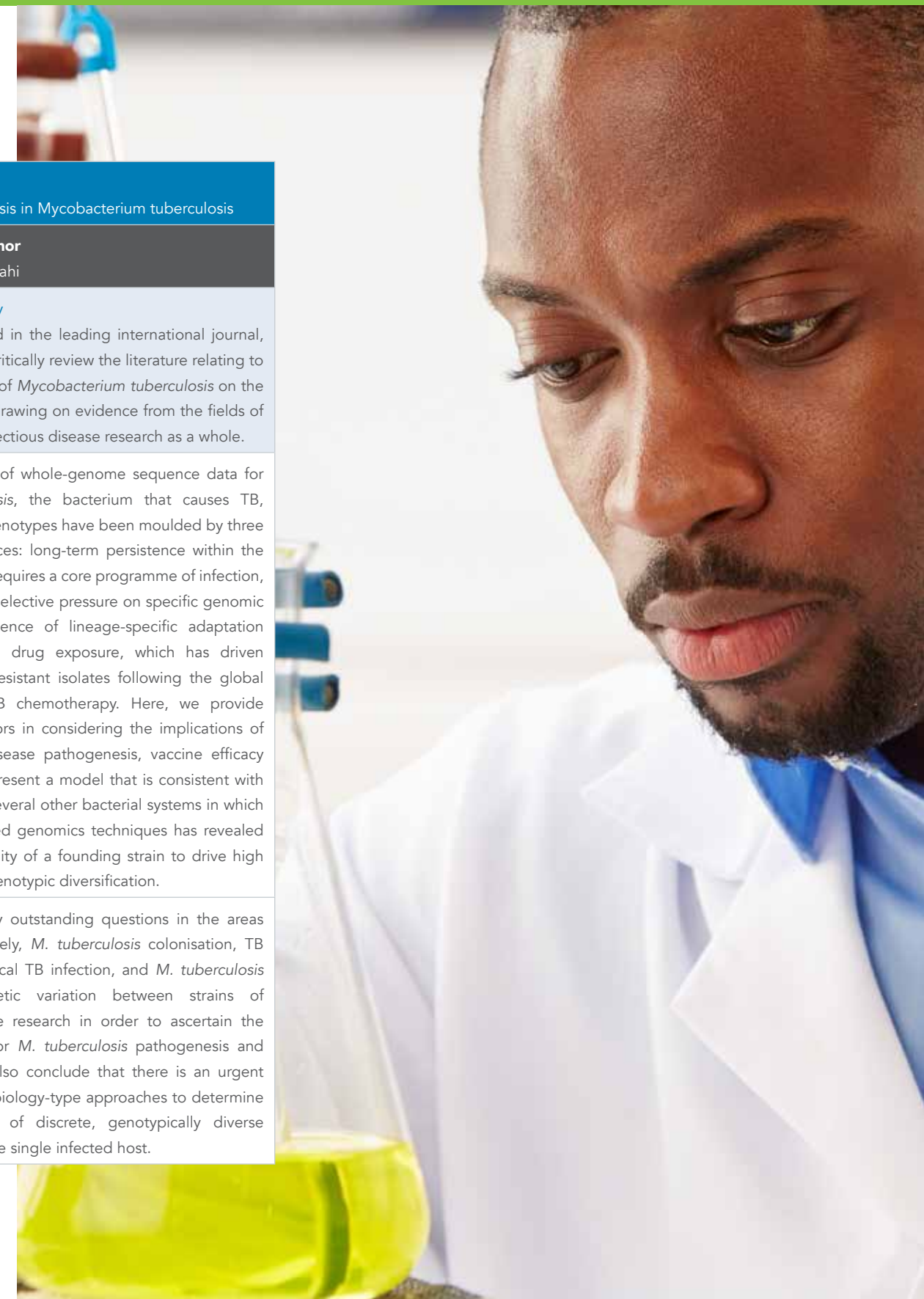
#### UNIT NAME: MOLECULAR MYCOBACTERIOLOGY RESEARCH UNIT

<b>Study/Programme</b>	
Mycobacterium tuberculosis metabolism	
<b>Principal investigator/First author</b>	
Digby F. Warner	
<b>Purpose of the programme/study</b>	
This study, published in a special edition of <i>Cold Spring Harbour Perspectives in Medicine</i> on tuberculosis, was aimed at providing an authoritative and up-to-date overview of an aspect of the biology of <i>Mycobacterium tuberculosis</i> of fundamental importance in TB drug discovery.	
<b>Key findings</b>	Metabolism underpins the physiology and pathogenesis of <i>Mycobacterium tuberculosis</i> . However, although experimental mycobacteriology has provided key insights into the metabolic pathways that are essential for survival and pathogenesis, determining the metabolic status of bacilli during different stages of infection and in different cellular compartments remains challenging. Recent advances – in particular, the development of systems biology tools such as metabolomics – have enabled key insights into the biochemical state of <i>M. tuberculosis</i> in experimental models of infection. In addition, their use to elucidate mechanisms of action of new and existing TB drugs is critical for the development of improved interventions to counter tuberculosis. This review provides a broad summary of mycobacterial metabolism, highlighting the adaptation of <i>M. tuberculosis</i> as a specialist human pathogen, and discusses recent insights into the strategies used by the host and infecting bacillus to influence the outcomes of the host-pathogen interaction through modulation of metabolic functions.
<b>What does this mean?</b>	By providing a state-of-the-art review of the understanding of metabolism and metabolic flexibility of <i>M. tuberculosis</i> , this paper has provided a valuable resource for the global TB research community.

<b>Study/Programme</b>	
Translating genomics research into control of tuberculosis: lessons learnt and future prospects	
<b>Principal Investigator/First Author</b>	
Digby F. Warner and Valerie Mizrahi	
<b>Purpose of the programme/study</b>	
This work was aimed at providing expert opinion, from the perspective of researchers operating in a TB-endemic country, on how advances in genomics research can be translated into new tools for TB control.	
<b>Key findings</b>	Genomics research has enabled crucial insights into the adaptive evolution of <i>Mycobacterium tuberculosis</i> as an obligate human pathogen. In this invited opinion piece published in the top international journal, <i>Genome Biology</i> , we highlight major recent advances and evaluate the potential for genomics approaches to inform tuberculosis control efforts in high-burden settings. These findings led to the proposal of a set of the translational priorities for TB control that advances in genomics have enabled – namely, identifying and intervening in TB transmission chains, identifying the factors that impact infection outcomes, TB drug treatment; latent TB infection and vaccinology, and mycobacterial population biology and genomics.
<b>What does this mean?</b>	Our main conclusion is that genomics research will continue to drive efforts to understand the evolutionary processes that have enabled the adaptation of <i>M. tuberculosis</i> as a human pathogen. Importantly, however, translating the exciting advances provided by genomics into new tools that can radically transform TB control will require significant and sustained resourcing. We make the point that it is incumbent upon the TB research community to ensure that there is sufficient political will to make this happen. As a high-burden country with significant scientific, medical and technological resource at its disposal, one might argue that South Africa has a special responsibility in this regard.

<b>Study/Programme</b>	
Diversity and disease pathogenesis in <i>Mycobacterium tuberculosis</i>	
<b>Principal investigator/First author</b>	
Digby F. Warner and Valerie Mizrahi	
<b>Purpose of the programme/study</b>	
The aim of this study, published in the leading international journal, <i>Trends in Microbiology</i> , was to critically review the literature relating to the impact of genomic diversity of <i>Mycobacterium tuberculosis</i> on the pathogenesis of TB disease by drawing on evidence from the fields of TB research in particular, and infectious disease research as a whole.	
<b>Key findings</b>	The increasing availability of whole-genome sequence data for <i>Mycobacterium tuberculosis</i> , the bacterium that causes TB, suggests that circulating genotypes have been moulded by three dominant evolutionary forces: long-term persistence within the human population, which requires a core programme of infection, disease and transmission; selective pressure on specific genomic loci, which provides evidence of lineage-specific adaptation to host populations; and drug exposure, which has driven the rapid emergence of resistant isolates following the global implementation of anti-TB chemotherapy. Here, we provide an overview of these factors in considering the implications of genotypic diversity for disease pathogenesis, vaccine efficacy and drug treatment. We present a model that is consistent with emerging evidence from several other bacterial systems in which the application of advanced genomics techniques has revealed a similarly unexpected ability of a founding strain to drive high levels of genotypic and phenotypic diversification.
<b>What does this mean?</b>	This study highlighted key outstanding questions in the areas of TB transmission – namely, <i>M. tuberculosis</i> colonisation, TB disease, latent or sub-clinical TB infection, and <i>M. tuberculosis</i> microdiversity (i.e., genetic variation between strains of the organism) – for future research in order to ascertain the implications of diversity for <i>M. tuberculosis</i> pathogenesis and future interventions. We also conclude that there is an urgent need to develop systems-biology-type approaches to determine the emergent properties of discrete, genotypically diverse bacterial populations on the single infected host.

Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Valerie Mizrahi: Valerie.mizrahi@uct.ac.za



## // PART B: PERFORMANCE INFORMATION



### PROGRAMME 4: HEALTH SYSTEMS STRENGTHENING

#### PURPOSE OF PROGRAMME

To contribute to health systems strengthening by undertaking systematic reviews, and health policy and health systems research to provide evidence for policy-makers, stakeholders and researchers seeking to address today's most pressing health challenges. The programme aims to take advantage of information and technology by exploring and expanding the role of eHealth (health informatics, digital health, tele health, telemedicine, eLearning and mobile health) in strengthening health systems.

#### UNITS THAT CONSTITUTE THIS PROGRAMME

- Burden of Disease Research Unit
- Biostatistics Research Unit
- Cochrane Centre
- Health Systems Research Unit
- Health Policy Research Unit

#### PROGRAMME STRATEGIC OBJECTIVES

- To contribute towards the evidence base for national, regional and international health-care decision making by conducting high-quality systematic reviews, and health systems and health policy research reviews to improve health systems effectiveness
- To strengthen research and development through training and mentoring postgraduate students (MSc, PhD, postdoctoral fellows) in eHealth, health policy, health systems research and biostatistics
- To contribute to capacity development and training in the use and conduct of systematic reviews, and support of clinical trial registration for the African region
- To synthesise evidence, and optimise information and knowledge flow through ICT and other means to ensure that research results are translated into policy, practice, cost-effective products and health promotion
- To develop and enhance health information systems and surveillance through systematic evaluation and identification of processes for improvement
- To provide statistical analysis to ensure scientific validity, relevance and efficiency of health systems interventions and/or service delivery models, and engage in health systems strengthening activities
- To carry out biostatistical support training projects to assist SAMRC researchers and postgraduate students within the SAMRC

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: HEALTH POLICY RESEARCH UNIT

<b>Study/Programme</b> Contestations and complexities of nurses' participation in policy-making in South Africa	
<b>Principal investigator/First author</b> Prudence Ditlopo	
<b>Purpose of the programme/study</b> There has been increased emphasis globally on nurses' involvement in health policy and systems development. However, there has been limited scholarly attention on nurses' participation in policy-making in South Africa. This paper analyses the dynamics, strengths and weaknesses of nurses' participation in four national health workforce policies: the 2008 Nursing Strategy, revision of the Scope of Practice for nurses, the new Framework for Nursing Qualifications, and the Occupation Specific Dispensation (OSD) remuneration policy. Using a policy analysis framework, we conducted in-depth interviews with 28 key informants and 73 front-line nurses in four South African provinces.	
<b>Key findings</b>	This study found that South Africa's democracy increased and created opportunities for nurses' participation in health policy development. However, the majority of key informants and front-line nurses were of the opinion that nurses' participation in nursing policy development was sub-optimal. The study also found that nurses' participation in policy-making is both contested and complex. The contestation relates to the extent and nature of nurses' participation in nursing policies. There was limited consensus on which nursing group legitimately represented nursing issues in the policy arena. Shifting power relationships influenced who participated, how the participation happened, and the degree to which nurses' views and inputs were considered and incorporated. There was also a disjuncture between nursing leadership and front-line nurses in their levels of awareness of the four policies. The latter group was generally unaware of these policies with the exception of the OSD remuneration policy as it affected them directly.
<b>What does this mean?</b>	The importance of nurses to the success of health sector reforms in South Africa is unquestionable. The South African health system presents major opportunities for nurses to influence and direct policies that affect them. This will require a combination of proactive leadership by the recently appointed chief nursing officer, health policy capacity and skills development among nurses, and strong support from the national nursing association.

<b>Study/Programme</b> An experimental investigation of the impact of different health provider payment mechanisms	
<b>Principal investigator/First author</b> Dr Duane Blaauw	
<b>Purpose of the programme/study</b> Economic theory suggests that different provider payment mechanisms influence behaviour in predictable ways but empirical evidence of these effects is limited. We developed an innovative real effort economic experiment to reproduce the basic features of salary, fee for service (FFS) and capitation payments, and to investigate the impact of patient benefit in mitigating the negative effects of each mechanism. The experiment was conducted with medical students at the University of the Witwatersrand.	
<b>Key findings</b>	We confirmed a number of theoretical predictions in our laboratory experiments: salary led to the lowest level of effort, compared to FFS and capitation; quality was significantly lower under FFS; and FFS increased over-servicing and cheating behaviour. However, we also showed that individuals paid by salary had the highest quality of output, even though this was not directly incentivised. Finally, we found strong evidence that prospective doctors care about patients' benefits to the extent that this altruism mitigates the negative incentives created by the payment mechanisms.
<b>What does this mean?</b>	The current National Health Insurance (NHI) policy proposes significant changes to the methods of reimbursing health providers in South Africa. This research helps inform the reform of provider reimbursement schemes needed to improve health-worker performance in the move towards universal health coverage. Strategies to move away from FFS in the private sector should be supported. The introduction of pay for performance may improve the productivity of salaried providers, but it is important not to undermine the pre-existing altruistic motivation of health workers.

Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Laetitia Rispel: [Laetitia.rispel@wits.ac.za](mailto:Laetitia.rispel@wits.ac.za)

<b>Study/Programme</b> Utilisation and costs of nursing agencies in the South African public health sector, 2005-2010	
<b>Principal investigator/First author</b> Prof. Laetitia Rispel	
<b>Purpose of the programme/study</b> Globally, insufficient information exists regarding the costs of nursing agencies that are temporary employment service providers supplying nurses to health establishments and/or private individuals. The aim of the study was to determine the utilisation and direct costs of nursing agencies in the South African public health sector.	
<b>Key findings</b>	In the 2009/10 financial year, R1.49 billion were spent on nursing agencies in the public health sector. In the same year, agency expenditure ranged from a low of R36.45 million in Mpumalanga Province (mixed urban-rural) to a high of R 356.43 million in the Eastern Cape Province (mixed urban-rural). Agency expenditure as a percentage of personnel expenditure ranged from 0.96% in KwaZulu-Natal Province (mixed urban-rural) to 11.96% in the Northern Cape Province (rural). In that financial year, a total of 5 369 registered nurses could have been employed in lieu of nursing agency expenditure.
<b>What does this mean?</b>	The study has highlighted the need to plan strategically for the use of temporary agency nurses in the South African public health sector, and to monitor nursing agency expenditure as part of a comprehensive workforce plan. The development and implementation of nursing agency regulations and good practice guides must be a priority for the Department of Health. Ongoing monitoring of the utilisation of and expenditure on nursing agencies in the public sector is important.



## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: BURDEN OF DISEASE RESEARCH UNIT

Study/Programme	
Rapid mortality surveillance	
Principal investigator/First author	
Debbie Bradshaw	
Purpose of the programme/study	
To monitor trends in key mortality indicator levels using the age and sex details of the deaths on the National Population Register	
Key findings	The third report based on the rapid surveillance system that tracks the number of deaths on the National Population Register was released in 2015. Empirically based estimates show a substantial decrease in mortality with an increase in average life expectancy of 8 years since the low of 54 years in 2005. Maternal mortality appears to have started to decline in 2010, but earlier reductions in under-five mortality has stagnated in the past 3 years.
What does this mean?	The rapid mortality surveillance in South Africa demonstrates the potential to monitor key mortality indicators by adjusting for bias, following national efforts to strengthen birth and death registration. South Africa can serve as a model for other developing countries. Locally, the results indicate that although gains have been made through the extensive roll-out of anti-retroviral treatment, concerted efforts in the health sector, as well as improved living conditions, will be needed to achieve the MDG health-related goals.

Study/Programme	
Injury mortality survey	
Principal investigator/First author	
Richard Matzopoulos	
Purpose of the programme/study	
To estimate injury death rates in South Africa in 2009 based on a nationally representative survey of forensic pathology mortuaries	
Key findings	Almost half of injury deaths were intentionally inflicted. Homicide accounted for 36.2% of all injury deaths with an age standardised mortality rate of 38.4 per 100 000 population. This was almost three times the suicide rate of 13.4 and similar to the transport injury rate of 36.1 per 100 000 population. Gunshot injuries were a leading cause of death accounting for 17.6 deaths per day. Vital registration reported less than one-third of the homicide and road traffic deaths during the same period.
What does this mean?	The study demonstrates the feasibility and utility of using mortuary-based data to provide representative injury mortality information to monitor major injury trends and identify groups at risk. In the absence of regular injury mortality studies, efforts should be made to improve vital registration includes a manner of death field for injury deaths on the Death Notification Form. Internationally, the ICD-10 convention to code as accidental all injury deaths with limited information on intent (X59) should be revised to improve injury mortality statistics in high-violence settings such as South Africa.

Study/Programme	
Record-linkage comparison of verbal autopsy and routine civil registration death certification in rural north-east South Africa, 2006-2009	
First author	
Jané Joubert	
Purpose of the programme/study	
To examine the quality of rural cause-of-death data from civil registration in the Agincourt Health and Demographic Surveillance Site by comparing it with doctor-assigned cause-of-death data from verbal autopsies collected in the same surveillance site	
Key findings	After matching cases and creating a data set without personal details, it was found that less than 1 in 4 deaths was assigned the same cause when using the WHO Mortality Tabulation List 1 with 103 causes of death. The civil registration data show considerable mis-classification of HIV-disease. Of 672 verbal autopsy deaths attributed to HIV-disease (B20-B24), only 11% were assigned HIV codes in the civil registration data, and the remainder were assigned to 73 non-HIV codes. The most frequent single recipient-causes were diarrhoea (24%), tuberculosis (20%) and pneumonia (13%), but heart failure (1.5%) and stroke (1.5%) were also among the 10 leading recipient-causes. The findings additionally suggest higher reporting of diabetes coupled with lower reporting of cardiovascular disease deaths in the civil registration diagnoses. This study also highlighted concerns about the external causes in vital registration data.
What does this mean?	Considerable improvements over the past two decades have been reported in data-quality criteria such as completeness of death registration, timely public reporting and sub-national disaggregation of data. However, this rural study has confirmed previous findings of systematic biases in urban and national civil registration cause-of-death data, pointing to the country-wide urgency to improve the accuracy of cause attribution in mortality data collections from civil registration. There is a need to improve medical certification and improve injury-related information. Conducting a nationally representative validation study of civil registration cause data against 'gold standard' instruments, such as post-mortem autopsy reports or high-quality laboratory, hospital and other medical records, would likely boost confidence in the country's mortality data. Finally, to address the gap arising from poor cause-specification for home deaths, it is recommended that registration of these deaths in the civil registration system be augmented by the systematic collection of verbal autopsies to support the current practices for physician-certification at morgues.

Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Debbie Bradshaw: [Debbie.bradshaw@mrc.ac.za](mailto:Debbie.bradshaw@mrc.ac.za)

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: HEALTH SYSTEMS RESEARCH UNIT

<b>Study/Programme</b>	
External evaluation of the Integrated health system strengthening (IHSS) programme in Ethiopia, Mali, Mozambique, Ghana, Malawi and Niger	
<b>Principal investigator/First author</b>	
Prof Tanya Doherty	
<b>Purpose of the programme/study</b>	
To evaluate the effect of the IHSS on coverage of a package of proven, high-impact, and low-cost maternal and child health interventions in Ethiopia, Ghana, Malawi, Mali, Mozambique and Niger	
To inform programme and policy decisions in Ethiopia, Ghana, Malawi, Mali, Mozambique, Niger and regionally	
<b>Key findings</b>	The IHSS programme investment resulted in increased coverage of high-impact health interventions with increases in ORS (5 of 6 countries), measles vaccination (4 of 6 countries), insecticide treated nets (3 of 6 countries) and malaria treatment (3 of 6 countries) featuring prominently. Shifts in care-seeking behaviour were noted in Malawi and Niger, where care-seeking at community level has increased significantly over the period of IHSS implementation. Across the six countries EBF, DPT3 and care-seeking for suspected pneumonia have seen less improvement in coverage with only two countries achieving coverage of care-seeking for suspected pneumonia greater than 50% at endline. Utilisation of community-based health services was found to be low in several of the IHSS countries. However, qualitative data suggests positive attitudes towards CHWs.
<b>What does this mean?</b>	The IHSS programme has provided evidence that large-scale community-based platforms for delivery of MNCH and nutrition interventions are possible, suggesting that these programmes should be considered for national implementation. The community driven selection process of CHWs is recommended as it improves acceptability of selected health workers. However, there is a need for checks and balances to ensure fair opportunities for qualified applicants and a participatory consultative recruitment process. The two tiered community level health cadre system is recommended as it ensures an equitable distribution of tasks between health promotion through home visits and curative service provision. When not in place, sufficient CHWs to population ratios must be ensured to allow them to provide these dual roles. Data revealing levels of drug stock-outs and expired drugs should be in place to identify the need for stock management training and better quantification of drug requirements to avoid unnecessary costs through the mismanagement of drugs. Supervision with observation of case-management needs to be improved by ensuring accountability mechanisms are in place. The challenges to adequate supervision can be addressed through innovations including mentorship programmes in health facilities, integrated supervision visits, use of simple objective supervision checklists and specific budget line allocations for supervision. More research is needed to understand what influences mothers' choices of place of treatment for their ill children.

<b>Study/Programme</b>	
The impact of the child support grant (CSG) on child outcomes in three diverse settings in South Africa	
<b>Principal investigator/First author</b>	
Dr Wanga Zembe	
<b>Purpose of the programme/study</b>	
To explore the experiences of CSG recipients in order to understand the adequacy of the grant to meet the needs of child beneficiaries in poor households	
To assess the effect of child support grants on child nutritional status	
To assess and explore barriers to successful grant receipt	
<b>Key findings</b>	For many of the families, the CSG was the main source of income, without which they would have no means of meeting their children's needs. Further, the findings show that the CSG is an important source of financial support for all families, irrespective of geographical location or household composition, providing basic needs such as food, schooling and health care. The grant expands the roles of recipients as consumers, opening up otherwise unavailable opportunities to feed their children, mitigate financial crises, and participate in local savings schemes. Further, the grant allows access to reciprocal exchange networks, such as informal credit, to alleviate their poverty and manage vulnerability. However, despite the evidence that the CSG is important in tackling child poverty, our research found limitations of the CSG in terms of its adequacy, design, administration and impact on child growth. The design of the CSG programme as a means-tested cash transfer prevents many eligible and deserving children from accessing it, as caregivers go through an arduous, costly process to prove that they are eligible for the grant. In our study, receipt of the CSG was sub-optimal amongst eligible children under 2 years of age showing administrative requirements such as possessing a birth certificate, to be a serious barrier to access. For child growth, our study results indicate higher levels of education as having a protective effect on stunting. However, our study did not find an association between CSG receipt and improved height-for-age for children under 2 years, and long duration of receipt (18 months or longer) had no effect on stunting after controlling for important risk factors such as HIV exposure status and low birth weight. Findings from the qualitative study with CSG recipients revealed that recipients of the grant view it as a crucial source of income but as inadequate to reach even its stated goal of meeting the nutritional needs of recipients.



Two research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Catherine Mathews: [cathy.mathews@mrc.ac.za](mailto:cathy.mathews@mrc.ac.za)

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: SOUTH AFRICAN COCHRANE CENTRE

<b>Study/Programme</b> Cochrane systematic review: Task shifting from doctors to non-doctors for initiation and maintenance of antiretroviral therapy	
<b>Principal investigator/First author</b> Tamara Kredo	
<b>Purpose of the programme/study</b> High levels of health-care worker shortages are recognised as a severe impediment to increasing patients' access to antiretroviral therapy (ART). This is particularly of concern where the burden of disease is greatest and access to trained doctors is limited. This systematic review aimed to evaluate the quality of initiation and maintenance of HIV/AIDS care in models that task shift care from doctors to non-doctors.	
<b>Key findings</b>	Ten studies were included in the review, all of which were conducted in Africa. Four were randomised controlled trials and six were cohort studies. The review found that if nurses are trained and supported to deliver ART, nurses are as good as doctors in delivering care. This is particularly so when nurses initiated ART - the care they provided was no different to doctor-led care in terms of deaths, and there were fewer patients lost to follow-up when nurses were the primary care giver. In a setting where doctors started the ART, and the treatment was continued by specially trained nurses, we found that there was probably no difference in the numbers of patients who died or were lost to follow up with nurses providing their care. In addition, for community-based HIV care, compared to doctor-led care, there was no difference in the numbers of patients who died, or those lost to follow up when ART was provided by specially trained and supervised field workers.
<b>What does this mean?</b>	Overall, there is moderate quality evidence that substitution of nurses or community workers for doctors to initiate and maintain ART in adults in lower- and middle-income countries is feasible and probably does not compromise the quality of care provided. Adequate training, support and mentoring for non-doctors should be provided and organisational structures put in place to support the shifting of tasks to ensure high-quality clinical care. This review informed the World Health Organization's Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection, June 2013 <a href="http://apps.who.int/iris/bitstream/10665/85321/1/9789241505727_eng.pdf">http://apps.who.int/iris/bitstream/10665/85321/1/9789241505727_eng.pdf</a> . In the guidelines, there was a strong recommendation that trained non-physician clinicians, midwives and nurses can initiate and maintain antiretrovirals.

<b>Study/Programme</b> Cochrane systematic review: Treatment of severe or progressive Kaposi's sarcoma in HIV-infected adults.	
<b>Principal investigator/First author</b> Oluwatoyin Gbabe	
<b>Purpose of the programme/study</b> Kaposi's sarcoma is the most frequently observed HIV-associated malignancy in resource-poor settings. Widespread use of antiretroviral therapy (ART) has reduced Kaposi's sarcoma incidence, but its incidence remains high in countries where HIV is prevalent, and is still associated with poor survival. This systematic review aimed to assess the added advantage of chemotherapy plus ART compared to ART alone; and the advantages of different chemotherapy regimens in both ART experienced and ART naive HIV-infected adults with severe or progressive Kaposi's sarcoma.	
<b>Key findings</b>	A trial comparing ART plus doxorubicin, bleomycin and vincristine (ABV) to ART alone showed significant (90%) reduction in cancer disease progression and 78% increased overall clinical response in the ART plus ABV group, but no significant reduction in mortality and no difference in adverse events. Comparing liposomal anthracyclines plus ART to ART alone, overall clinical response favoured liposomal anthracyclines but was not statistically significant.
<b>What does this mean?</b>	In adults with severe Kaposi's sarcoma, chemotherapy in addition to ART compared to ART alone provides a clinical response benefit and prevents disease progression. In HIV-infected adults diagnosed with severe symptomatic Kaposi's sarcoma, immediate ART initiation in combination with systemic chemotherapy is recommended. This systematic review informed evidence on Kaposi's sarcoma treatment in the World Health Organisation's guidelines on the treatment of skin and oral HIV-associated conditions in children and adults, 2014 <a href="http://apps.who.int/iris/bitstream/10665/136863/1/9789241548915_eng.pdf">http://apps.who.int/iris/bitstream/10665/136863/1/9789241548915_eng.pdf</a>

Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Jimmy Volmink: [jvolmink@sun.ac.za](mailto:jvolmink@sun.ac.za)

<b>Study/Programme</b> Low carbohydrate versus isoenergetic balanced diets for reducing weight and cardiovascular risk: A systematic review and meta-analysis.	
<b>Principal investigator/First author</b> Celeste Naude	
<b>Purpose of the programme/study</b> Being overweight and obese increases the risk of heart disease, type-2 diabetes, high blood pressure, stroke and other chronic lifestyle conditions. As people's weight increases, these risks also tend to increase. This systematic review aimed to compare the effects of low carbohydrate and isoenergetic balanced diets on weight loss and changes in known cardiovascular risk factors in overweight and obese adults.	
<b>Key findings</b>	Nineteen randomised-controlled trials with 3 209 overweight and obese participants were included. The review included both extreme low-carbohydrate diets high in both protein and fat (high-fat variant), and less extreme low carbohydrate diets that are high in protein but with recommended intakes of fat (high protein variant). In this review, low carbohydrate diets were defined as those that contained less carbohydrate than the lower end of the recommended range (<45% of total dietary energy as carbohydrates). Trials show weight loss in the short-term irrespective of whether the diet is low carbohydrate or balanced. There is probably little or no difference in weight loss and changes in cardiovascular risk factors for up to two years of follow-up when overweight and obese adults, with or without type-2 diabetes, are randomised to low carbohydrate diets and isoenergetic balanced weight-loss diets.
<b>What does this mean?</b>	Some popular weight-loss diets restricting carbohydrates claim to be more effective, and have additional health benefits in preventing cardiovascular disease compared to balanced weight-loss diets. This review found that overweight and obese people with or without diabetes lost weight if they restricted their dietary energy intake, irrespective of whether they followed a low-carbohydrate or balanced weight-loss diet.



## // PART B: PERFORMANCE INFORMATION



### PROGRAMME 5: PUBLIC HEALTH INNOVATION

#### PURPOSE OF PROGRAMME

To promote the improvement of health and quality of life (impact prevention of ill health, improvement of public health and treatment) in the Republic of South Africa through innovation, and technology development and transfer

#### UNITS THAT CONSTITUTE THIS PROGRAMME

- Drug Discovery and Development Research Unit
- Primate Unit and Delft Animal Centre
- Medical Imaging Research Unit
- Diabetes Discovery Platform

#### PROGRAMME STRATEGIC OBJECTIVES

- To establish key modern technology (enabling) platforms to facilitate generation of new drug discovery knowledge through world-class applied research
- To establish and manage research laboratories and facilities as state-of-the-art national research facilities for research and development
- To train and mentor a new generation of high-quality postgraduate students and postdoctoral fellows in multi-disciplinary research, and in so doing, equip them to compete in the science and/or education sectors nationally and internationally
- To strengthen research and development to build on and enhance public health innovation
- To increase the body of scientific knowledge through research translation into products, patents, research papers, policy, practice and health promotion (including to the general public)
- To increase the number of health-care innovations and to produce patents based on new discoveries and new research methodologies

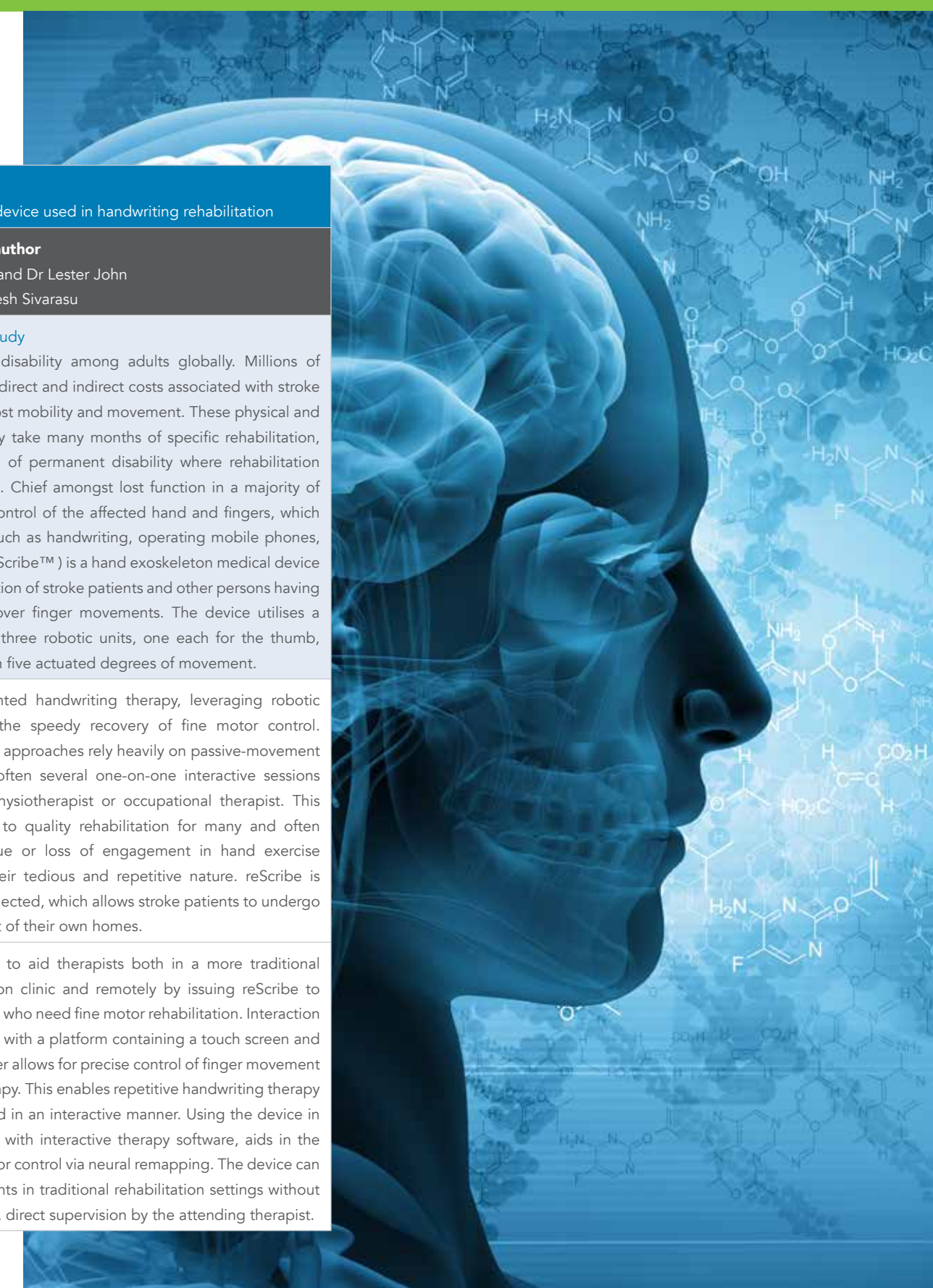
## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: MEDICAL IMAGING RESEARCH UNIT

<b>Study/Programme</b>	
Automated statistical shape modelling of bone	
<b>Principal investigator/First author</b>	
Dr Tinashe Mutsvangwa	
<b>Purpose of the programme/study</b>	
The development of shape models of bone, particularly in 3D, often involves capturing the variation in instances of the object of interest. In order to do this, a correspondence of landmarks, features, (vertices, for 3D surfaces) needs to be established across the sample of objects. Automating this process however, can be challenging especially in 3D, and in particular for certain structures that exhibit a large amount of variation across the sample and that are also complex in terms of anatomical shape.	
<b>Key findings</b>	An approach has been proposed that overcomes the shortcomings evident in most statistical shape model development. It presents an automated pipeline for statistical shape model development that can handle a complex shape, such as the human scapula, which has large variability and a very thin medial surface.
<b>What does this mean?</b>	Bone shape models produced using the development pipeline allow reconstruction of patient-specific bony structures, which is useful in surgical planning.

<b>Study/Programme</b>	
Examining the effects on brain structure associated with prenatal alcohol exposure in newborns	
<b>Principal investigator/First author</b>	
First Author: Dr Paul Taylor Principal investigator: Prof Ernesta Meintjes	
<b>Purpose of the programme/study</b>	
Prenatal alcohol exposure is known to have severe, long-term consequences for brain and behavioural development already detectable in infancy and childhood. Resulting features of foetal alcohol spectrum disorders include cognitive and behavioural effects, as well as facial anomalies and growth deficits. The study used diffusion tensor imaging to analyse the development of white matter in the brain in newborns.	
<b>Key findings</b>	Axial diffusivity was the parameter that showed the strongest association with maternal drinking. The strongest relations were observed in medial and inferior white matter, regions in which the myelination process typically begins.
<b>What does this mean?</b>	This study is the first to use neuroimaging to compare structural brain development in newborns with prenatal alcohol exposure to that of healthy controls, and it is the first to use diffusion tensor imaging to examine the effects of prenatal alcohol exposure in the neonatal period. This is also the first study to implement neuroimaging of non-sedated newborns in South Africa.

<b>Study/Programme</b>	
A hand exoskeleton medical device used in handwriting rehabilitation	
<b>Principal investigator/First author</b>	
Inventors: Mr Yasheen Brijlal and Dr Lester John Principal investigator: Dr Sudesh Sivasaru	
<b>Purpose of the Programme/Study</b>	
Stroke is a major cause of disability among adults globally. Millions of families are vulnerable to the direct and indirect costs associated with stroke survivors who fail to recover lost mobility and movement. These physical and neurological impairments may take many months of specific rehabilitation, and can result in some form of permanent disability where rehabilitation is not successfully completed. Chief amongst lost function in a majority of stroke victims is fine motor control of the affected hand and fingers, which is needed to perform tasks such as handwriting, operating mobile phones, and so on. The innovation (reScribe™) is a hand exoskeleton medical device used in handwriting rehabilitation of stroke patients and other persons having limited or impaired control over finger movements. The device utilises a tripod handwriting grip with three robotic units, one each for the thumb, index and middle fingers, with five actuated degrees of movement.	
<b>Key findings</b>	reScribe uses task-oriented handwriting therapy, leveraging robotic technology, to aid in the speedy recovery of fine motor control. Traditional rehabilitation approaches rely heavily on passive-movement oriented therapy, and often several one-on-one interactive sessions with the appropriate physiotherapist or occupational therapist. This approach limits access to quality rehabilitation for many and often results in patient fatigue or loss of engagement in hand exercise programmes due to their tedious and repetitive nature. reScribe is portable and easily connected, which allows stroke patients to undergo treatment in the comfort of their own homes.
<b>What does this mean?</b>	The device is intended to aid therapists both in a more traditional setting of a rehabilitation clinic and remotely by issuing reScribe to appropriate out-patients who need fine motor rehabilitation. Interaction of the hand exoskeleton with a platform containing a touch screen and a computerised controller allows for precise control of finger movement during handwriting therapy. This enables repetitive handwriting therapy exercises to be executed in an interactive manner. Using the device in a task-oriented manner, with interactive therapy software, aids in the recovery of lost fine motor control via neural remapping. The device can be used by stroke patients in traditional rehabilitation settings without the need for continuous, direct supervision by the attending therapist.



Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Tania Douglas: [Tania.douglas@uct.ac.za](mailto:Tania.douglas@uct.ac.za)

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

#### UNIT NAME: DRUG DISCOVERY AND DEVELOPMENT RESEARCH UNIT

<b>Study/Programme</b> Malaria drug discovery	
<b>Principal investigator/First author</b> Kelly Chibale and Claire le Manach	
<b>Purpose of the programme/study</b> To generate antimalarial leads with efficacy in malaria mouse models	
<b>Key findings</b>	A novel class of imidazopyridazine molecules identified from whole cell high throughput screening of a Softfocus kinase library was successfully synthesised and evaluated for antiplasmodial activity against a multidrug resistant strain and a sensitive strain. Structure-activity relationship studies led to the identification of highly potent compounds against both strains. One compound was highly active and comparable in potency to artesunate. This compound also exhibited 98% activity in the in vivo <i>Plasmodium berghei</i> mouse model (4-day test by Peters) at 4x50 mg/kg given orally and was also assessed against <i>Plasmodium falciparum</i> in the in vivo humanised SCID mouse model where the efficacy was found to be more consistent with the in vitro activity. The lead compound displayed high (78%) rat oral bioavailability with good oral exposure and plasma half-life. Mice exposure at the same dose was 10-fold lower than in rat, suggesting lower oral absorption and/or higher metabolic clearance in mice.
<b>What does this mean?</b>	When there is a disconnect between in vivo oral efficacy in the rodent malaria <i>Plasmodium berghei</i> model and in vitro activity against <i>Plasmodium falciparum</i> parasites, it suggests a parasite strain difference. It is important to understand this disconnect by testing for in vivo efficacy against <i>Plasmodium falciparum</i> in the humanised SCID mouse model, which is more consistent with the in vitro activity against <i>Plasmodium falciparum</i> parasites.

<b>Study/Programme</b> Tuberculosis drug discovery	
<b>Principal investigator/First author</b> Kelly Chibale and Digby Warner/Elizabeth Kigundu	
<b>Purpose of the programme/study</b> To investigate contribution of metabolites to pharmacological activity and in drug combination studies	
<b>Key findings</b>	The antimycobacterial activities of the antipsychotic drug chlorpromazine and its metabolites were evaluated alone and in combination with anti-tuberculosis drugs. Although associated with limited anti-mycobacterial activity when tested individually, chlorpromazine and its metabolites exhibited clear synergy when tested in combination with a number of aminoglycosides as well as the active metabolite of rifampicin, 25-desacetyl-rifampicin. The combination of chlorpromazine and spectinomycin was associated with the greatest synergy. Synergistic interactions were also observed for combinations of the 7-hydroxychlorpromazine or nor-chlorpromazine metabolites with kanamycin, streptomycin, spectinomycin and 25-desacetyl-rifampicin.
<b>What does this mean?</b>	Chlorpromazine and its metabolites can potentiate the activity of a number of anti-tuberculosis drugs. The similarity in activity of the metabolites to chlorpromazine may offer alternate paths to the investigation of these agents as potential anti-tuberculosis drugs.

<b>Study/Programme</b> Tuberculosis drug discovery	
<b>Principal investigator/First author</b> Kelly Chibale/Kawaljit Singh	
<b>Purpose of the programme/study</b> To evaluate their inhibitory activities of the calcium channel block verapamil and synthetic new analogues against <i>Mycobacterium tuberculosis</i> H37Rv determined in vitro alone and in combination with rifampicin (RIF).	
<b>Key findings</b>	Some new analogues of verapamil showed comparable activity to verapamil and exhibited better synergies with RIF. One of the most promising analogues delivered a 4-fold improvement in the activity of RIF, which is comparable to verapamil. In addition, this analogue exhibited superior synergistic interactions with RIF, which was superior relative to verapamil. Molecular docking studies of the binding sites of Rv1258c, a <i>Mycobacterium tuberculosis</i> efflux protein previously implicated in intrinsic resistance to RIF, suggested a potential rationale for the superior synergistic interactions observed with some analogues.
<b>What does this mean?</b>	This preliminary study paves the way for further exploration of verapamil analogues as potential efflux pump inhibitors in the treatment of both drug sensitive and multidrug-resistant tuberculosis.



Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Kelly Chibale: [Kelly.chibale@uct.ac.za](mailto:Kelly.chibale@uct.ac.za)

// PART B: PERFORMANCE INFORMATION



**PROGRAMME 6: BIOMEDICAL RESEARCH**

**PURPOSE OF PROGRAMME**

To conduct basic research, applied research and transactional research to determine predisposition to disease. This understanding is important for planning effective intervention and disease control

**UNITS THAT CONSTITUTE THIS PROGRAMME**

- Immunology of Infectious Disease Research Unit
- Inter-University Cape Heart Research Unit
- Receptor Biology Research Unit
- Human Genetics Research Unit
- Bioinformatics Capacity Development Research Unit

**PROGRAMME STRATEGIC OBJECTIVES**

- To generate scientific knowledge in the field of biomedical science, which will provide insights into various diseases of national priority, thus leading to novel diagnostic, preventive and therapeutic strategies
- To undertake original research of high quality, which will provide novel insights into acute and chronic inflammatory diseases of national priority, thus leading to novel diagnostic, preventive and therapeutic strategies
- To train and mentor high-quality postgraduate students who are able to compete in the science, health and/or education sectors locally and abroad
- To strengthen biomedical research through a policy of enabling researchers from other academic institutions to have access to sophisticated laboratory equipment and supervision; in addition, to provide assistance to national research funding agencies with respect to evaluating applications for research funding
- To translate research data into policy and practice regarding prevention, diagnosis, treatment and management of diseases
- To develop and test biomedical innovations that will address various conditions
- To develop health-care management systems and plan a 'gene therapy' intervention programme for retinal degenerative diseases

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: INTER-UNIVERSITY CAPE HEART RESEARCH UNIT

<b>Study/Programme</b> Heart valves	
<b>Principal investigator/First author</b> Peter Zilla and Deon Bezuidenhout	
<b>Purpose of the programme/study</b> The use of polymeric heart valves was comprehensively reviewed in order to identify and inform technologies aimed at the affordable and accessible treatment of millions of patients with rheumatic heart disease in the developing world	
<b>Key findings</b>	Various polymeric materials have been investigated for more than 50 years, but have failed to be translated into clinically used products, except in the case of heart assist devices that are limited in the duration of application. Some polymers, especially polyurethanes, offered exceptional fatigue resistance when fashioned into surgically implantable valves (more than a billion cycles, equivalent to 25 years), but were still susceptible to long-term degradation and a potential for developing thrombus and calcium deposition when implanted. More recently, developed catheter-based valves that can be implanted without open-heart surgery, are still made by hand from treated animal tissue, are very expensive (\$30 000), and require large sophisticated operating theatres for their implantation. There is thus a need for affordable valves that can be implanted without the need for open-heart surgery or sophisticated equipment.
	The use of stable new-generation polymeric materials, combined with expandable stents for minimally invasive delivery, has large potential in terms of mass-production and thus reduced cost (by a factor of 20) of replacement heart valves. A non-occlusive delivery device that has self-homing and non-occlusive properties is required in order to implant these valves to obviate the need for sophisticated theatres and equipment. Polymeric transcatheter valves and delivery devices are currently under development, with the goal of providing affordable treatments for current sufferers of rheumatic heart disease, and for use as a platform for development of tissue engineered heart valves that are regenerated in the body.
<b>What does this mean?</b>	

<b>Study/Programme</b> Lipidology	
<b>Principal investigator/First author</b> G Lambert	
<b>Purpose of the programme/study</b> To establish whether antibodies to PCSK9 will lower LDL concentration in patients with homozygous familial hypercholesterolaemia	
<b>Key findings</b>	South Africa is known for its high prevalence of familial hypercholesterolaemia due to LDL receptor defects in several of its population groups. This condition is usually fatal by the age of 30 years, and is poorly responsive to statins and other cholesterol-lowering medication, but is helped by plasmapheresis. Plasmapheresis requires a machine to remove blood and various techniques to separate LDL. It has to be repeated at fortnightly intervals and is expensive. For these reasons, it is available to very few patients in South Africa and alternative strategies need to be explored. A new treatment has been developed in which antibodies that neutralise PCSK9 prevent the effect of PCSK9 that degrades the LDL receptor. Thus, on first principles, this strategy may not work as there is little or no LDL receptor function. However, research in Cape Town over the past 30 years has clearly indicated that in some cases there is residual activity of the LDL receptor, which means that some increase in function can be expected. This study clearly demonstrated that cells from subjects with residual LDL receptor function can increase LDL uptake and thus that such patients could benefit from the treatment.
	This study clearly demonstrates that a new mode of treatment can be effective in some patients with homozygous familial hypercholesterolaemia. Key recommendations from the study are that patients suspected of having homozygous familial hypercholesterolaemia should have a comprehensive diagnostic work-up and special centres should develop the expertise to judiciously manage these disorders. Laboratories at tertiary health-care facilities need to provide this service to enhance health-care.
<b>What does this mean?</b>	

<b>Study/Programme</b> Proanthocyanidins, anthocyanins and cardiovascular diseases	
<b>Principal investigator/First author</b> Collaboration: Maria J. Kruger, Neil Davies, Kathryn H. Myburgh, Sandrine Lecour	
<b>Purpose of the programme/study</b> This collaboration aimed to provide a review of basic science and clinical evidence for the effectiveness of these flavonoids against cardiovascular diseases, and discuss the possible mechanisms of action and cellular signalling pathways involved in this effect	
<b>Key findings</b>	Epidemiological studies have shown that plant-based diets may improve human health and protect against CVD. Specific attention has been focused on flavonoids in general, and their ability to inhibit low density lipoprotein (LDL) oxidation, platelet aggregation and adhesion, as well as the enzymes involved in lipid and lipoprotein metabolism and to increase reverse cholesterol transport. With particular reference to proanthocyanidins, it has been found that proanthocyanidins increase plasma antioxidant capacity, protect the intestinal mucosa against oxidative stress, have a positive effect on vascular function and reduce platelet activity. However, virtually no data from human subjects are available on the effects of proanthocyanidins and anthocyanins exclusively on CVD. Rather, studies have been reported on red wine consumption and berry supplementation; both of which also contain other potentially beneficial components. In order to determine conclusively if proanthocyanidins and anthocyanins are beneficial, we recommend that studies should investigate the effect of isolated compounds rather than dietary food and fluid intake changes. Proanthocyanidins are particularly complex, and have various degrees of polymerisation and acylation in different fruits and vegetables. Although anthocyanins were originally believed to have a low bioavailability, recent studies have revealed that the bioavailability of these flavonoids was largely underestimated since all of their metabolites might not have been identified. Mechanisms for the positive effects of proanthocyanidins and anthocyanins were also reviewed. These studies were conducted mainly in cell culture models, from mice or rats. Supplementation with anthocyanins and grape seed proanthocyanidins improves post-ischemic ventricular recovery and reduces the incidence of reperfusion-induced ventricular fibrillation (VF) and ventricular tachycardia (VT) (an effect mediated through its anti-oxidative and anti-apoptotic effects).

<b>Key findings</b>	Grape seed proanthocyanidins attenuate oxidative stress in cardiomyocytes, a phenomenon mediated by signal transducer and activator of transcription (STAT)-1. This effect of anthocyanidins and proanthocyanidins might explain the decrease in cardiovascular damage with anthocyanidin consumption due to its interaction with Akt and nitric oxide. Low concentrations of bilberry extract containing 15 different anthocyanins (0.01-1 mg/L) attenuates the extent of ischemia-reperfusion (I-R) injury by decreasing the release rate of lactate dehydrogenase (LDH), increasing post-ischaemic coronary flow and decreasing the incidence and duration of reperfusion arrhythmias. High concentrations (5-50 mg/L) above physiological level, on the other hand, diminish cardioprotection and show cardiotoxic effects despite an increase in their radical scavenging and intracellular antioxidant capabilities. These data clearly indicate that extensive basic scientific investigation is still required.
	Due to the ever-increasing cost of curative medicine, preventative medicine that is cost-effective has become vital for improving health in western societies with disadvantaged social economic backgrounds. Nutritional recommendations represent a feasible means of protecting against cardiovascular diseases. Dietary flavonoids have received considerable attention as epidemiological studies have suggested that regular consumption of flavonoid-rich foods and beverages is associated with a decreased risk of cardiovascular mortality. Flavonoids, also termed bioflavonoids, form part of the polyphenol family and consist of a large group of water-soluble pigments responsible for the many shades of yellow, orange and red in flowers, fruit and leaves. There is also evidence that shows that proanthocyanidins and anthocyanidins specifically protect against cardiovascular diseases. These beneficial effects appear to be mediated by various signalling pathways and mechanisms acting either independently or synergistically. Although not studied as extensively as the other flavonoids, supplementing the diet with proanthocyanidins and anthocyanidins may be a useful approach in modifying the severity of cardiovascular diseases and other cardiovascular-linked cardiomyopathies. Some studies have shown that low doses may be beneficial, whereas high doses have toxic effects. Therefore, future studies should include the use of pure anthocyanidin and proanthocyanidin extracts, and determine dose effects. Supplementing rodent models with anthocyanidin and proanthocyanidin extracts, either chronically (preceding a cardiovascular cardiomyopathy) or acutely (post-cardiomyopathy), will determine the potential benefit to patients who suffer from or are prone to cardiovascular diseases. If these prove useful, then trials could proceed in human subjects.
<b>What does this mean?</b>	

#Three research highlights from this unit are listed below. More information on each of the research highlights can be acquired by contacting the Unit Director as follows: Prof. Peter Zilla: peter.zilla@uct.ac.za

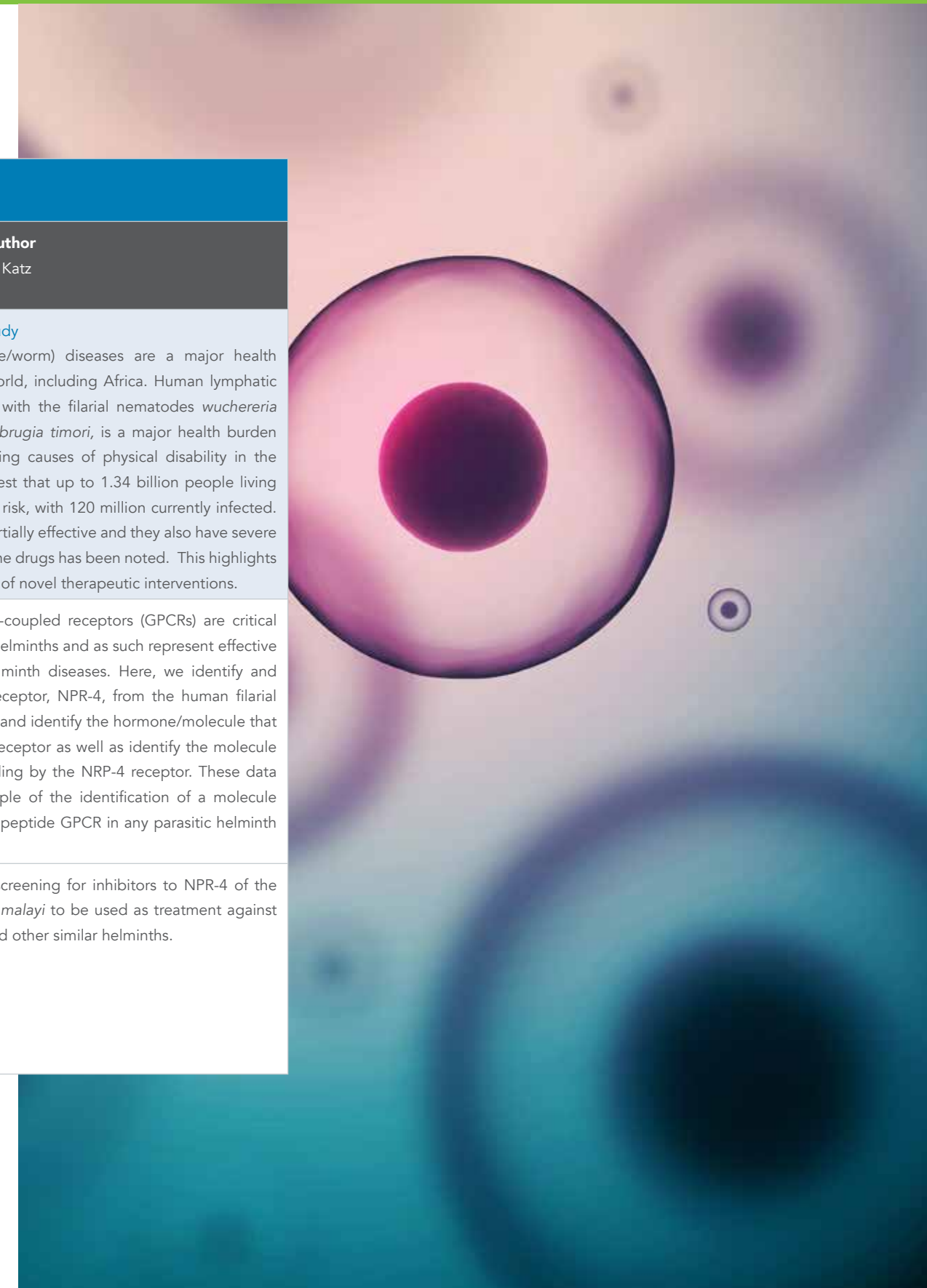
## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS UNIT NAME: UCT/MRC RECEPTOR BIOLOGY RESEARCH UNIT

Study/Programme	
Women's health, sexually transmitted infections and cancer	
Principal investigator/First author	
Principal Investigator: Arie A Katz First Author: Kurt J Sales	
Purpose of the programme/study	
Impact of cervical cancer and seminal fluid on expression of HIV receptors by cervical cells	
Key Findings	HIV infects cells via specific cell receptors that enable docking and entry of the virus (the receptors are CD4 together with mainly CCR5). In the present study, we found that CD4 and CCR5 expression was elevated in cervical cancer tissue compared with normal cervix. In addition, we have shown that seminal fluid (the ejaculate during sexual intercourse) significantly increases the expression of CD4 and CCR5 of normal and cancerous cervical cells. We have also identified the molecular mechanism through which seminal fluid increases the expression of the HIV-receptor CCR5.
What does this mean?	These findings demonstrate that cervical cancer is a risk factor for contracting HIV, since the levels of the receptors that enable HIV infection are higher in cervical cancer tissue relative to normal cervical tissue. In addition, this study implicates seminal fluid in the regulation of the receptors for HIV infection in the cervix in sexually active women and suggests that seminal fluid may enhance susceptibility to HIV infection. Furthermore, the enzyme COX-1, which can be blocked by aspirin, is required for the up-regulation of the HIV receptor CCR5 by seminal fluid. Our observations for the role of COX-1 in regulating HIV receptor expression suggest that administration of non-steroidal anti-inflammatory drugs like aspirin to suppress COX-enzyme activity in sexually active women might reduce susceptibility to HIV infection.

Study/Programme	
Women's health, sexually transmitted infections and cancer	
Principal investigator/First author	
Principal Investigator: Arie A Katz First Author: Anthony O Adefuye	
Purpose of the programme/study	
Role of Inflammation in cervical cancer development	
Key findings	It is well accepted that human papilloma virus (HPV) causes cervical cancer. However, it takes 10-15 years from HPV infection to cancer development and other factors are believed to be involved. Inflammation has been recognised as a contributing factor in cancer development. Seminal fluid is pro-inflammatory and we have found that seminal fluid also induces the expression of Interleukin 1 $\beta$ (IL-1 $\beta$ ), which is a potent pro-inflammatory factor that also possesses tumorigenic properties. Accumulative evidence suggests that IL-1 $\beta$ plays a crucial role in tumour development since it stimulates tumour growth and spread in the body, and stimulates production of blood vessels that are required to maintain the growth of the tumour. This study shows that IL-1 $\beta$ is increased in cervical tissue in response to seminal fluid and identifies the factors within seminal fluid that are responsible for induction and secretion of IL-1 $\beta$ in cervical cells. Furthermore, this study identifies the molecules that mediate the induction of IL-1 $\beta$ in normal and cancerous cervical cells by seminal fluid.
What does this mean?	The study shows that seminal fluid up-regulates potent inflammatory pathways and pathways that stimulate blood vessels, development in cervical cells, and indicates that seminal fluid can exacerbate the development of cervical cancer. The study suggests the use of barrier contraceptives as a method of preventing cervical cancer, not only as a barrier against HPV transmission, but as a method of preventing the inflammatory actions of seminal fluid on the cervical micro-environment. In the absence of barrier contraceptives, our research has highlighted the potential advantages of using inhibitors to IL-1 $\beta$ induction by seminal fluid or inhibitors of IL-1 $\beta$ activity.

Study/Programme	
Infectious diseases	
Principal investigator/First author	
Principal Investigator: Arie A Katz First Author: Ross C Anderson	
Purpose of the programme/study	
Parasitic helminth (nematode/worm) diseases are a major health problem in the developing world, including Africa. Human lymphatic filariasis, caused by infection with the filarial nematodes <i>wuchereria bancrofti</i> , <i>brugia malayi</i> , and <i>brugia timori</i> , is a major health burden representing one of the leading causes of physical disability in the world. Recent estimates suggest that up to 1.34 billion people living in endemic regions may be at risk, with 120 million currently infected. Current treatments are only partially effective and they also have severe side effects and resistance to the drugs has been noted. This highlights the need for the development of novel therapeutic interventions.	
Key findings	Neuropeptide G-protein-coupled receptors (GPCRs) are critical for the development of helminths and as such represent effective drug targets against helminth diseases. Here, we identify and clone a neuropeptide receptor, NPR-4, from the human filarial nematode <i>Brugia malayi</i> and identify the hormone/molecule that can activate the NPR-4 receptor as well as identify the molecule that mediates the signalling by the NPR-4 receptor. These data represent the first example of the identification of a molecule that can activate a neuropeptide GPCR in any parasitic helminth species.
What does this mean?	This study enables the screening for inhibitors to NPR-4 of the filarial nematode <i>Brugia malayi</i> to be used as treatment against this parasitic helminth and other similar helminths.



Three research highlights from this unit are listed. More information on each of the research highlights can be acquired by contacting the unit director Prof. Arie A Katz: [arieh.katz@uct.ac.za](mailto:arieh.katz@uct.ac.za)

## // PART B: PERFORMANCE INFORMATION

### SELECTED RESEARCH HIGHLIGHTS FROM PROGRAMME UNITS

#### UNIT NAME: STRATEGIC HEALTH INNOVATION PARTNERSHIPS (SHIP)



L-R: Rizwana Mia, Candice Roux, Richard Gordon, Patrcik Dheyongera, Lungelwa Kula, Anthea van Blerk and Nereshnee Moodley

#### Study/Programme

Development of a clinically applicable diagnostic test kit and pharmacogenomics algorithm for breast cancer

#### Principal investigator/First author

Prof Kotze and Maritha J

#### Purpose of the programme/study

The objective of this study is to develop a testing algorithm for simultaneous assessment of BRCA founder mutations and other biomarkers found to be clinically useful in cancer prevention and targeted treatment. Genetic testing is combined with histopathology and biochemistry testing, as appropriate, prior to the selection of patients for targeted treatment.

#### Key findings

Breast cancer genetics studied in the context of tumour pathology underlying four major disease subtypes that differ in their response to treatment. Whole exome sequencing in BRCA mutation-negative breast cancer patients (<30 years) resulted in the identification of intermediate-risk genetic variants involved in the DNA mismatch repair pathway. The clinical significance of the gene variants identified is currently evaluated in an extended patient and control group for confirmation of the next generation sequencing results. Causative genetic variants and those associated with cumulative risk will be included as part of a pathology-supported genetic testing strategy used to select the right drug for the right patient at the right time, and to facilitate cancer prevention in at-risk family members. The ability to read out multiple gene profiles from the same genomics platform expanded the clinical utility of the testing approach and provides a solution for the clinical dilemma presented by equivocal or contradictory results that may be obtained by different assays used for selection of specific anti-cancer treatments.

#### What does this mean?

A novel pathology-supported genetic testing strategy has been developed to save lives and reduce health-care costs by using appropriate pre-screening and treatment algorithms based on dysfunctional disease pathways identified in South African breast cancer patients.



Roxana Rustomjee and Zoleka Ngcete

For more information, please contact  
Dr Richard Gordon: [richard.gordon@mrc.ac.za](mailto:richard.gordon@mrc.ac.za)

## // PART B: PERFORMANCE INFORMATION

### STRATEGIC OBJECTIVES, PERFORMANCE INDICATORS, PLANNED TARGETS AND ACTUAL ACHIEVEMENTS

2014/15 SAMRC Annual Performance									
Strategic GOAL	Strategic Objective	Annexure E: Technical Description	Indicator No.	Programme Performance Indicator	Reporting period: 2014/15 Performance Target		Frequency	TOTAL	Variance
Administer health research effectively and efficiently in South Africa	To ensure good governance, effective administration and compliance with government regulations	Audit opinion expressed by Auditor General	1,1	Compliance with legislative prescripts, reflected in audit findings relating to the processes and systems of the MRC	Clean		Annual	Clean	
		Percentage of baseline (government) funding that is spent on salaries and operations of all corporate administrative functions.	1,2	% of the 2014/15 government allocated MRC budget spent on administration	30%		Annual	21%	
Lead the generation of new knowledge and facilitate its translation into policies and practices to improve health	To produce and disseminate new scientific findings and knowledge on health	Total number of accredited publications in which one of the authors has a listed affiliation as the MRC, usually because the author is an MRC intra- or extramural unit, funded through baseline or contract funds. Publications are full length papers, short communications, letters, editorials and commentaries. Publications are regarded as accredited when they are published in ISI-indexed journals.	2,1	*Number of peer reviewed articles with an MRC-affiliated author that are published in ISI journals during the reporting period	400		Quarterly	481	The target of 400 was conservative. As this is one of the new indicators, the SAMRC did not have a baseline to guide the organisation. Corrective action: The SAMRC will, based on this performance, be in a better position to set more realistic performance targets as it will have a baseline to work from.
		Total number of accredited publications that mention MRC funding. Publications are full length papers, short communications, letters, editorials and commentaries. Publications are regarded as accredited when they are published in ISI-indexed journals. These publications must mention the MRC by name in the acknowledgement section of the journal article. The authors may or may not be affiliated with the MRC.	2,2	*Number of peer reviewed articles published in ISI journals with acknowledgement of MRC support during the reporting period	100		Quarterly	85	The MRC will be in a strong position to achieve the remaining quarterly targets following on the implementation of an additional requirement whereby recipients of MRC funds are obligated to acknowledge the MRC in all publications or publicity materials emanating from, related to or based on MRC funded project work. Corrective Action: MRC to monitor and ensure that recipients of MRC funding acknowledge the MRC in research output, especially publications.
	To promote scientific excellence and the reputation of South African health research	Total number of articles published in the top 4 journals in which one of the authors is MRC affiliated (baseline or contract funded and in an intra- or extramural unit)	2,3	*Number of peer reviewed articles with an MRC-affiliated author in the top 4 journals during the reporting period – NEJM, Lancet, Science & Nature	10		Quarterly	20	The target of 10 was conservative. As this is one of the new indicators, the SAMRC did not have a baseline to guide the organisation. Correction action: The SAMRC will, based on this performance, be in a better position to set more realistic performance targets as it will have a baseline to work from.



**Sarah Bok**  
Strategic Monitoring and Compliance

## // PART B: PERFORMANCE INFORMATION

2014/15 SAMRC Annual Performance									
Strategic GOAL	Strategic Objective	Annexure E: Technical Description	Indicator No.	Programme Performance Indicator	Reporting period: 2014/15 Performance Target		Frequency	TOTAL	Variance
Lead the generation of new knowledge and facilitate its translation into policies and practices to improve health	To provide leadership in the generation of new knowledge in health	Total number of ISI publications (original articles, editorials, commentaries or letters) where the first author has a listed affiliation as the MRC, usually because the author is in an MRC intra or extramural research unit, funded through baseline or contract funds	2,4	*Number of ISI journal articles where the first-author is affiliated to the MRC during the reporting period	160		Quarterly	229	The target of 160 was conservative. As this is one of the new indicators, the SAMRC did not have a baseline to guide the organisation. Corrective action: The SAMRC will, based on this performance, be in a better position to set more realistic performance targets as it will have a baseline to work from.
	To facilitate the translation of MRC research findings into health policies and practices	Total number of new local/international policies and guidelines that have been influenced by MRC research	2,5	Number of new local/international policies and guidelines that reference MRC research during the reporting period	4		Annual	4	
	To provide funding for the conduct of health research	Total number of Research grants awarded to academic institutions by the MRC	2,6	Number of research grants awarded by the MRC during the reporting period	100		Annual	101	The SAMRC under-estimated the number of research grants it would support during the reporting period.
Support innovation and technology development to improve health	To provide funding for health research innovation and technology development	Total number of Projects funded by the MRC that are aimed at developing new diagnostics, vaccines, etc.	3,1	Number of innovation and technology projects funded by the MRC to develop new diagnostics, devices, vaccines and therapeutics during the reporting period	30		Annual	31	There were more technology/invention projects funded as anticipated..
Build capacity for the long-term sustainability of the country's health research	To enhance the long-term sustainability of health research in South Africa by providing funding for the next generation of health researchers	Total number of total or part bursaries/ scholarships/ fellowships provided by the MRC for post-graduate study at masters, doctoral and post-doctoral levels	4,1	Number of MRC bursaries/ scholarships/ fellowships provided for post-graduate study at masters, doctoral and post-doctoral levels during the reporting period	60		Annual	86	There were more bursaries, scholarships and fellowships provided for post-graduate study as anticipated. Corrective action: The SAMRC will, going forward, set a more realistic target in line with available funding for bursaries,/scholarships/ fellowships.

Note:

\* Signifies that data will be contributed is both intramural and extramural units. Where the symbol does not appear, the data is only from intramural units.



**Debra Railoun**  
Strategic Monitoring and Compliance

## // PART B: PERFORMANCE INFORMATION

### STAKEHOLDER AFFAIRS TEAM



**Back Row: L-R: Aziel Gangerdine, Natasha Crouch, Benita Mayosi, and Carron Finnan.  
Front Row: L-R: Allen Jefthas, Keletso Ratsela and Elmarie van Wyk**

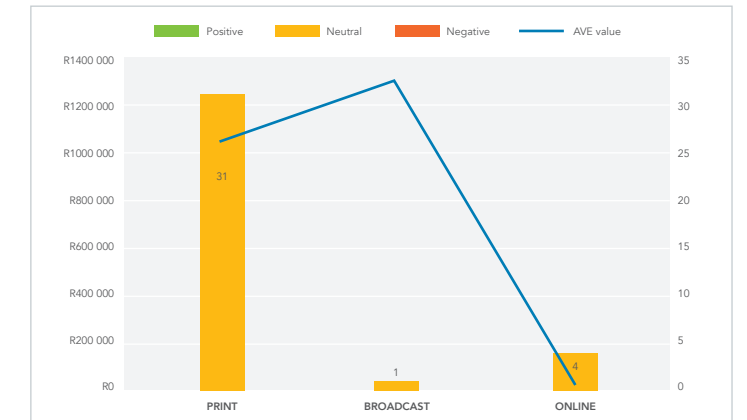
### MEDIA COMMUNICATION AND STAKEHOLDER ENGAGEMENTS

In an effort to communicate its impactful research to the public, the South African Medical Research Council uses the media as a means of communicating with the public. This report covers SAMRC's media activities for the last financial period of April 2014–March 2015.

This table is an indication of the number of press releases issued by the SAMRC by topic/issue during the period.

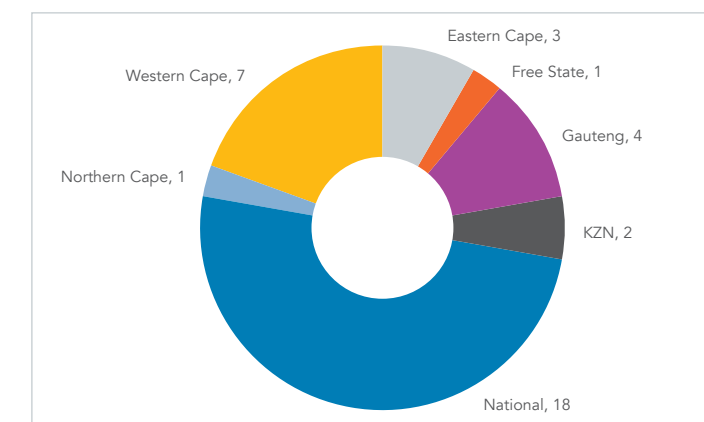
#### APRIL 2014 – JUNE 2014

MONTH	TOPIC/ISSUE
April	<ul style="list-style-type: none"> <li>SAMRC appoints its first female President</li> <li>Update on National Mortality Report</li> <li>SAMRC opens nomination call for top South African scientists</li> </ul>
May	<ul style="list-style-type: none"> <li>Tsetse fly genome sequenced</li> <li>Close for nomination call</li> <li>Zinc supplementation boosts immune system in children</li> <li>SAMRC scientists aim for top awards</li> </ul>
June	<ul style="list-style-type: none"> <li>Rachel Jewkes hailed by Thomson Reuters as highly cited researcher</li> <li>R150 million boost to eradicate TB in South Africa</li> <li>SAMRC committed to TB elimination at 4th TB Conference</li> </ul>



The following graph is an indication of the type of media coverage garnered by the organisation as a result of the above-mentioned June press releases. The chart is an indication of the reach of the media coverage as a result of the above-mentioned June press releases.

#### REGIONAL BREAKDOWN



## // PART B: PERFORMANCE INFORMATION

This table is an indication of the number of press releases issued by the SAMRC by topic/issueduring the period.

### JULY 2014–SEPTEMBER 2014

MONTH	TOPIC/ISSUE
July	<ul style="list-style-type: none"> <li>Low carbohydrate diets result in similar weight losses to recommended balanced diets</li> <li>Are nurses and community workers as good as doctors in delivering HIV treatment?</li> <li>World Congress of Pharmacology, Cape Town</li> </ul>
August	<ul style="list-style-type: none"> <li>South African Medical Research Council and PATH launch new Global Health Innovation Accelerator</li> <li>SAMRC and RTI partner to address tri-faceted epidemic in the Western Cape</li> <li>SAMRC Collaborating Centres for TB/TB-HIV/HIV</li> </ul>
September	<ul style="list-style-type: none"> <li>Steroids raise cancer risk in TB-associated HIV</li> <li>African-led multi-country study will change the clinical management of patients with TB pericarditis and set new standards for south-led clinical trials</li> <li>Research Council announces R25 million funding opportunity for five historically disadvantaged South African universities</li> <li>SAMRC announces funding commitment as a key partner in the Newton Fund UK/South Africa joint research programme</li> </ul>

The following graphs are an indication of the type of media coverage garnered by the organisation as a result of the above-mentioned press releases.

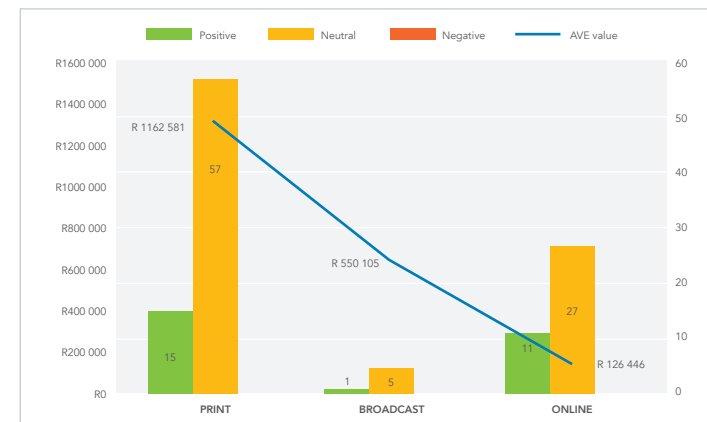
### JULY 2014



### AUGUST 2014

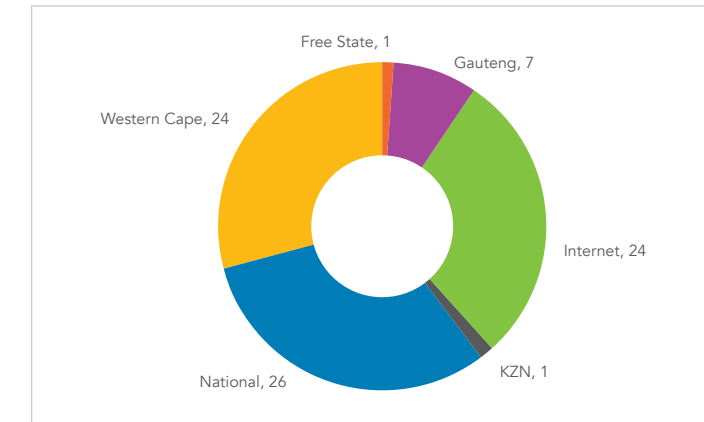


### SEPTEMBER 2014

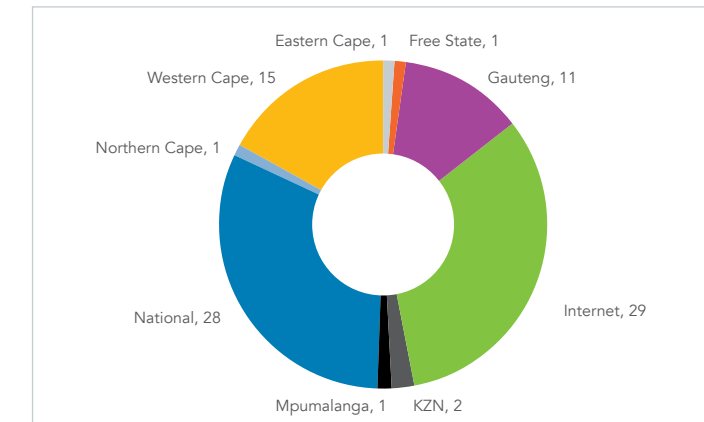


The following charts are an indication of the reach of the media coverage as a result of the above-mentioned press releases.

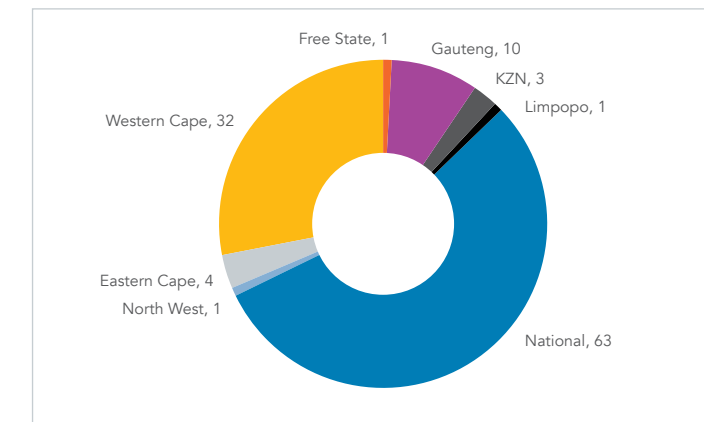
### JULY 2014: REGIONAL BREAKDOWN



### AUGUST 2014: REGIONAL BREAKDOWN



### SEPTEMBER 2014: REGIONAL BREAKDOWN

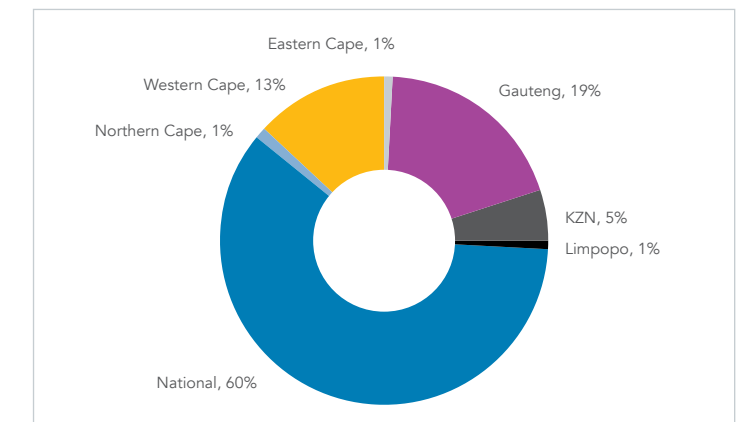
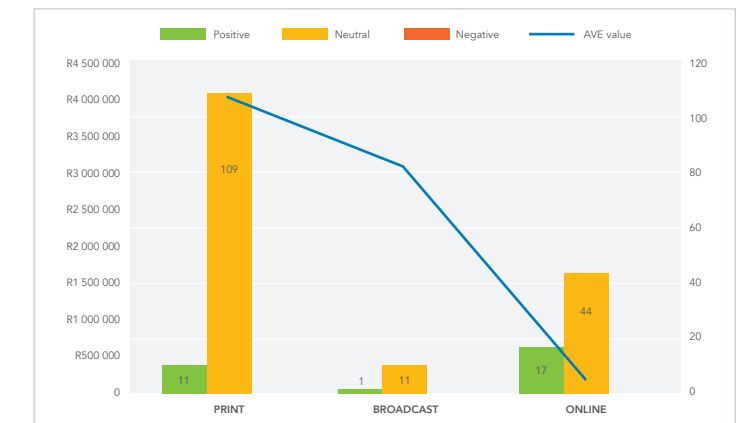


This table is an indication of the number of press releases issued by the SAMRC by topic/issue during the period.

### OCTOBER 2014–DECEMBER 2014

MONTH	TOPIC/ISSUE
October	Successful Global Symposium on Health Systems Research hosted in Cape Town. South Africa commits to innovation by making new investment in breakthrough science to help women and children
November	GACD commitment to fund global diabetes research. What works to prevent violence against women and girls? South African Medical Research Council invests R40 million in eight critical areas of medical research
December	SAMRC leading the HIV challenge

The following graph is an indication of the type of media coverage garnered by the organisation as a result of the above-mentioned press releases. The pie chart below is an indication of the reach of the media coverage as a result of the above-mentioned press releases.

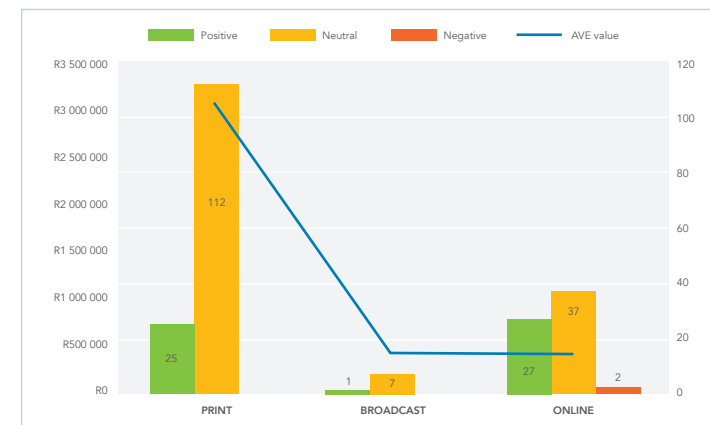


## // PART B: PERFORMANCE INFORMATION

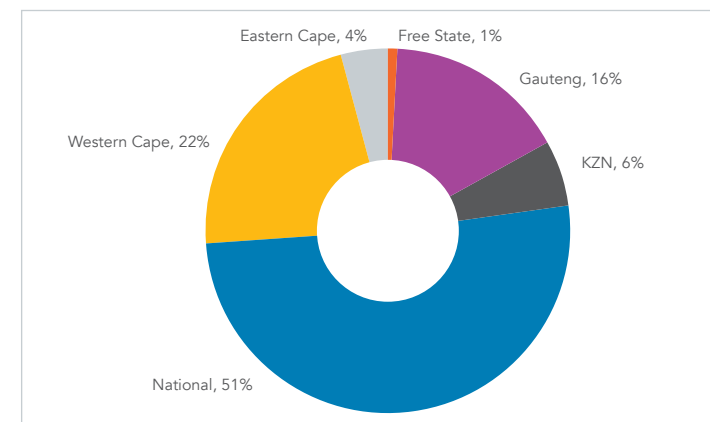
### JANUARY 2015–MARCH 2015

MONTH	TOPIC/ISSUE
January	Average life expectancy in South Africa continues to increase Combining medicine with technology to improve health care in South Africa
February	The South African Medical Research Council responds to cancer and founds cancer research centres around the country
March	SAMRC funds five previously disadvantaged universities

The following graph is an indication of the type of media coverage garnered by the organisation as a result of the above mentioned press releases. The pie chart below is an indication of the reach of the media coverage.



### REGIONAL BREAKDOWN



### BREAKDOWN OF MEDIA COVERAGE FOR PERIOD APRIL 2014–MARCH 2015

**PRINT MEDIA** : 624 articles generated during the time frame  
Total AVE value : R17 656 459.32

**BROADCAST MEDIA** : 40 units acquired during the time frame  
Total AVE value : R5 782 482.49

\*\* Advertising value equivalency (AVE) – this assesses the value of an article by weighing it against the cost of related advertising space. For example, a large, front-page ad is generally more expensive than a small, mid-publication ad.

### STAKEHOLDER ENGAGEMENTS

The SAMRC has taken strides in improving engagement with its stakeholders. The following table lists events that facilitated a point of contact between the SAMRC and its key stakeholders during the reporting period.

Engagement	Location	Scale of exposure	Objective
TB Conference 10–13 June 2014	International Convention Centre, Durban	<ul style="list-style-type: none"> <li>Academics</li> <li>Young scientists</li> <li>Health activists</li> <li>Government ministries &amp; officials</li> </ul>	<ul style="list-style-type: none"> <li>To showcase SAMRC TB research</li> <li>Exposed the SAMRC brand to 1 477 attendees</li> </ul>
Pharmacology Congress 13–18 July 2014	International Convention Centre, Cape Town	<ul style="list-style-type: none"> <li>Academics</li> <li>Drug discovery experts (local and international)</li> <li>Young scientists (local &amp; international)</li> <li>CEOs and staff of local &amp; international pharmaceutical companies</li> </ul>	<ul style="list-style-type: none"> <li>To showcase SAMRC drug development research, expertise and collaborations</li> <li>Communicated the SAMRC brand to +1 000 attendees and international pharmaceutical industries</li> </ul>
Global Health Innovation Accelerator Launch 8 August 2014	SAMRC Head Office Cape Town	<ul style="list-style-type: none"> <li>Government ministry</li> <li>Academics</li> </ul>	<ul style="list-style-type: none"> <li>To up-speed the development and introduction of sustainable, high-impact health technologies that can save the lives of vulnerable women and children in South Africa and beyond</li> </ul>
Global Symposium on Health Systems Research 30 September 2014	International Convention Centre, Cape Town	<ul style="list-style-type: none"> <li>Researchers</li> <li>Policy makers</li> <li>Academics</li> </ul>	<ul style="list-style-type: none"> <li>To interact with global health systems researchers to address current and critical concerns across countries in all parts of the world</li> </ul>
HIV R4P Conference 28–31 October 2014	International Convention Centre, Cape Town	<ul style="list-style-type: none"> <li>Researchers</li> <li>Funders</li> <li>Policy makers</li> <li>Young scientists</li> <li>Health activists</li> <li>International HIV prevention researchers</li> </ul>	<ul style="list-style-type: none"> <li>To present SAMRC biomedical HIV prevention research to 1 300 local as well as international prevention researchers</li> <li>To extend SAMRC HIV prevention networks</li> </ul>
Innovation Bridge 2–3 February 2015	CSIR International Convention Centre, Pretoria	<ul style="list-style-type: none"> <li>Technology Innovation Agency</li> <li>National Intellectual Property Management Office</li> <li>Southern African Research &amp; Innovation Management &amp; Association</li> <li>Private sector</li> <li>Researchers</li> </ul>	<ul style="list-style-type: none"> <li>To demonstrate medical devices produced through collaborations between SAMRC (SHIP) and the private sector</li> <li>Interact and market SAMRC to 659 visitors at the event</li> </ul>



## // PART C: GOVERNANCE

## // PART C: GOVERNANCE

## INTRODUCTION

The SAMRC Act provides for the governance of the organisation. As a Section 3A entity, it is accountable to Parliament for its performance and budget. As the SAMRC executive authority is the Department of Health, the Minister of Health is responsible for appointing the Board. The Board, in turn, is responsible for the corporate governance of the SAMRC. This includes fiduciary responsibility and compliance with legislative requirements, including the Public Finance Management Act (PFMA). In addition, the SAMRC Board appoints the SAMRC's President, who carries full responsibility for implementing the Board's mandate. The SAMRC President chairs the SAMRC's Executive Management Committee, which is responsible for the day-to-day management of the organisation.

Corporate governance embodies processes and systems by which public entities are directed, controlled and held to account. In addition to legislative requirements based on a public entity's enabling legislation and Companies Act, corporate governance, with regard to public entities, is applied through the precepts of the PFMA and run in tandem with the principles contained within the King Report on Corporate Governance.

## PORTFOLIO COMMITTEE ENGAGEMENT

The South African Medical Research Council is accountable to Parliament through the Parliamentary Portfolio Committee on Health. During the reporting period, the SAMRC management met with the Parliamentary Portfolio Committee on Health on 30 July 2014. The organisation's

Strategic Plan for the financial periods 2014/15 to 2018/19, as well as the Annual Performance Plan and budget for 2014/15, were presented.

## PRESIDENT'S BRIEF TO THE PORTFOLIO COMMITTEE

The President and Chief Executive Officer (CEO), Professor Glenda E Gray, briefed the Committee on the scientific progress, performance, governance and strategic direction of the organisation. The President and CEO alluded to the new performance indicators, which included the following:

- Administering South Africa's health research effectively and efficiently
- Leading the generation of new knowledge for policy and practice
- Innovation and technology development, which involved projects on new diagnostics, drugs, devices and vaccines
- Capacity building of scientists.
- Plans to initiate some innovative strategies to identify people who were interested in science in high schools and BSc level to become medical scientists in the future.

The President and CEO gave an overview of an effective and efficient administration of a South African health research system, through programmes like the Strategic Health Innovation Partnerships, flagship projects, training of the next generation of scientists, and focusing on both communicable and non-communicable diseases.

In highlighting the significant impact and work of the organisation, Professor Gray affirmed that the SAMRC:

- has the largest TB drug discovery project in the world, and was working on paediatric formulations and investigating urine-based diagnostics for children
- was interested in system biology and bioinformatics, and was investigating the transmission and protection of TB in order to find the right vaccines for TB
- had the largest discovery project in Africa for malaria, and was committed to supporting malaria work even though South Africa does not have a high burden from malaria disease itself. The organization was working on the entire lifecycle of the parasite, one clinical candidate was to be delivered in 2014, along with one back-up series profiles and two malaria insectaries in South Africa. The President and CEO noted that malaria could be eradicated in the world, if everyone took malaria prophylactics.

Prof. Gray noted that the SAMRC's strategic goals included supporting innovation and technology development to improve health. Some of the SAMRC's innovations included the Strategic Health Innovation Partnerships (SHIP), a new unit aimed at developing new diagnostics, and medical devices, vaccines and drugs.

## FINANCIAL BRIEF

The Chief Financial Officer (CFO) briefed the Committee, and gave an overview and breakdown of the SAMRC's sources of income for the periods 2013/14 to 2017/18. The main allocation from National Treasury was R540.17 million, which was coupled with other leveraged income of R64 million.

The CFO explained that the SAMRC was predicting a decrease of National Treasury funding of R50 million, and that this downward trend would have a significant impact on the Council's flagship projects. In cascading the financial breakdown of the Council, the CFO explained that 38% of the budget was allocated to intramural research, 22% for extramural research and 3% for research capacity development. The Strategic Health Innovation Partnerships (SHIP) office accounted for 19% of the budget and support services for 15%.

In conclusion, the CFO noted that income should grow by 31% in 2015/16 and that the SAMRC anticipated leveraged funding of R35 million per annum for three years. There would be further leveraged funding from the National Institutes of Health (NIH) to the value of R40 million per annum for three years. The spending on administration, as a percentage, would decrease from 23.9% in 2014/15 to 18.3% in 2017/18. The primary concern for the SAMRC was the expected reduction of funding by R50 million in 2017/18.

## // PART C: GOVERNANCE

### OUR BOARD

The role of our Board is set out in the South African Medical Research Council Act of 1991 and states that ‘the affairs of the SAMRC shall be managed and controlled by a Board, which shall, subject to the provisions of this Act, determine the policy and objectives of the SAMRC and exercise control generally over the performance of its functions, the exercise of its powers and the execution of its duties’. In essence, the Act, mandates the Board to designate an Executive Management Committee, consisting of the President and other members who are employees of the SAMRC, and who, subject to the directives and control of the Board, are responsible for managing the affairs of the organisation in accordance with the objects and policy of the SAMRC.

The Board is supported by a board secretary who fulfils the following roles and responsibilities:

- Organising and recording the activities of Board and committee meetings in professional manner
- Advising and assisting the board regarding their duties and responsibilities
- Ensuring Board, and committee packs and reports are professionally compiled and timeously distributed in consultation with the chairperson and CEO to the relevant parties
- Ensuring that statutory reports and returns are presented to the Board for approval
- Ensuring effective and efficient management of all logistical arrangements pertaining to Board activities
- Ensuring effective and accurate record-keeping of Board proceedings and resolutions in compliance with statutory requirements
- Acting as a communication and information channel for Board members
- Ensuring Board resolutions and directives are communicated and implemented by relevant parties
- Following up on Board matters (decisions and requests)
- Tracking and coordination of Board requests between the Board and management



**Prof Mike Machaba Sathekge**  
Chairperson



**Prof Zodwa Dlamini**  
Vice-Chairperson



**Dr Francesca Conradie**



**Dr Sibongile Gumbi**



**Dr Zilungile Kwitshana**



**Prof Charles Feldman**



**Prof. Khaya Mfenyana**



**Prof Pindile Mntla**



**Prof Yusuf Osman**



**Dr Patricia Hanekom**



**Prof Elizabeth Anne Bukusi**



**Prof Andrew Walubo**



**Adv Josephine Ralefatane**



**Prof Keitsepile Setswe**



**Prof Kebogile Mokwena**



**Mr Nizar Davids**  
Board Secretary



**Prof Glenda E. Gray**  
SAMRC President

**// PART C: GOVERNANCE**

Name	Designation (in terms of the Public Entity Board structure)	Date appointed	Date resigned	Qualifications	Area of expertise		Board directorships (list the entities)	Other committees or task teams (e.g: Audit Committee/ Ministerial Task Team)	No. of meetings attended
Prof. M Sathekge	Chairperson	1 Nov 2013	n/a	MB ChB, MMed (Nucl Med), PhD. Professor, Chief Specialist and Head of Department of Nuclear Medicine	Design and implementation of novel point- of-care targeted diagnostics and therapies using molecular nuclear medicine to address cancer and the dual curse (HIV & TB)		President of the College of Nuclear Physicians President of International Society of Radiolabeled Blood Elements (ISORBE) Chair of the Colleges of Medicine of South Africa (National Specialist Examining body) Chair of the Technical Investment Committee of the Nuclear Technology Products (NTP)	Board	5
								ExCo	Consultative
								Research & Development	3
Prof. Z Dlamini	Vice-Chairperson	1 Nov 2013	n/a	BSc. BSc. Hons, MSc. PhD: Oesophageal Cancer	Functional genomic and molecular medicine		DST Scientific Advisory Board (Preclinical Drug Development Platform)	Board	5
								ExCo	Consultative
								HR & Remuneration	3
Prof. K Mokwena	Member	1 Nov 2013	n/a	EdD: Health Education Administration, MSc (Physiotherapy, Higher Education Diploma; Certificate in Human Resource Development	Public health Health education and prevention Health behaviour change		Vista Clinic Properties National Health Research Committee (NHRC) Adventist Professional Health and Human services (APHHS)	Board	4
								ExCo	Consultative
								Research & Development (Chair)	3
Dr S Gumbi	Member	1 Nov 2013	n/a	PhD – Pharmacology	The development and commercialisation of biotechnologies, management of intellectual property, project investment and funding.		AEC Amersham SOC	Board	3
								ExCo	Consultative
								HR & Remuneration (Chair)	3
Dr P Hanekom	Member	1 Nov 2013	n/a	BSc; BVMCH (Veterinarian); Postgraduate Diploma in Economic Principles MSc in Financial Economics	Financial and economic analysis and research Strategic planning Project management Governance and accountability		Onderstepoort Biological Products (SOC) Ltd Mapungubwe Institute for Strategic Reflection (MISTRA)	Board	5
								ExCo	Consultative
								Audit, Risk & IT (Chair)	4
Prof. K Moodley	Member	1 Nov 2013	n/a	MBChB FCFP M Fam Med cum laude, MPhil (Applied Ethics) cum laude DPhil (Applied Ethics) Certificate Course in Medical Law Completing an MBA degree at UCT in 2014	Research ethics Medical ethics and business ethics & governance Principal investigator on two NIH grants: Capacity development in health research ethics in Africa, and ethical and social issues related to HIV cure research Collaborated in projects with the World Health Organization (WHO) and is a current applicant for WHO Collaborating Centre Status in Africa		Pathcare Research sub-Committee	Board	1
								Audit, Risk & IT	1
Prof. C Feldman	Member	1 Nov 2013	n/a	MB BC, DSc, PhD, FRCP, FCP(SA) Professor of Pulmonology & Chief Physician	Clinician: Community-acquired pneumonia including both clinical studies as well as basic research		n/a	Board	4
								Research & Development	2

// PART C: GOVERNANCE

Name	Designation (in terms of the Public Entity Board structure)	Date appointed	Date resigned	Qualifications	Area of expertise		Board directorships (list the entities)	Other committees or task teams (e.g: Audit Committee/ Ministerial Task Team)	No. of meetings attended
Prof. E Bukusi	Member	1 Nov 2013	n/a	Certificate in International Health Post Graduate diploma in International Research Ethics Bachelor of Medicine and Bachelor of surgery Masters of Medicine in Obstetrics and Gynaecology Master of Public Health (Epidemiology) Masters in Bioethics (MBE) program PHD in Epidemiology	Research focused on sexually transmitted infections, reproductive health, and HIV prevention, care and treatment Enhancing capacity to conduct socio- behavioural and biomedical research, and provide HIV care through training and infrastructure development Research ethics and the development of systems and structures for regulation of research		Member Board of Trustees, HIV Research Trust UNAIDS Scientific Expert Panel International Partnership for Microbicides DSMB Advisory Panel Reduction of Early Mortality Advisory Committee AVAC Multipurpose Prevention Technologies (MPT)	Board Research & Development	5 2
Dr F Conradie	Member	1 Nov 2013	n/a	Dip HIV Man (CMSA) DTM&H (University of Witwatersrand) Dip Epidemiology (UOL) MBBCh (Wits)	HIV and multidrug resistant TB research Registrational trials for new TB medications as well as shorter and less toxic regimens High-level technical assistance initiatives including ARV guidelines, MDR TB guidelines, resistance strategies and access to third line drugs.		Southern African HIV Clinicians Society (President) TB Transformative Science Group (TB TSG) of the AIDS Clinical Trial Group of the National Institute of Allergy and Infectious Diseases (NIAID) of the NIH	Board Research & Development ARIC	3 3 1
Dr Z Kwitshana	Member	1 Nov 2013	n/a	Doctor of Philosophy (Immunology) Master of Medical Science Diploma Project Management National Higher Diploma Med Tech (Pathophys/ Immunology) Specialist Diploma Med.Tech. (Chemical Pathology) National Diploma Medical Technology (Clinical Pathology)	Immunological and nutritional impact of co-infection with HIV and neglected tropical diseases (helminthiasis). Revitalising capacity in medical parasitology for national control of neglected tropical diseases		Charles James Hospital Board SA Immunology Society International Journal of Maternal and Child Health and AIDS Editorial Board National Schistosomiasis Review Working Group (Group Leader) Mass Treatment Campaign Committee	Board Research & Development EXCO	5 3 Consultative
Prof. K. Mfenyana	Member	1 Nov 2013	n/a	PhD (Community Higher Education Service Partnership on Service Learning Outcomes) Master of Arts in Educational Administration Master's Degree in Family Medicine (M. Prax. Med.) Bachelor of Medicine & Bachelor of Surgery (MBChB) Bachelor of Science (BSc) SA Teacher's Diploma (SATD)	Primary health care and medical education, especially community-based learning and service-learning		Health Systems Trust (HST) Board Health Professionals Council of South Africa Sub-Committee for Undergraduate Medical Education and Training SA Academy of Family Practice/ Primary Care Board SA Medical and Dental Council Hospice Association of Transkei and Umtata Hospice Association	Board Audit, Risk & IT	4 3

## // PART C: GOVERNANCE

Name	Designation (in terms of the Public Entity Board structure)	Date appointed	Date resigned	Qualifications	Area of expertise	Board directorships (list the entities)	Other committees or task teams (e.g: Audit Committee/ Ministerial Task Team)	No. of meetings attended
Prof. P Mntla	Member	1 Nov 2013	n/a	MBCbB FCP SA FRCP (London)	Pericarditis, peri-partum cardiomyopathy, systemic hypertension, especially in the black population, rheumatic fever and valvular heart diseases, especially in pregnancy	Executive Committee of University Senate Council of Physicians (CMSA) SA Hypertension Executive Council Civil Aviation Advisory Board	Board	4
							HR & Remuneration	2
Prof. Y Osman	Member	1 Nov 2013	n/a	Bachelor of Dental Surgery (B.Ch.D.) Master of Dental Surgery (M.Ch.D.) Prosthodontics Hospital Leadership Honours Bachelors in Business and Administration Hons BBA Master of Business Administration (MBA)	Advances in dental materials and how this impacts on managing the burden of disease as regards oral health	Health Professions Council of South Africa Medical and Dental Board of the HPCSA (Executive Member) Post Graduate Education and Training Sub Committee (PETD) of the HPCSA (Chair). Examinations Subcommittee (Dental) of the Medical and Dental Board of the HPCSA Accreditation Panel HPCSA to accredit Prosthodontic under- and post-graduate Programmes in South Africa Medical Protection Society International Association of Dental Research (South African Division). Advisory body of the National Tender Board for Dental Materials and Dental Equipment Panel for evaluating dental materials for the Medicines Control Council Accreditation panel for dental materials and products for the South African Dental Association (SADA) Editorial Board of the Journal of the South African Dental Association	Board	5
							Audit, Risk & IT	4
							ARIC	Consultative
Adv. J Ralefatane	Member	1 Nov 2013	n/a	Admitted Advocate of the Supreme Court of SA B. Proc. Degree LLB Degree Bookkeeping Diploma Certificate in Labour Relations Certificate in Computer literacy Certificate in Human Rights Certificate in Land Reform Certificate in Audit Committee	Practice in law, labour law , conciliation, mediation, arbitration, facilitation, disciplinary hearings, legal opinions/ advice, forensic investigations, change management, policy drafting, drafting of legal documents/contracts/legislation, consulting, risk management, strategic planning, organisation development planning,	(Chair) Technology Innovation Agency (TIA) Board ITSAA Appeal Board (Chair) Ephraim Mogale Local Municipality Audit Committee (Chair) South African State Theatre (Acting Chair) Luthuli Museum (Deputy Chair) Refugee Appeal Board National Museum Board SALGA Audit Committee Ekurhuleni East College Audit Committee South African Pharmacy Council Audit Committee BLA Gender Committee Road Accident Fund (RAF) Risk Management Committee Gauteng Enterprise Propeller (GEP) Business Development Sedibeng Water (Director)	Board	3
							Audit, Risk & IT	4

**// PART C: GOVERNANCE**

Name	Designation (in terms of the Public Entity Board structure)	Date appointed	Date resigned	Qualifications	Area of expertise		Board directorships (list the entities)	Other committees or task teams (e.g: Audit Committee/ Ministerial Task Team)	No. of meetings attended
Prof. K Setswe	Member	1 Nov 2013	n/a	Doctor of Public Health (DrPH) Certificate in Management for International Public Health (MIPH) Master of Public Health (MPH), (Community Health Education) Honours B. Cur (Advanced Community Nursing) Diploma in Industrial Relations (Diploma Industrial Relations) Certificate in Primary Health Care and Restructuring the Health Sector Diploma in Health Services Management (DHSM) B.A Cur (Nursing Education and Community Nursing Science)	The behavioural & social aspects of HIV/ AIDS/TB/STI, AIDS/TB policy, epidemiology and general public health issues		Development Bank of Southern Africa AIDS Advisory Committee (Chair) Lilly Foundation Southern Africa Member: HSRC Press Editorial Board Member: Council of the University of Venda. Serve in the Senate, Finance and Human Resources Committees.	Board HR & Remuneration	4 3
Prof. A Walubo	Member	1 Nov 2013	n/a	MBCHB M.Phil Post. Doc. Fellow (Vanderbilt, USA) MBA F.C.P (ACCP) Associate (Coll.Clin.Pharm.SA)	Clinical pharmacology, drug metabolism & transport, quality practices (GLP and GCP), immunopharmacology and traditional medicines		US Pharmacopoeia Experts Committee on International Health USP-African Health Advisory Panel International Union of Pharmacology Committee on Clinical Pharmacology in Developing Countries and Committee on Drug Metabolism Section International Society for the Study of Xenobiotics African Society for Drug Metabolism and Development (Founder President) NRF Rating Expert Committee for Health Sciences – Pharmaceutical Portfolio SA Society of Basic & Clinical Pharmacology Board Medical Controls Council SA College of Clinical Pharmacologist Board College of Medicines of South Africa Senate SA Society of Basic and Clinical Pharmacology Board of Governors Free State Provincial Therapeutics Committee Adverse Events Committee of the Free State Academic Health Complex DST Pre-Clinical Steering Committee DST Bioprospecting on African Traditional Medicine Steering Committee	Board HR & Remuneration	4 3

## // PART C: GOVERNANCE

## RISK MANAGEMENT

*Emmerentia Strydom and Nadeem Chilwan*

The Board is responsible for ensuring that there is a risk management plan at the SAMRC and have delegated the oversight function to the Audit, Risk & IT Committee (ARIC). The Entity-wide Risk Management Unit (ERMU) at the SAMRC is a dedicated department that reports directly to the ARIC and has the primary responsibility for the design, implementation and monitoring of enterprise-wide risk management across the SAMRC and its integration into the day-to-day activities.

The SAMRC's approach to ERM entails the proactive management and mitigation of risk under the guidance of the President, SAMRC Executive Management and Board, and it has put in place a number of risk control strategies and policy documents designed to govern risk management within the organisation. These are subject to annual review to ensure alignment with international best-practice and the SAMRC business environment. The current governance policies, reviewed during the 2014/15 year, relating to risk management include the following:

- Risk Management Strategy
- Risk Management Policy
- Fraud Prevention Policy
- Combined Assurance Framework Policy
- Code of Business Conduct

The ERMU has the vision of contributing to the achievement of the SAMRC's overall vision of building a healthy nation through research by managing the governance issues and risks that could detract from this ultimate goal. The SAMRC has adopted a common and integrated approach to monitoring the SAMRC's strategic, research, clinical trial and other operational risks.

Major risks that could influence the achievement of the SAMRC's strategic objectives are actively and continuously identified throughout the organisation, together with the current mitigation strategies. Where appropriate, management action plans to further improve the management of the risk are timeously developed and implemented. As such, risk assessments at both organisational (strategic) as well as at all key business unit (operational) levels have been completed. Operational level workshops extend across both support and research units, with the latter including hazards identification within the workplace.

As part of the risk assessment workshops, extensive risk awareness sessions were held to ensure that principles around risk are communicated and embedded throughout the organisation. Risk dashboards are utilised to report to the Executive Management Committee and Audit, Risk & IT Committee.

These quarterly reports form the basis of the continuous monitoring on the status of implementation on management action plans. The core fraud risks facing the SAMRC as part of the Fraud Prevention Plan Strategy were revisited as part of the annual fraud risk assessment. The identified controls to mitigate these were evaluated for effectiveness, and where deemed necessary, action plans to further strengthen certain areas were developed to further strengthen the control environment.

The ERMU will continue to embed risk management principles and the methodology, and continue with the implementation of a process to ensure follow-up by management of their risk intervention action plans to reduce the risk exposure to the SAMRC.

**INTERNAL CONTROL**

The SAMRC has a number of management controls and governance structures in place to provide assurance on the status of governance and control at an organisational level. These include clearly defined and documented processes, policies approved by the Board that are accessible to all staff via the intranet, and clearly defined procedures and work practices. While the Board is ultimately responsible for the internal controls at the SAMRC, this function is delegated to the President to ensure that business risks in particular are properly managed. The Board relies on the Audit Risk & IT Committee to monitor and report on the status of internal controls at the SAMRC.

Internal controls, which are designed to provide reasonable assurance that organisational objectives will be achieved, depend on various processes within the SAMRC, namely internal control measures, management and assurance providers – both external and internal. Management plays a crucial role in terms of internal control, as the 'first line of defence', in the day-to-day activities of the organisation. Other 'control measures' include the oversight responsibilities of certain committees (e.g. health and safety, legal and risk) and the role of assurance providers.

A concerted effort will be required to ensure that the work done by all assurance stakeholders (internal and external) is properly coordinated and that the reliability and interdependence of such work can be assured. The three lines of defence include management, oversight functions and external/independent assurance.

Therefore, management and each assurance stakeholder has a defined and specific role to play. When each performs its assigned task effectively, the likelihood that a risk will materialise diminishes. The SAMRC has

developed a combined assurance framework that will be utilised by the various SAMRC assurance providers to ensure a broader coverage of risks facing the organisation.

**COMPLIANCE WITH LAWS AND REGULATIONS**

The Legal and Compliance Services Division of the SAMRC has identified 51 Acts of Parliament (with 21 of those categorised as primary (i.e. non-compliance therewith or parts thereof would be catastrophic to the business/mandate of the SAMRC). Further to that, seven good practice standards (local and international) have been identified to be applicable to the SAMRC. Lastly, 10 regulatory authorities have been identified to have authority over the business or conduct of the SAMRC.

The SAMRC has developed a Regulatory Compliance Universe that contains a list of 42 Acts that apply to the organisation. Of these, 14 Acts are categorised as Level 1, 15 Acts as Level 2 and 13 Acts as Level 3. The identified Acts are categorised into three groups, namely:

- Level 1 – Primary Act to comply with. Legislation that affects the day-to-day operations of the MRC.
- Level 2 – Secondary Act. Legislation that affect only some of the business units or some of the day-to-day operations of the SAMRC.
- Level 3 – Indirect applicable legislation. Legislation or certain sections thereof that apply to the SAMRC in an indirect manner.

**FRAUD AND CORRUPTION**

The SAMRC has a zero tolerance to fraudulent behaviour and is committed to preventing fraud. The SAMRC places a priority on identifying and eradicating fraud, corruption, and misconduct of any sort. The SAMRC Fraud Prevention Policy addresses fraud risk management both proactively and reactively. The fraud prevention plan developed by the ERMU includes a fraud strategy as one of the outputs of the plan. The components of the SAMRC's fraud strategy consist of prevention, detection, investigation and response. The prevention of fraud is the most important component of the SAMRC's strategy in dealing with fraud.

Annually, executive management performs a fraud risk assessment as part of SAMRC's Fraud Prevention Plan Strategy, and controls to mitigate these risks established were evaluated for effectiveness. Management has recognised the need to further strengthen the control environment and have developed action plans for certain areas. The SAMRC has developed an on-line whistle-blower hotline that staff can use to report fraudulent activities/incidents anonymously. The web-page, 'Report

## // PART C: GOVERNANCE

fraudulent activities at the SAMRC', is available to all staff on the SAMRC Intranet home page. Staff who have knowledge of an occurrence of fraud or corruption, or who have good reason to suspect that a fraudulent or corrupt act has occurred, have a duty to promptly report any reasonable suspicions. All reported cases are treated with the utmost confidentiality to protect the rights of both the whistle blower and the alleged party.

### MINIMISING CONFLICT OF INTEREST

Each SAMRC employee is required to declare any potential conflicts of interest on an annual basis. Failure to disclose his/her interests, or the wilful provision of incorrect or misleading details can lead to charges of misconduct. It is important to note that an 'interest' declared is not necessarily considered to be a conflict of interest. It is understood that, in general, individuals who are involved in a particular activity have a professional interest in the subject.

By implication, all employees of the SAMRC, and its Board and sub-committees, have a professional interest in the work they are undertaking and in the outcome of these activities. A conflict of interest arises when the employee's personal activities and relationships interfere, or appear to interfere, with the employee's ability to act in the best interest of the SAMRC.

To provide staff with a more efficient and effective solution when having to respond to the requirements of annual disclosure, an on-line declaration of interest tool was rolled out during the 2013/14 financial year. All outside work, financial and private interest, and any other business activities must

be declared when completing the SAMRC annual on-line declaration of Interest. Where these relate to dealings with any state entity, full declaration must be provided as required in the on-line declaration of interest.

SAMRC employees are entrusted with public funds. As such, they need to maintain the highest standards of professional ethics. Their integrity and that of their departments must be beyond question. In addition, a code of conduct for supply chain management (SCM) practitioners and other role players was implemented, whereby conflicts of interest are declared on an annual basis in addition to the SAMRC-wide annual on-line declaration process.

### CODE OF CONDUCT

The Code of Business Conduct Framework Policy, approved by the Board, is intended to prevent unethical behaviour and encourage ethical behaviour. This balance of business conduct is directed at the SAMRC's internal stakeholders (Board, managers and employees) and external stakeholders, such as suppliers. The Code will help to define the parameters of the spirit of the SAMRC business and research conduct, ethics, and personal ethos of staff.

This is based on the key principles of fairness, accountability, responsibility, transparency, justice and standards that will contribute to uphold the integrity, credibility and reputation of the SAMRC and its stakeholders. It is the responsibility of each and every employee to ensure that he/she complies with the provisions of the Code. In an event where an employee breaches the provisions of the policy, any employee breach of this policy will be addressed in terms of the Disciplinary and Grievance Policy.

### SAMRC MATERIALITY AND SIGNIFICANCE FRAMEWORK: 2014/15

The proposed Materiality and Significance Framework for the SAMRC, in terms of the Treasury Regulation 28.3.1 and the National Treasury Practice Note on Applications under of Section 54 of the Public Finance Management Act (PFMA), is as follows:

#### SECTION 50: FIDUCIARY DUTIES OF ACCOUNTING AUTHORITIES:

1) The accounting authority for a public entity must –

PFMA section	Quantitative (amount)	Qualitative (nature)
(c) on request, disclose to the executive authority responsible for that public entity or the legislature to which the public entity is accountable, all material facts, including those reasonably discoverable, which in any way may influence the decisions or action of the executive authority or that legislature;	Disclose all material facts.	The Board will disclose to the National Department of Health all material facts as requested and all material facts not requested, including those reasonably discoverable, which in any way may influence the decisions or action of the National Department of Health, at the discretion of the Board.

#### SECTION 51: GENERAL RESPONSIBILITIES OF ACCOUNTING AUTHORITIES:

1) An accounting authority for a public entity –

PFMA section	Quantitative (amount)	Qualitative (nature)
(g) must promptly inform the National Treasury on any new entity which that public entity intends to establish or in the establishment of which it takes the initiative, and allow the National Treasury a reasonable time to submit its decision prior to formal establishment; and	Disclose all material facts timeously.	Full particulars to be disclosed to the Minister of Health for approval after which it is to be presented to Treasury.

#### SECTION 54: INFORMATION TO BE SUBMITTED BY ACCOUNTING AUTHORITIES

2) Before a public entity concludes any of the following transactions, the Accounting Authority for the public entity must promptly and in writing inform the relevant Treasury of the transaction and submit relevant particulars of the transaction to its Executive Authority for approval of the transaction:

PFMA section	Quantitative (amount)	Qualitative (nature)
a) establishment of a company;	Any proposed establishment of a legal entity	Full particulars to be disclosed to the Minister of Health and Minister of Finance (National Treasury) for approval (simultaneous submission).
b) participation in a significant partnership, trust, unincorporated joint venture or similar arrangement;	Qualifying transactions exceeds R10 million (based on 2% of total MRC assets, as at 31 March 2014).  This includes research collaborative arrangements	
c) acquisition or disposal of a significant shareholding in a company;	Greater than 20% of shareholding	Any asset that would increase or decrease the overall operational functions of the MRC, outside of the approved strategic plan and budget.
d) acquisition or disposal of a significant asset;	Qualifying transactions exceeds R10 million (based on 2% of total MRC assets, as at 31 March 2014).  Including financial leases	
e) commencement or cessation of a significant business activity; and	Any activity not covered by the mandate / core business of the MRC and that exceeds the R10 million transaction value (based on 2% of total MRC assets, as at 31 March 2014).	Full particulars to be disclosed to the Minister of Health and Minister of Finance (National Treasury) for approval (simultaneous submission).
f) a significant change in the nature or extent of its interest in a significant partnership, trust, unincorporated joint venture or similar arrangement.	Qualifying transactions exceeds R10 million (based on 2% of total MRC assets, as at 31 March 2014)	

## // PART C: GOVERNANCE

### SECTION 55: ANNUAL REPORT AND FINANCIAL STATEMENTS

- 2) The annual report and financial statements referred to in subsection (1) (d) ('financial statements') must -
- fairly present the state of affairs of the public entity, its business, its financial results, its performance against predetermined objectives and its financial position as at the end of the financial year concerned;
  - include particulars of -

PFMA Section	Quantitative (amount)	Qualitative (nature)
any material losses through criminal conduct and any irregular expenditure and fruitless and wasteful expenditure that occurred during the financial year:	All instances	Report quarterly to the Minister of Health. Report annually in the Annual Financial Statements
any criminal or disciplinary steps taken as a consequence of such losses or irregular expenditure or fruitless and wasteful expenditure;		
any losses recovered or written off;		
any financial assistance received from the state and commitments made by the state on its behalf; and		
any other matters that may be prescribed.	All instances, as prescribed	

### SECTION 56: ASSIGNMENT OF POWERS AND DUTIES BY ACCOUNTING AUTHORITIES

PFMA Section	Quantitative (amount)	Qualitative (nature)
The accounting authority for a public entity may—	Values excluded from the Delegation of Authority Framework Policy	Instances that are excluded from the Delegation of Authority Framework Policy
<ul style="list-style-type: none"> <li>In writing delegate any of the powers entrusted or delegated to the accounting authority in terms of this Act, to an official in that public entity</li> <li>Instruct an official in that public entity to perform any of the duties assigned to the accounting authority in terms of this Act.</li> </ul>		
A delegation or instruction to an official in terms of subsection (1)—	Values excluded from the Delegation of Authority Framework Policy	Instances that are excluded from the Delegation of Authority Framework Policy
<ul style="list-style-type: none"> <li>Is subject to any limitations and conditions the accounting authority may impose;</li> <li>May either be to a specific individual or to the holder of a specific post in the relevant public entity; and</li> <li>Does not divest the accounting authority of the responsibility concerning the exercise of the delegated power or the performance of the assigned duty.</li> </ul>		

### TREASURY CIRCULARS AND GUIDELINES RELATED TO SUPPLY CHAIN MANAGEMENT

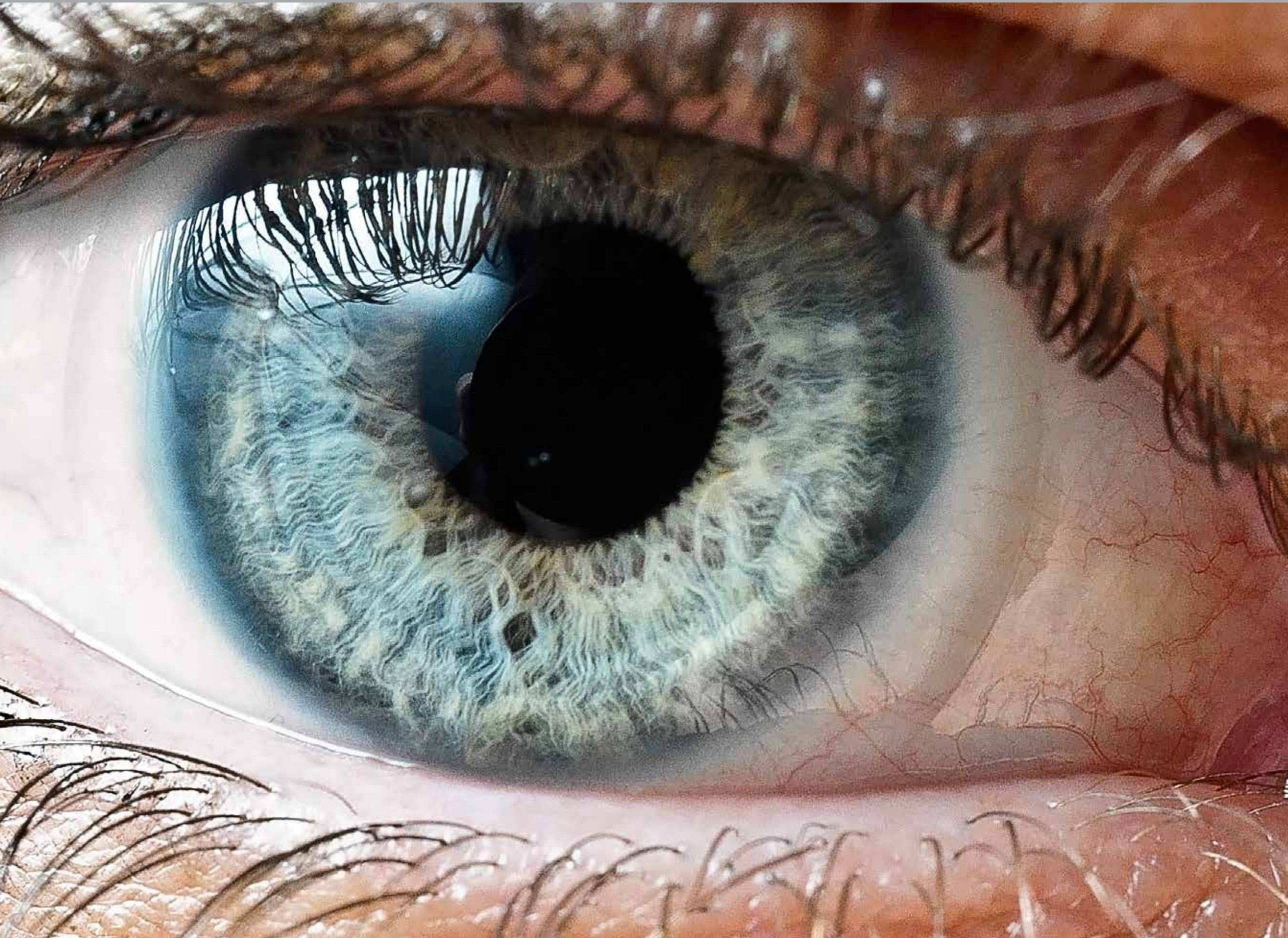
National Department of Health and National Treasury are to:

- be notified of procurement transactions exceeding R10 Million;
- be informed of amounts in excess of
  - 20% or R20 million (including applicable taxes) for construction related orders
  - 15% or R15 million (including applicable taxes) for goods / service related orders

The materiality level mentioned above was calculated using the guidance practice note of the National Treasury. Using these parameters the, SAMRC materiality level calculation outcomes were as follows:

Element	% rand to be applied against R value	Element Value at 31 March 2014	Calculated Materiality & Significance Value
Total Assets (1%-2%)	2%	R506 094 615.00	R10 121 892.23

The SAMRC materiality and significant value will be R10 million based on the highest percentage of the total asset element. This is the most stable element, given the performance statement outcomes associated with the current economic climate challenges.



## // PART D: HUMAN RESOURCE MANAGEMENT

// PART D: HUMAN RESOURCE MANAGEMENT

**HUMAN  
RESOURCES  
TEAM**



*Mbulelo Bikwani, HR Executive*



*Nalinee Narain, Naren Dhoodhanath and Bongeka Mojafi*



*Aldera George, Nqabisile Vantyu and Anthea Coller*



*Lee-Anne Louw, Phillip Swart and Rubi Davids*



*Janet Ndimande, Hilton Marinus and Jeanette Wyeth*



*Suzette Cupido, Teresa Snyders and Valerie Manuel*

## // PART D: HUMAN RESOURCE MANAGEMENT

### OVERVIEW

In the post revitalisation process, HR has responded by introducing a new business model in support of and to focus on creating an enabling platform to attract, recruit, motivate and retain talented individuals in a positive, diverse, healthy and safe work environment. This includes all efforts to embark on meaningful transformation and equitable representation to specifically target management of research units. Through effective talent management, the SAMRC will ensure a high level of research productivity in pursuit of its vision. HR has also facilitated a process to remunerate staff in line with competitive market trends.

#### HR PRIORITIES FOR THE YEAR UNDER REVIEW

- To continue the search for leadership in critical senior management positions
- To improve the organisation's remuneration benchmarks in line with market trends
- To realign and introduce a revised HR structure and business process in order to service the SAMRC research units and corporate support services more efficiently and effectively.
- To support and empower managers to take charge of HR line activities
- Revision of six critical HR policies
- Increased awareness programmes and utilisation of the Wellness Programme at individual, group and corporate levels
- Transformation targets set for all units/divisions and a Transformation Forum to be launched soon
- Realignment of the performance management cycle to a financial year, and consultation with the union on a revision of the performance bonus policy

#### EMPLOYEE PERFORMANCE MANAGEMENT FRAMEWORK

The employee performance management framework consists of the following elements:

- Individual performance goals and targets as per standardised performance criteria for all job levels, in line with those of the unit/department, which in turn are in line with the organisational goals, objectives and targets. On-going monitoring of employee performance takes place through formal assessments twice a year, and all final performance review results have been received.
- Performance management cycle: The cycle has now been aligned to the financial year and final individual performance results have been submitted accordingly.
- Standardised performance criteria ensured that expected outcomes are aligned with the strategic goals of the organisation, and that job profiles for different levels are measured consistently across the SAMRC, and that performance evaluations are fair in terms of agreed and known standards for similar job types across different units.

#### EMPLOYEE WELLNESS PROGRAMME

The employee wellness programme provides support and assistance to employees and managers with regards to on-site counselling (and other) sessions to assist staff experiencing personal and other problems, HIV treatment and chronic disease management, 24/7/365 toll-free services, health risk assessments, alcohol abuse referrals, psycho-social services, managing absenteeism, etc.

There has been an increase in the utilisation of the programme and related services, resulting in spontaneous requests from units to offer support in related topics such as anger and stress management, trauma debriefing, etc. It has provided managers with a tool to assist staff in identifying and addressing matters of poor work performance or other socio-psychological problems in the work place.

#### ACHIEVEMENTS

- The appointment of two vice-presidents for the SAMRC as well as replacing critical senior management posts, including the internal appointment of the first African female unit director
- Implementation of a revised HR model, based on the principles of HR Business Partnership, Centre of Excellence and a Business Support Service Centre
- Realignment of the organisation's remuneration benchmarks in line with 2015 market trends, and awarding salary increases and adjustments, moving staff as close as possible to competitive market benchmarks
- Promotion of 41 employees to higher job levels across all categories, levels, race and gender
- An increase in the utilisation of the employee wellness programme, providing a relief to staff when experiencing personal or other work-related problems
- Transformation targets set for all units/divisions and Transformation Forum to be launched soon
- Management of services rendered employment under control
- Sound working relationship with the union, including no CCMA cases or formal external disputes

#### CHALLENGES FACED

- Leadership and development of management skills in senior critical positions
- Retention of critical and scarce skills
- Improved and modern ways of performance management
- Talent acquisition and recruiting versus employer brands, to create a brand of employer of choice
- HR to be seen and trusted as a strategic partner, including a driver for business growth and advancement
- A legacy of leadership challenges that has impacted negatively on staff morale
- Implementation of space planning without major disruptions
- Unionisation of staff, at the commencement of the revitalisation process, changed the dynamics in employee management and decision-making processes, and the executive had to find and understand new ways of working with a unionised workforce
- Relationship between the Board and EMC
- Fast tracking transformation given relative low staff turnover
- Introduction of succession planning
- Limiting top performer flight
- Manager training to empower managers to successfully manage their units
- Continuous review and successful roll out of HR policies in line with legal requirements
- Managing contract employment within the context of new labour legislation

#### FUTURE HR PLANS AND GOALS

- To have HR as a fully-fledged business support services department to enable the organisation to achieve greatness
- To continue to attract, develop and retain critical and scarce talent
- To further improve our remuneration and reward strategy towards the market median, and align remuneration principles of a great research organisation, including incentive/bonus scheme and pay progression criteria
- To improve on standardising stringent performance criteria throughout the organisation
- To continue fostering a healthy relationship with the union
- To assist the organisation in meeting its employment equity target at senior management level
- To have a set of standardised job profiles for different job levels and categories
- To have an integrated HR system that will include the automation of some processes within HR e.g. online recruitment system, electronic update of employee information, and performance management system

## // PART D: HUMAN RESOURCE MANAGEMENT

### EXPENDITURE

The following table summarises the final audited expenditure by salary bands (Table 1). In particular, it provides an indication of the amount spent on personnel costs in terms of salary bands.

**TABLE 1: PERSONNEL COSTS BY SALARY BANDS, 2014/15**

Salary bands	Personnel expenditure (R)	% of total personnel cost	Average personnel cost per employee (R)
Lower skilled (levels 1–2)	2 988 339	1	106 479
Skilled (level 3–5)	15 126 156	7	142 700
Highly skilled production (levels 6–8)	71 938 056	31	286 606
Highly skilled supervision (levels 9–12)	7 537 610	33	571 031
Senior management (levels 13–16)	63 164 156	28	2 927 837

The following tables provide a summary per programme (Table 2 and salary bands (Table 3), of expenditure incurred as a result of salaries, overtime, home owners allowance and medical assistance. In each case, the table provides an indication of the percentage of the personnel budget that was used for these items.

**TABLE 2: SALARIES, OVERTIME, HOME-OWNERS ALLOWANCE AND MEDICAL ASSISTANCE BY PROGRAMME, 2014/15**

Programme	Salaries		Overtime		Home-owners allowance		Medical assistance	
	Amount (R)	Salaries as a % of personnel cost	Amount (R)	Overtime as a % of personnel cost	Amount (R)	HOA as a % of personnel cost	Amount (R)	Medical assistance as a % of personnel cost
Band A	141 268	0.06	519	0.00023				
Band B	715 449	0.31	10 521	0.00460				
Band C	6 322 690	2.77	106 473	0.04658				
Total	7 179 407	3.14	117 513	0.05141				

**TABLE 3: SALARIES, OVERTIME, HOME-OWNERS ALLOWANCE AND MEDICAL ASSISTANCE BY SALARY BANDS, 2014/15**

Salary bands	Salaries		Overtime		Home-owners allowance		Medical assistance	
	Amount (R)	Salaries as a % of personnel cost	Amount (R)	Overtime as a % of personnel cost	Amount (R'000)	HOA as a % of personnel cost	Amount (R'000)	Medical assistance as a % of personnel cost
Lower skilled (Levels 1–2)	2 988 339	1	519	0.00023				
Skilled (Levels 3–5)	15 126 156	7	10 521	0.00460				
Highly skilled production (Levels 6–8)	71 938 056	31	106 473	0.04658	0			
Highly skilled supervision (Levels 9–12)	7 537 610	33	0	0	0			
Senior management (Levels 13–16)	63 164 156	28	0	0	0			
Total	228 592 814	100	117 513	0.05141	N/A	N/A	N/A	N/A

### EMPLOYMENT AND VACANCIES

The following table summarises the number of posts on the establishment, the number of employees, the vacancy rate, and whether there are any staff that are additional to the establishment.

**TABLE 4: EMPLOYMENT AND VACANCIES BY SALARY BANDS, 31 MARCH 2015 (INCLUDES PERMANENT AND CONTRACT STAFF)**

Salary band	Number of posts	Number of posts filled	Vacancy rate (%)	Number of posts filled additional to the establishment
Lower skilled (Levels 1–2)	27	27	0	N/A
Skilled (Levels 3–5)	110	106	4	N/A
Highly skilled production (Levels 6–8)	270	251	7	N/A
Highly skilled supervision (Levels 9–12)	145	132	9	N/A
Senior management (Levels 13–16)	66	62	6	N/A

## // PART D: HUMAN RESOURCE MANAGEMENT

### JOB EVALUATION

Table 5 summarises the number of jobs that were evaluated during the year under review. The table also provides statistics on the number of posts that were upgraded or downgraded.

**TABLE 5: JOB EVALUATION, 1 APRIL 2014 TO 31 MARCH 2015**

Salary band	Number of posts	Number of jobs evaluated	% of posts evaluated by salary bands	Posts upgraded		Posts downgraded	
				Number	% of posts evaluated	Number	% of posts evaluated
Lower skilled (Levels 1–2)	27	0	0	0	0	0	0
Skilled (Levels 3–5)	110	7	6.4	1	14	0	0
Highly skilled production (Levels 6–8)	270	36	13.3	19	53	0	0
Highly skilled supervision (Levels 9–12)	145	30	20.7	14	47	0	0
Senior management	66	7	10.6	7	100	0	0
<b>Total</b>	<b>618</b>	<b>80</b>	<b>12.9</b>	<b>41</b>	<b>51</b>	<b>0</b>	<b>0</b>

The following table provides a summary of the number of employees whose salary positions were upgraded due to their posts being upgraded. The number of employees might differ from the number of posts upgraded since not all employees are automatically absorbed into the new posts and some of the posts upgraded could also be vacant.

**TABLE 6: PROFILE OF EMPLOYEES WHOSE SALARY POSITIONS WERE UPGRADED DUE TO THEIR POSTS BEING UPGRADED, 1 APRIL 2014 TO 31 MARCH 2015**

Beneficiaries	African	Asian	Coloured	White	Total
Female	10	5	10	9	34
Male	2	0	3	2	7
<b>Total</b>					<b>41</b>
Employees with a disability					

The following table summarises the number of cases where remuneration levels exceeded the grade determined by job evaluation. Reasons for the deviation are provided in each case.

**TABLE 7: EMPLOYEES WHOSE SALARY LEVEL EXCEED THE GRADE DETERMINED BY JOB EVALUATION, 1 APRIL 2014 TO 31 MARCH 2015 (IN TERMS OF PSR 1.V.C.3)**

<b>Total number of employees whose salaries exceeded the grades determined by job evaluation in 2014/15</b>	none
---	------

### EMPLOYMENT CHANGES

Turnover rates provide an indication of trends in the employment profile of the department. The following table provides a summary of turnover rates by salary band.

**TABLE 8: ANNUAL TURNOVER RATES BY SALARY BAND, 1 APRIL 2014 TO 31 MARCH 2015**

Salary band	Number of employees per band as on 1 April 2015	Appointments and transfers into the department	Terminations and transfers out of the department	Turnover rate (%)
Lower skilled (Levels 1–2)	27	0	2	7
Skilled (Levels 3)	107	37	23	13
Highly skilled production (Levels 6–8)	255	29	34	2
Highly skilled supervision (Levels 9–12)	132	28	28	0
Senior management	62	7	6	2

**TABLE 9: REASONS WHY STAFF ARE LEAVING THE ORGANISATION**

Termination type	Number	% of total
Death	1	1
Resignation	41	44
Expiry of contract	33	35
Dismissal – operational changes	0	0
Dismissal – misconduct	2	2
Dismissal: Inefficiency	0	0
Discharged due to ill-health	0	0
Retirement	5	5
Transfers to other public service departments	0	0
Terminations	3	3
Other: Retrenchment	8	9
<b>Total</b>	<b>93</b>	<b>100</b>
Total number of employees who left as a % of the total employment		16

## // PART D: HUMAN RESOURCE MANAGEMENT

**TABLE 10: PROMOTIONS BY SALARY BAND**

None – 2015 promotion process not commenced as yet. 2014 promotions reflected in table 5

Salary Band	Employees 1 April 2015	Promotions to another salary level	Salary bands promotions as a % of employees by salary level	Progressions to another notch within a salary level	Notch progressions as a % of employees by salary band
Lower skilled (Levels 1–2)					
Skilled (Levels 3–5)					
Highly skilled production (Levels 6–8)					
Highly skilled supervision (Levels 9–12)					
Senior management					
Total	N/A	N/A	N/A	N/A	N/A

### EMPLOYMENT EQUITY

The tables in this section are based on the formats prescribed by the Employment Equity Act, 55 of 1998.

**TABLE 11: TOTAL NUMBER OF EMPLOYEES (INCLUDING EMPLOYEES WITH DISABILITIES) IN EACH OF THE FOLLOWING OCCUPATIONAL CATEGORIES, 31 MARCH 2015.**

Occupational category (SASCO)	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Legislators, senior officials and managers	7	3	3	13	3	5	4	17	55
Professionals	12	8	7	7	28	24	37	33	156
Technicians and associate professionals	11	20	11	3	83	45	42	11	226
Clerks	20	7	2	0	39	13	10	4	95
Service and sales workers	0	0	0	0	0	0	0	0	0
Skilled agriculture and fishery workers	0	0	0	0	0	0	0	0	0
Craft and related trades workers	0	0	0	0	0	0	0	0	0
Plant and machine operators and assemblers	0	0	0	0	0	0	0	0	0
Elementary occupations	22	6	4	1	7	6	0	0	46
Total	72	44	27	24	160	93	93	65	578
Employees with disabilities	0	0	0	1	0	1	0	2	4

**TABLE 12: TOTAL NUMBER OF EMPLOYEES (INCLUDING EMPLOYEES WITH DISABILITIES) IN EACH OF THE FOLLOWING OCCUPATIONAL BANDS, 31 MARCH 2015**

Occupational band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management	1	0	0	0	0	0	0	2	3
Senior management	6	3	3	13	3	5	4	15	52
Professionally qualified and experienced specialists and mid-management	12	8	7	7	28	24	37	33	156
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	11	20	11	3	83	45	42	11	226
Semi-skilled and discretionary decision making	20	7	2	0	39	13	10	4	95
Unskilled and defined decision making	22	6	4	1	7	6	0	0	46
Total	72	44	27	24	160	93	93	65	578

**TABLE 13: RECRUITMENT, 1 APRIL 2014 TO 31 MARCH 2015**

Occupational band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management	1	0	0	0	0	0	0	1	2
Senior management	1	0	0	0	0	0	1	2	4
Professionally qualified and experienced specialists and mid-management	6	1	0	0	10	3	6	4	30
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	3	2	0	0	19	3	2	1	30
Semi-skilled and discretionary decision making	6	0	0	0	17	7	2	2	34
Unskilled and defined decision making	1	0	0	0	0	0	0	0	1
Total	18	3	0	0	46	13	11	10	101
Employees with disabilities	0	0	0	0	0	0	0	0	0

## // PART D: HUMAN RESOURCE MANAGEMENT

**TABLE 14: PROMOTIONS, 1 APRIL 2014 TO 31 MARCH 2015**

Occupational Bands	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Lower skilled (Levels 1–2)	0	0	0	0	0	0	0	0	0
Skilled (Levels 3–5)		1							1
Highly skilled production (Levels 6–8)	1	1	0	0	6	5	1	5	19
Highly skilled supervision (Levels 9–12)	0	0	0	0	4	4	3	3	14
Senior management	1	1	0	2	0	1	1	1	7
<b>Total</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>9</b>	<b>41</b>
Employees with disabilities	0	0	0	0	0	0	0	0	0

**TABLE 15: TERMINATIONS, 1 APRIL 2014 TO 31 MARCH 2015**

Occupational band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management	0	0	0	0	0	0	0	0	0
Senior management	1	0	0	2	0	0	0	2	5
Professionally qualified and experienced specialists and mid-management	3	0	0	3	10	1	8	6	31
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	6	0	1	0	14	2	4	5	32
Semi-skilled and discretionary decision making	3	0	0	0	17	1	0	2	23
Unskilled and defined decision making	1	0	0	0	1	0	0	0	2
<b>Total</b>	<b>14</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>42</b>	<b>4</b>	<b>12</b>	<b>15</b>	<b>93</b>
Employees with disabilities	3	0	0	0	0	0	0	0	3

**TABLE 16: DISCIPLINARY ACTION, 1 APRIL 2014 TO 31 MARCH 2015**

	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Disciplinary action	2	1	0	0	0	0	0	0	3

**TABLE 17: SKILLS DEVELOPMENT, 1 APRIL 2014 TO 31 MARCH 2015**

Occupational category	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Legislators, senior officials and managers	2	0	0	1	0	1	4	2	9
Professionals	3	2	3	1	6	3	31	4	53
Technicians and associate professionals	7	1	8	0	34	11	23	12	96
Clerks	13	0	0	0	19	2	2	0	36
Service and sales workers	0	0	0	0	0	0	0	0	0
Skilled agriculture and fishery workers	0	0	0	0	0	0	0	0	0
Craft and related trades workers	0	0	0	0	0	0	0	0	0
Plant and machine operators and assemblers	0	0	0	0	0	0	0	0	0
Elementary occupations	10	0	4	0	0	0	0	0	14
<b>Total</b>	<b>35</b>	<b>3</b>	<b>15</b>	<b>2</b>	<b>49</b>	<b>17</b>	<b>60</b>	<b>18</b>	<b>208</b>
Employees with disabilities	0	0	0	0	0	0	0	1	1

## // PART D: HUMAN RESOURCE MANAGEMENT

### PERFORMANCE REWARDS

To encourage good performance, the organisation has granted the following performance rewards during the year under review. The information is presented in terms of race, gender, and disability (Table 18) and salary bands (Table 19).

**TABLE 18: PERFORMANCE REWARDS BY RACE, GENDER, AND DISABILITY, 1 APRIL 2014 TO 31 MARCH 2015**

	Beneficiary profile			Cost	
	Number of beneficiaries	Total number of employees in group	% of total within group	Cost (R)	Average cost per employee (R)
African					
Male					
Female					
Asian					
Male					
Female					
Coloured					
Male					
Female					
White					
Male					
Female					
Employees with a disability					
Total	N/A				N/A

No performance bonus paid year end 2014/15.

**TABLE 19: PERFORMANCE REWARDS BY SALARY BANDS FOR PERSONNEL BELOW SENIOR MANAGEMENT SERVICE, 1 APRIL 2014 TO 31 MARCH 2015**

Salary band	Beneficiary profile			Cost		
	Number of beneficiaries	Number of employees	% of total within salary bands	Total cost (R)	Average cost per employee (R)	Total cost as a % of the total personnel expenditure
Lower skilled (Levels 1–2)	N/A					
Skilled (Levels 3–5)	N/A					
Highly skilled production (Levels 6–8)	N/A					
Highly skilled supervision (Levels 9-12)	N/A					
Total	N/A					

No performance bonus paid year end 2014/15.

**TABLE 20: PERFORMANCE RELATED REWARDS (CASH BONUS), BY SALARY BAND, FOR SENIOR MANAGEMENT SERVICE**

No bonuses paid as yet

Salary band	Beneficiary profile			Total cost (R)	Average cost per employee (R)	Total cost as a % of the total personnel expenditure
	Number of beneficiaries	Number of employees	% of total within band			
Band A	N/A					
Band B	N/A					
Band C	N/A					
Band D	N/A					
Total	N/A					

No performance bonus paid yearend 2014/15.

## // PART D: HUMAN RESOURCE MANAGEMENT

### FOREIGN WORKERS

The tables below summarise the employment of foreign nationals in the organisation in terms of salary bands and by major occupation. The tables also summarise changes in the total number of foreign workers in each salary band and by each major occupation.

**TABLE 21: FOREIGN WORKERS, 1 APRIL 2014 TO 31 MARCH 2015, BY SALARY BAND**

Salary band	1 April 2014		31 March 2015		Change	
	Number	% of total	Number	% of total	Number	% change
Lower skilled (Levels 1–2)	0	0	0	0	0	0
Skilled (Levels 3–5)	5	36	0	0	-5	-36
Highly skilled production (Levels 6–8)	0	0	3	13	3	21
Highly skilled supervision (Levels 9–12)	7	50	15	65	8	57
Senior management (Levels 13–16)	2	14	5	22	3	21
Total	14	100	23	100	9	

**TABLE 22: FOREIGN WORKERS, 1 APRIL 2014 TO 31 MARCH 2015, BY MAJOR OCCUPATION**

Major occupation	1 April 2014		31 March 2015		Change	
	Number	% of total (foreigners)	Number	% of total (foreigners)	Number	% change
Unit Director	1	7.1	1	4.3	0	0
Statistician	1	7.1	0	0	-1	-7
BOD intern	0	0	0	0	0	0
Research trainee	1	7.1	0	0	-1	-7
Scientist	1	7.1	1	4.3	0	0
Senior research technologist	1	7.1	0	0	-1	-7
Senior scientist	6	43	8	35	2	14
Senior statistician	0	0	1	4.3	1	7
Specialist scientist	1	7.1	2	9	1	7
Specialist statistician	0	0	1	4.3	1	7
Senior IT advisor	0	0	0	0	0	0
Senior specialist scientist	0	0	1	4.3	1	7
Senior specialist statistician	1	7.1	0	0	-1	-7
Chief specialist scientist	1	7.1	2	9	1	7
Chief specialist statistician	0	0	1	4.3	1	7

Major occupation	1 April 2014		31 March 2015		Change	
	Number	% of total (foreigners)	Number	% of total (foreigners)	Number	% change
Project leader	0	0	1	4.3	1	7
Project coordinator	0	0	1	4.3	1	7
Division manager	0	0	2	9	2	14
Research manager	0	0	1	4.3	1	7
Total	14	100	23	100	9	

### LEAVE UTILISATION, 1 JANUARY 2014 TO 31 DECEMBER 2014

The Public Service Commission identified the need for careful monitoring of sick leave within the public service. The following tables provide an indication of the use of sick leave (Table 23) and disability leave (Table 24). In both cases, the estimated cost of the leave is also provided.

**TABLE 23: SICK LEAVE, 1 JANUARY 2014 TO 31 DECEMBER 2014**

Salary Band	Total days	% days with medical certification	Number of Employees using sick leave	% of total employees using sick leave	Average days per employee	Estimated cost (R'000)
Lower skilled (Levels 1–2)	215		21	3.63	10.24	93 952
Skilled (Levels 3–5)	557		87	15.05	6.40	311 168
Highly skilled production (Levels 6–8)	1215		194	33.56	6.26	216 248
Highly skilled supervision (Levels 9–12)	358		68	11.76	5.26	151 431
Senior management	83		21	3.63	3.95	89 016
Total	2428		391	67.63	32.11	861 815

**TABLE 24: DISABILITY LEAVE (TEMPORARY AND PERMANENT), 1 JANUARY 2014 TO 31 DECEMBER 2014**

Salary Band	Total days taken	% days with medical certification	Number of Employees using disability leave	% of total employees using disability leave	Average days per employee	Estimated Cost (R'000)
Lower skilled (Levels 1–2)						
Skilled (Levels 3–5)	35		1	0.17	35	27 788
Highly skilled production (Levels 6–8)	32		1	0.17	32	47 229
Highly skilled supervision (Levels 9–12)	12		1	0.17	12	20 851
Senior management	0		0	0	0	0
Total	79		3	0.51	79	95 868

## // PART D: HUMAN RESOURCE MANAGEMENT

Table 25 summarises the utilisation of annual leave. The wage agreement concluded with trade unions in the PSCBC in 2000 requires management of annual leave to prevent high levels of accrued leave being paid at the time of termination of service.

**TABLE 25: ANNUAL LEAVE, 1 JANUARY 2014 TO 31 DECEMBER 2014**

Salary Bands	Total days taken	Average per employee
Lower skilled (Levels 1–2)	542	20.85
Skilled (Levels 3–5)	4 535	15.35
Highly skilled production (Levels 6–8)	4 299	18.37
Highly skilled supervision (Levels 9–12)	2 071	18.49
Senior management	1 095	20.66
Total	12 542	93.72

**TABLE 26: CAPPED LEAVE, 1 JANUARY 2014 TO 31 DECEMBER 2014**

Salary Bands	Total days of capped leave taken	Average number of days taken per employee	Average capped leave per employee as at 31 December 2014
Lower skilled (Levels 1–2)	55	7.86	10.5
Skilled (Levels 3–5)	136	8	4.25
Highly skilled production (Levels 6–8)	626	8.58	0.92
Highly skilled supervision (Levels 9–12)	544	10.67	1.63
Senior management	531	15.17	1.09
Total	1892	50.28	18.39

The following table summarises payments made to employees as a result of leave that was not taken.

**TABLE 27: LEAVE PAYOUTS, 1 APRIL 2014 TO 31 MARCH 2015**

Reason	Total amount (R'000)	Number of employees	Average payment per employee
Terminations	0	0	0
Total	0	0	0

## HIV AND AIDS & HEALTH PROMOTION PROGRAMMES

**TABLE 28: STEPS TAKEN TO REDUCE THE RISK OF OCCUPATIONAL EXPOSURE**

Units/Categories of employees identified to be at high risk of contracting HIV & related diseases	Key steps
N/A	

**TABLE 29: DETAILS OF HEALTH PROMOTION AND HIV AND AIDS PROGRAMMES**

Question	Yes	No	Details, if yes
1. Has the organisation designated a member of the SMS to implement the provisions contained in Part VI E of Chapter 1 of the Public Service Regulations, 2001? If so, provide her/his name and position.		X	
2. Does the organisation have a dedicated unit or has it designated specific staff members to promote the health and well-being of your employees? If so, indicate the number of employees who are involved in this task and the annual budget that is available for this purpose.	X		A formal employee wellness programme, administered by an external service provider, in collaboration with HR.
3. Has the organisation introduced an Employee Assistance or Health Promotion Programme for your employees? If so, indicate the key elements/services of this Programme.	X		Employee Assistance Programme [EAP], including psychological issues, life management and work related issues, managerial consultancy & Referral Issues Health and awareness programme HIV and wellness interventions, including on-site visits, VCT, risk assessments Wellness events and staff orientation HIV and chronic conditions case management Incapacity, ill-health and absenteeism management
4. Has the organisation established (a) committee(s) as contemplated in Part VI E.5 (e) of Chapter 1 of the Public Service Regulations, 2001? If so, please provide the names of the members of the committee and the stakeholder(s) that they represent.		X	
5. Has the organisation reviewed its employment policies and practices to ensure that these do not unfairly discriminate against employees on the basis of their HIV status? If so, list the employment policies/practices so reviewed.	X		Recruitment policies. Rest of policies are subject to legislative requirements, e.g. LRA, EE Act
6. Has the organisation introduced measures to protect HIV-positive employees or those perceived to be HIV-positive from discrimination? If so, list the key elements of these measures.		X	No special reference, as it is part of the SAMRC's general code of conduct to honour the stipulations encompassed in Constitution and other legislation
7. Does the organisation encourage its employees to undergo Voluntary Counselling and Testing? If so, list the results that you have achieved.	X		Approx. 50% of staff knows their status through wellness and other events. Nine employees registered on the wellness programme HIV programme
8. Has the organisation developed measures/indicators to monitor & evaluate the impact of its health promotion programme? If so, list these measures/indicators.	X		Monthly take up, counselling sessions, calls received, VCTs, CDM. Quarterly reports submitted by the Wellness consultants

## // PART D: HUMAN RESOURCE MANAGEMENT

### LABOUR RELATIONS

The following collective agreements were entered into with trade unions within the organisation.

**TABLE 30: COLLECTIVE AGREEMENTS, 1 APRIL 2014 TO 31 MARCH 2015**

Subject matter	Date
Salary adjustments	12 March 2014, effective 1 April 2014

The following table summarises the outcome of disciplinary hearings conducted within the department for the year under review.

**TABLE 31: MISCONDUCT AND DISCIPLINARY HEARINGS FINALISED, 1 APRIL 2014 TO 31 MARCH 2015**

Outcome of disciplinary hearings	Number	% of total
Correctional counselling	0	0
Verbal warning	6	46
Written warning	4	30
Final written warning	1	8
Suspended without pay	0	0
Fine	0	0
Demotion	0	0
Dismissal	2	16
Not guilty	0	0
Case withdrawn	0	0
Total	13	100

**TABLE 32: TYPES OF MISCONDUCT ADDRESSED AT DISCIPLINARY HEARINGS**

Type of misconduct	Number	% of total
Unauthorised possession, absenteeism, influence of alcohol	3	0.5
Total	3	0.5

**TABLE 33: GRIEVANCES LODGED, 1 APRIL 2014 TO 31 MARCH 2015**

	Number	% of total
Number of grievances resolved	1	100
Number of grievances not resolved	0	0
Total number of grievances lodged	1	100

**TABLE 34: DISPUTES LODGED WITH COUNCILS, 1 APRIL 2014 TO 31 MARCH 2015**

	Number	% of total
Number of disputes upheld	N/A	N/A
Number of disputes dismissed		
Total number of disputes lodged	N/A	N/A

**TABLE 35: STRIKE ACTIONS, 1 APRIL 2014 TO 31 MARCH 2015**

Total number of person working days lost	N/A
Total cost (R) of working days lost	
Amount (R) recovered as a result of no work no pay	N/A

**TABLE 36: PRECAUTIONARY SUSPENSIONS, 1 APRIL 2014 TO 31 MARCH 2015**

Number of people suspended	N/A
Number of people whose suspension exceeded 30 days	
Average number of days suspended	
Cost (R) of suspensions	N/A

### SKILLS DEVELOPMENT

This section highlights the efforts of the department with regard to skills development.

**TABLE 37: TRAINING NEEDS IDENTIFIED, 1 APRIL 2014 TO 31 MARCH 2015**

Occupational category	Gender	Number of employees as at 1 April 2015	Training needs identified at start of reporting period			
			Learnerships	Skills programmes & other short courses	Other forms of training	Total
Legislators, senior officials and managers	Female	29	0	0	12	12
	Male	26	0	0	0	0
Professionals	Female	122	0	16	79	95
	Male	34	0	1	2	3
Technicians and associate professionals	Female	184	0	6	133	139
	Male	46	0	0	8	8
Clerks	Female	67	0	0	41	41
	Male	29	0	0	0	0
Service and sales workers	Female	0	0	0	0	0
	Male	0	0	0	0	0

## // PART D: HUMAN RESOURCE MANAGEMENT

Occupational category	Gender	Number of employees as at 1 April 2015	Training needs identified at start of reporting period			
			Learnerships	Skills programmes & other short courses	Other forms of training	Total
Skilled agriculture and fishery workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Craft and related trades workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Plant and machine operators and assemblers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Elementary occupations	Female	13	0	0	0	0
	Male	33	0	0	65	65
Sub Total	Female	415	0	22	265	287
	Male	168	0	1	75	76
Total		583	0	23	340	363

TABLE 38: TRAINING PROVIDED, 1 APRIL 2014 TO 31 MARCH 2015

Occupational category	Gender	Number of employees as at 1 April 2015	Training provided within the reporting period			
			Learnerships	Skills programmes & other short courses	Other forms of training	Total
Legislators, senior officials and managers	Female	29	0	0	27	27
	Male	26	0	0	2	2
Professionals	Female	122	0	7	147	154
	Male	34	0	4	6	10
Technicians and associate professionals	Female	184	0	17	218	235
	Male	46	0	4	25	29
Clerks	Female	67	0	3	30	33
	Male	29	0	1	41	42
Service and sales workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Skilled agriculture and fishery workers	Female	0	0	0	0	0
	Male	0	0	0	0	0

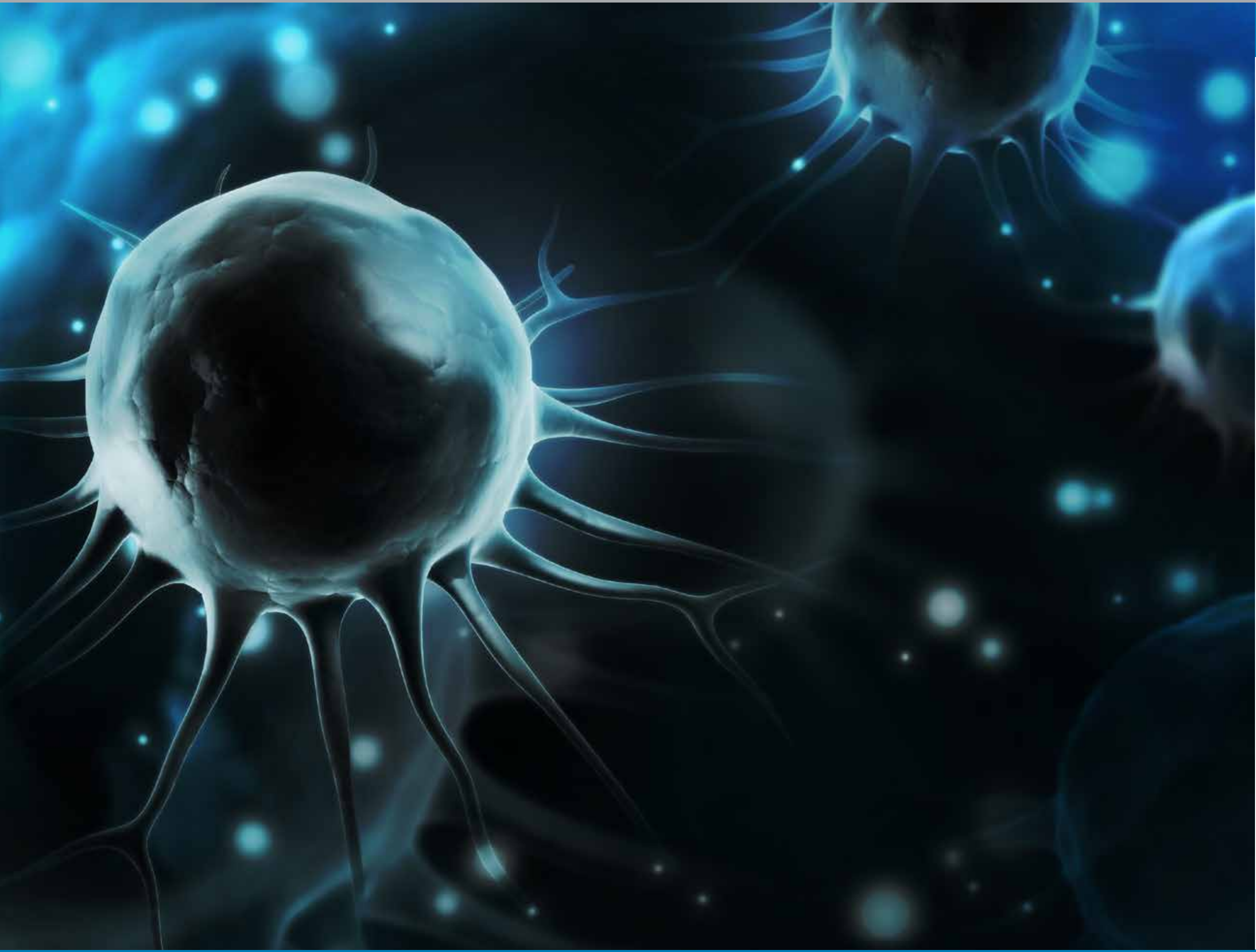
Occupational category	Gender	Number of employees as at 1 April 2015	Training provided within the reporting period			
			Learnerships	Skills programmes & other short courses	Other forms of training	Total
Craft and related trades workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Plant and machine operators and assemblers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Elementary occupations	Female	13	0	0	0	13
	Male	33	0	0	45	45
Sub Total	Female	415	0	27	422	449
	Male	168	0	9	119	128
Total		583	0	36	541	577

### INJURY ON DUTY

The following tables provide basic information on injury on duty

TABLE 39: INJURY ON DUTY, 1 APRIL 2014 TO 31 MARCH 2015

Nature of injury on duty	Number	% of total
Required basic medical attention only	11	55
Temporary total disablement	9	45
Permanent disablement	0	0
Fatal	0	0
Total	20	100



## // PART E: FINANCIAL INFORMATION

Report of the Chief Executive Officer/President	124
Report of the Auditor-General	125
Accounting Authority's Responsibilities and Approval	127
Audit Committee Report	128
Statement of Financial Position	129
Statement of Financial Performance	130
Statement of Changes in Net Assets	131
Cash Flow Statement	132
Statement of Comparison of Budget and Actual Amounts	133
Accounting Policies	135
Notes to the Financial Statements	153

**The following supplementary information does not form part of the annual financial statements and is unaudited:**

Detailed Income statement	191
---------------------------	-----

## // REPORT OF THE CHIEF EXECUTIVE OFFICER/PRESIDENT



Professor Glenda E. Gray

President and CEO of the South African Medical Research Council

**GENERAL FINANCIAL REVIEW**

(All figures R'000, prior year in parenthesis.)

Revenue for the year showed a small increase of 2.5% to R667 406 (R651 162). This consists of an increase in government grants of 7.1% to R391 518 (R365 316) and a decrease in contract income of 3.5% to R275 888 (R285 847).

This resulted in an operating deficit of R22 816 for the year compared to an operating deficit of R10 743 in 2013/14. A decrease in investment income to R19 137 (R20 262) due to a decrease in the average balance of investments during the year under review resulted in a net deficit for the year of R3 767 compared to a surplus R4 534 in 2013/14.

The final deficit for the year of R3 767 is lower than the approved budget deficit of R44 000 mainly as a result of the delayed milestone payments on flagship grants and higher than anticipated recoveries on contracts.

The organisation remains financially strong with accumulated reserves of R242 124 (R245 892).

Total assets have decreased by 7.3% to R471 755 (R509 138) due mainly to a decrease in cash and cash equivalents of 6.4% to R313 790 (R335 126). The decrease in total assets has been offset by a decrease in payables from exchange transactions of 33.4% to R64 929 (R97 476) resulting from the decrease in flagship grant accruals.

Provisions include an amount of R3 573 raised in respect of a performance bonus for the 2014/15 year.

The organisation generated a negative operating cash flow of R7 378 compared to a similar negative cash flow of R8 913 in the prior period.

Net cash flows from investing activities were also negative due mainly to capital expenditure of R15 546 (R25 576). The net impact of the above is a reduction of R21 336 in cash and cash equivalents to R313 790 (R335 126).

**SPENDING TRENDS**

Operating expenses also showed a small increase of 4.0% to R697 721 (R670 677) largely in line with the increase in income. Collaborative research costs increased by 37.8% to R261 346 (R189 600) reflecting the continued growth in SHIP grants and the first payment of R44 000 to the US National Institutes of Health in terms of the three year collaboration. This was to some extent offset by a 26% decrease in travel costs to R31 870 (R43 056) as well as a 7% decrease in employee related costs to R277 231 (R298 099) resulting from the bonus provision of R30 965 raised in 2013/14 as a result of the legal judgement.

Employee related costs include a provision of R8 737 raised in 2014/15 to offset the actuarial deficits in the post-retirement medical aid plan and defined benefit pension fund. A further reduction in operating expenses resulted from the reversal of the one off provision for impairment costs of R13 002 raised in 2013/14 as a result of the revitalisation process.

**REQUESTS FOR ROLL-OVER OF FUNDS**

Accumulated reserves at 31 March 2015 amount to R242 124 (R245 892). The necessary approvals have been obtained for the rollover of funds received from Government but not yet spent.

**SUPPLY CHAIN MANAGEMENT**

There were no unsolicited bid proposals received during the year. The existing Materiality Framework was approved by the Minister. Irregular expenditure for the year increased to R730 from R215 in 2013/14.

**AUDIT REPORT MATTERS**

The ruling of the Labour Court in favour of Nehawu with regard to the payment of bonuses was accepted by the Board in 2013/14. Bonuses due in terms of the ruling were paid in 2014/15.

**EVENTS AFTER THE REPORTING DATE**

There were no significant events occurring after balance sheet date.

**ECONOMIC VIABILITY**

An increase in funding allocations of 39.8% to R623 892 for 2015/16 has been approved by Government through the MTEF process. This, together with accumulated reserves of R242 124 and significant increases anticipated in grant income, will ensure that the SAMRC will continue to operate as a going concern.

## // REPORT OF THE AUDITOR GENERAL

**REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL****REPORT ON THE FINANCIAL STATEMENTS****INTRODUCTION**

1. I have audited the financial statements of the South African Medical Research Council set out on pages 129 to 190, which comprise the statement of financial position as at 31 March 2015, the statement of financial performance, statement of changes in net assets, cash flow statement and the statement of comparison of budget and actual amounts for the year then ended, as well as the notes, comprising a summary of significant accounting policies and other explanatory information.

**ACCOUNTING AUTHORITY'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS**

2. The accounting authority is responsible for the preparation and fair presentation of these financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA) and for such internal control as the accounting authority determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

**AUDITOR-GENERAL'S RESPONSIBILITY**

3. My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with International Standards on Auditing. Those standards require that I comply with ethical requirements, and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

4. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of

accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

5. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

**OPINION**

6. In my opinion, the financial statements present fairly, in all material respects, the financial position of the South African Medical Research Council as at 31 March 2015 and its financial performance and cash flows for the year then ended, in accordance with SA Standards of GRAP and the requirements of the PFMA.

**ADDITIONAL MATTER**

7. I draw attention to the matter below. My opinion is not modified in respect of this matter.

**UNAUDITED SUPPLEMENTARY INFORMATION**

8. The supplementary information set out on page 191 does not form part of the financial statements and is presented as additional information. I have not audited this schedule and accordingly, I do not express an opinion thereon.

**REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS**

9. In accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) and the general notice issued in terms thereof, I have a responsibility to report findings on the reported performance information against predetermined objectives for selected programmes presented in the annual performance report, non-compliance with legislation and internal control. The objective of my tests was to identify reportable findings as described under each subheading but not to gather evidence to express assurance on these matters. Accordingly, I do not express an opinion or conclusion on these matters.

**PREDETERMINED OBJECTIVES**

10. I performed procedures to obtain evidence about the usefulness and reliability of the reported performance information for the following selected objectives presented in the annual performance report of the entity for the year ended 31 March 2015:

## // REPORT OF THE AUDITOR GENERAL

- Strategic objective 2.1: To produce and disseminate new scientific findings and knowledge on health
- Strategic objective 2.2: To promote scientific excellence and the reputation of South African health research
- Strategic objective 2.3: To provide leadership in the generation of new knowledge in health
- Strategic objective 2.4: To facilitate the translation of MRC research findings into health policies and practices

11. I evaluated the reported performance information against the overall criteria of usefulness and reliability.
12. I evaluated the usefulness of the reported performance information to determine whether it was presented in accordance with the National Treasury's annual reporting principles and whether the reported performance was consistent with the planned objectives. I further performed tests to determine whether indicators and targets were well defined, verifiable, specific, measurable, time bound and relevant, as required by the National Treasury's Framework for managing programme performance information.
13. I assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.
14. I did not identify any material findings on the usefulness and reliability of the reported performance information for the following objectives:
- Strategic objective 2.1: To produce and disseminate new scientific findings and knowledge on health
  - Strategic objective 2.2: To promote scientific excellence and the reputation of South African health research
  - Strategic objective 2.3: To provide leadership in the generation of new knowledge in health
  - Strategic objective 2.4: To facilitate the translation of MRC research findings into health policies and practices

### ADDITIONAL MATTERS

15. Although I identified no material findings on the usefulness and reliability of the reported performance information for the selected objectives, I draw attention to the following matters:

### ACHIEVEMENT OF PLANNED TARGETS

16. Refer to the annual performance report on pages 68 to 71 for information on the achievement of the planned targets for the year.

### ADJUSTMENT OF MATERIAL MISSTATEMENTS

17. I identified material misstatements in the annual performance report submitted for auditing on the reported performance information for strategic objective 2.1: To produce and disseminate new scientific findings and knowledge on health. As management subsequently corrected the misstatements I did not raise any material findings on the usefulness and reliability of the reported performance information.

### COMPLIANCE WITH LEGISLATION

18. I performed procedures to obtain evidence that the entity had complied with applicable legislation regarding financial matters, financial management and other related matters. I did not identify any instances of material non-compliance with specific matters in key legislation, as set out in the general notice issued in terms of the PAA.

### INTERNAL CONTROL

19. I considered internal control relevant to my audit of the financial statements, annual performance report and compliance with legislation. I did not identify any significant deficiencies in internal control.

*Auditor - General*

**Auditor-General**  
Cape Town  
29 July 2015



**AUDITOR - GENERAL**  
**SOUTH AFRICA**

*Auditing to build public confidence*

## // ACCOUNTING AUTHORITY'S RESPONSIBILITIES AND APPROVAL

The Accounting Authority is required by the Public Finance Management Act (Act 1 of 1999), to maintain adequate accounting records and is responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is the responsibility of the member to ensure that the annual financial statements fairly present the state of affairs of the entity as at the end of the financial year and the results of its operations and cash flows for the period then ended. The external auditors are engaged to express an independent opinion on the annual financial statements and was given unrestricted access to all financial records and related data.

The annual financial statements have been prepared in accordance with Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

The annual financial statements are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The Accounting Authority acknowledges that he is ultimately responsible for the system of internal financial control established by the entity and place considerable importance on maintaining a strong control environment. To enable the member to meet these responsibilities, the accounting authority sets standards for internal control aimed at reducing the risk of error or deficit in a cost effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the entity and all employees are required to maintain the highest ethical standards in ensuring the entity's business is conducted in a manner that in all reasonable circumstances is above reproach.

The focus of risk management in the entity is on identifying, assessing, managing and monitoring all known forms of risk across the entity. While operating risk cannot be fully eliminated, the entity endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The Accounting Authority is of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or deficit.

The Accounting Authority has reviewed the entity's cash flow forecast for the year to 31 March 2015 and, in the light of this review and the current financial position, is satisfied that the entity has or has access to adequate resources to continue in operational existence for the foreseeable future.

Although the accounting authority are primarily responsible for the financial affairs of the entity, they are supported by the entity's external auditors.

The external auditors are responsible for independently auditing and expressing an opinion on the entity's annual financial statements. The annual financial statements have been examined by the entity's external auditors and their report is presented on page 5.

The annual financial statements set out on pages 129 to 191, which have been prepared on the going concern basis, were approved by the accounting authority on 30 July 2015 and were signed on its behalf by:

**Professor M Sathekge**  
Chairperson of the Board

## // AUDIT COMMITTEE REPORT

We are pleased to present our report for the financial year ended 31 March 2015.

**AUDIT COMMITTEE MEMBERS AND ATTENDANCE**

The audit committee consists of the members listed hereunder and should meet 4 times per annum as per its approved terms of reference. During the current year 4 meetings were held.

Name of member	Number of meetings attended
Doctor P Hanekom (Chairperson)	4
Advocate J Ralefatane	4
Professor Y Osman	4
Prof K Mfenyana	3
Prof K Moodley	1 Resigned from the Board effective date 4 July 2014
Dr F Conradie	1 Appointed from 1 August 2014

**AUDIT COMMITTEE RESPONSIBILITY**

The audit committee reports that it has complied with its responsibilities arising from section 55(1)(a) of the PFMA and Treasury Regulation 27.1.

The audit committee also reports that it has adopted appropriate formal terms of reference as its audit committee charter, has regulated its affairs in compliance with this charter and has discharged all its responsibilities as contained therein.

**THE EFFECTIVENESS OF INTERNAL CONTROL**

The system of internal controls applied by the entity over financial and risk management is effective, efficient and transparent. In line with the PFMA and the King III Report on Corporate Governance requirements, Internal Audit provides the audit committee and management with assurance that the internal controls are appropriate and effective. This is achieved by means of the risk management process, as well as the identification of corrective actions and suggested enhancements to the controls and processes. From the various reports of the Internal Auditors, the Audit Report on the annual financial statements, and the management report of the Auditor-General of South Africa, it was noted that no matters were reported that indicate any material deficiencies in the system of internal control or any deviations therefrom.

Accordingly, we can report that the system of internal control over financial reporting for the period under review was efficient and effective. The audit committee is satisfied with the content and quality of monthly and quarterly reports prepared and issued by the Accounting Authority of the entity during the year under review.

**EVALUATION OF ANNUAL FINANCIAL STATEMENTS**

The audit committee has:

- reviewed and discussed the audited annual financial statements to be included in the annual report, with the Auditor-General and the Accounting Authority;
- reviewed the Auditor-General of South Africa's management report and management's response thereto;
- reviewed the entity's compliance with legal and regulatory provisions.

The audit committee concurs with and accepts the Auditor-General of South Africa's report on the annual financial statements, and are of the opinion that the audited annual financial statements should be accepted and read together with the report of the Auditor-General of South Africa.

**INTERNAL AUDIT**

The audit committee is satisfied that the internal audit function is operating effectively and that it has addressed the risks pertinent to the entity and its audits.

**AUDITOR-GENERAL OF SOUTH AFRICA**

The audit committee has met with the Auditor-General of South Africa to ensure that there are no unresolved issues.

**RISK MANAGEMENT**

The risk management activity has received corporate endorsement and risk management processes have been formalised and adopted. Risk management activities are reported on a quarterly basis.

**INFORMATION SYSTEMS**

The IT infrastructure was upgraded during the year under review.



Chairperson of the Audit Committee  
31 March 2015

## // STATEMENT OF FINANCIAL POSITION AS AT 31 MARCH 2015

	Note(s)	2015 R	2014 R
<b>Assets</b>			
Current Assets			
Other financial assets	7	6 334 078	5 499 310
Receivables from exchange transactions	10	26 230 026	33 945 814
VAT receivable	11	3 860 873	8 293 545
Prepayments	9	1 794 906	1 795 294
Cash and cash equivalents	12	313 790 334	335 126 630
		<b>352 010 217</b>	<b>384 660 593</b>
<b>Non-Current Assets</b>			
Biological assets that form part of an agricultural activity	3	904 792	1 067 700
Property, plant and equipment	4	110 920 050	114 822 081
Intangible assets	5	7 684 548	8 203 875
Investments in controlled entities	6	2	2
Other financial assets	7	235 307	384 132
		<b>119 744 699</b>	<b>124 477 790</b>
<b>Total Assets</b>		<b>471 754 916</b>	<b>509 138 383</b>
<b>Liabilities</b>			
Current Liabilities			
Payables from exchange transactions	17	64 928 539	97 475 806
Provisions	14	25 933 160	38 498 599
Deferred income	16	123 424 757	122 716 452
		<b>214 286 456</b>	<b>258 690 857</b>
<b>Non-Current Liabilities</b>			
Retirement benefit obligation	8	12 184 000	3 447 000
Earmarked funds	15	3 160 138	1 108 828
		<b>15 344 138</b>	<b>4 555 828</b>
<b>Total Liabilities</b>		<b>229 630 594</b>	<b>263 246 685</b>
<b>Net Assets</b>		<b>242 124 322</b>	<b>245 891 698</b>
Accumulated surplus	13	<b>242 124 322</b>	<b>245 891 698</b>

## // STATEMENT OF FINANCIAL PERFORMANCE

	Note(s)	2015	2014
		R	R
Revenue	18	667 406 256	651 162 521
Other income	19	8 128 215	8 771 002
Operating expenses		<b>(697 720 724)</b>	<b>(670 676 555)</b>
<b>Operating deficit</b>	29	<b>(22 186 253)</b>	<b>(10 743 032)</b>
Investment income	21	19 137 560	20 262 100
Fair value adjustments	27	651 514	946 771
Finance costs	24	(1 370 197)	(5 932 313)
<b>(Deficit) Surplus for the year</b>		<b>(3 767 376)</b>	<b>4 533 526</b>

## // STATEMENT OF CHANGES IN NET ASSETS

	Accumulated surplus	Total net assets
	R	R
<b>Balance at 01 April</b>	<b>241 358 172</b>	<b>241 358 172</b>
Changes in net assets Surplus for the year	4 533 526	4 533 526
Total changes	4 533 526	4 533 526
<b>Balance at 01 April 2014</b>	<b>245 891 698</b>	<b>245 891 698</b>
Changes in net assets Deficit for the period	(3 767 376)	(3 767 376)
Total changes	(3 767 376)	(3 767 376)
<b>Balance at 31 March 2015</b>	<b>242 124 322</b>	<b>242 124 322</b>

## // CASH FLOW STATEMENT

	Note(s)	2015	2014
		R	R
<b>Cash flows from operating activities</b>			
<b>Receipts</b>			
Interest income		19 045 116	20 183 006
Dividends received		92 444	79 094
Other receipts		688 391 624	561 328 289
		<b>707 529 184</b>	<b>581 590 389</b>
<b>Payments</b>			
Suppliers		(713 537 077)	(584 571 201)
Finance costs		(1 370 197)	(5 932 313)
		<b>(714 907 274)</b>	<b>(590 503 514)</b>
<b>Net cash flows from operating activities</b>	<b>30</b>	<b>(7 378 090)</b>	<b>(8 913 125)</b>
<b>Cash flows from investing activities</b>			
Purchase of property, plant and equipment	4	(15 545 871)	(25 576 261)
Proceeds from sale of property, plant and equipment	4	459 592	1 030 195
Purchase of other intangible assets	5	(1 070 908)	(26 065)
Loans and receivables repaid		-	375 248
Movement of financial assets		(34 429)	(87 081)
Proceeds from sale of biological assets that form part of an agricultural activity	3	182 100	132 800
<b>Net cash flows from investing activities</b>		<b>(16 009 516)</b>	<b>(24 151 164)</b>
<b>Cash flows from financing activities</b>			
Movement in earmarked funds		2 051 310	36 914
Finance lease payments		-	(8 198)
<b>Net cash flows from financing activities</b>		<b>2 051 310</b>	<b>28 716</b>
Net (decrease) / increase in cash and cash equivalents		<b>(21 336 296)</b>	<b>(33 035 573)</b>
Cash and cash equivalents at the beginning of the year		335 126 630	368 162 203
Cash and cash equivalents at the end of the year	<b>12</b>	<b>313 790 334</b>	<b>335 126 630</b>

## // STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

	Budget on Cash Basis					
	Approved budget	Adjustments	Final Budget	Actual amounts on comparable basis	Difference between final budget and actual	Reference
	R	R	R	R	R	R
<b>Statement of Financial Performance</b>						
<b>Revenue</b>						
<b>Revenue from exchange transactions</b>						
Income from contracts, grants and services rendered	279 826 500	(19 880 022)	<b>259 946 478</b>	275 887 835	<b>15 941 357</b>	44
Rental income	1 650 416	949 584	<b>2 600 000</b>	2 925 031	<b>325 031</b>	
Other income	11 618 163	(7 118 163)	<b>4 500 000</b>	3 752 841	<b>(747 159)</b>	
Interest received - investment	25 173 500	(5 923 500)	<b>19 250 000</b>	19 045 116	<b>(204 884)</b>	
Dividends received	-	-	-	92 444	<b>92 444</b>	
<b>Total revenue from exchange transactions</b>	<b>318 268 579</b>	<b>(31 972 101)</b>	<b>286 296 478</b>	<b>301 703 267</b>	<b>15 406 789</b>	
<b>Revenue from non-exchange transactions</b>						
Government grants & subsidies	391 518 421	-	<b>391 518 421</b>	391 518 421	-	
<b>Total revenue</b>	<b>709 787 000</b>	<b>(31 972 101)</b>	<b>677 814 899</b>	<b>693 221 688</b>	<b>15 406 789</b>	
<b>Expenditure</b>						
Personnel	(280 130 135)	13 620 135	<b>(266 510 000)</b>	(277 231 098)	<b>(10 721 098)</b>	44
Infra-structural, communication & statutory costs	(49 641 358)	17 741 358	<b>(31 900 000)</b>	(24 810 937)	<b>7 089 063</b>	44
Depreciation and amortisation	(18 000 000)	-	<b>(18 000 000)</b>	(18 022 167)	<b>(22 167)</b>	
Impairment loss/ Reversal of impairments	-	-	-	12 267 163	<b>12 267 163</b>	44
Finance costs	-	-	-	(1 370 197)	<b>(1 370 197)</b>	44
Bad debts written off	(1 000 000)	-	<b>(1 000 000)</b>	(1 840 637)	<b>(840 637)</b>	
Repairs and maintenance	(6 770 000)	(5 470 000)	<b>(12 240 000)</b>	(12 579 327)	<b>(339 327)</b>	
Travel, subsistence and vehicle fleet costs	(50 200 000)	16 500 000	<b>(33 700 000)</b>	(31 869 654)	<b>1 830 346</b>	44

## // STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

Budget on Cash Basis						
	Approved budget	Adjustments	Final Budget	Actual amounts on comparable basis	Difference between final budget and actual	Reference
Collaborative research	(267 963 239)	15 000 000	(252 963 239)	(261 346 256)	(8 383 017)	44
External research support, consulting and internal audit	(9 730 000)	(3 020 000)	(12 750 000)	(11 826 268)	923 732	
Printing and stationery	(6 799 500)	(350 500)	(7 150 000)	(3 783 482)	3 366 518	44
Audit fees	(2 635 000)	-	(2 635 000)	(2 462 008)	172 992	
Information technology	(17 490 000)	3 990 000	(13 500 000)	(12 289 004)	1 210 996	44
Lease rentals	(11 454 768)	6 554 768	(4 900 000)	(4 718 587)	181 413	
Laboratory operating expenses	(20 930 000)	1 530 000	(19 400 000)	(15 210 974)	4 189 026	44
Other expenses	(11 043 000)	3 083 000	(7 960 000)	(17 174 453)	(9 214 453)	44
<b>Total expenditure</b>	<b>(753 787 000)</b>	<b>69 178 761</b>	<b>(684 608 239)</b>	<b>(684 267 886)</b>	<b>340 353</b>	
<b>Operating surplus</b>	<b>(44 000 000)</b>	<b>37 206 660</b>	<b>(6 793 340)</b>	<b>8 953 802</b>	<b>15 747 142</b>	
Loss on disposal of assets and liabilities	-	-	-	(14 823 035)	(14 823 035)	44
Gain on foreign exchange	-	-	-	1 450 343	1 450 343	44
Fair value adjustments	-	-	-	651 514	651 514	
	-	-	-	(12 721 178)	(12 721 178)	
<b>(Deficit)</b>	<b>(44 000 000)</b>	<b>37 206 660</b>	<b>(6 793 340)</b>	<b>(3 767 376)</b>	<b>3 025 964</b>	
<b>Actual Amount on Comparable Basis as Presented in the Budget and Actual Comparative Statement</b>	<b>(44 000 000)</b>	<b>37 206 660</b>	<b>(6 793 340)</b>	<b>(3 767 376)</b>	<b>3 025 964</b>	

## // ACCOUNTING POLICIES

**1. PRESENTATION OF ANNUAL FINANCIAL STATEMENTS**

The annual financial statements have been prepared in accordance with the Standards of Generally Recognised Accounting Practice (GRAP), issued by the Accounting Standards Board in accordance with Section 91(1) of the Public Finance Management Act (Act 1 of 1999).

These annual financial statements have been prepared on an accrual basis of accounting and are in accordance with historical cost convention as the basis of measurement, unless specified otherwise. They are presented in South African Rand, which is also the functional currency.

A summary of the significant accounting policies, which have been consistently applied in the preparation of these annual financial statements, are disclosed below.

These accounting policies are consistent with the previous period.

**1.1 GOING CONCERN ASSUMPTION**

These annual financial statements have been prepared based on the expectation that the entity will continue to operate as a going concern for at least the next 12 months.

**1.2 SIGNIFICANT JUDGEMENTS AND SOURCES OF ESTIMATION UNCERTAINTY**

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the annual financial statements. Significant judgements include:

**Trade receivables / Held to maturity investments and/or loans and receivables**

The entity assesses its trade receivables, held to maturity investments and loans and receivables for impairment at the end of each

reporting period. In determining whether an impairment loss should be recorded in surplus or deficit, the surplus makes judgements as to whether there is observable data indicating a measurable decrease in the estimated future cash flows from a financial asset.

The impairment for trade receivables and loans and receivables is calculated on a portfolio basis, based on historical loss ratios, adjusted for national and industry-specific economic conditions and other indicators present at the reporting date that correlate with defaults on the portfolio. These annual loss ratios are applied to loan balances in the portfolio and scaled to the estimated loss emergence period.

**Fair value estimation**

The fair value of financial instruments traded in active markets (such as trading and available-for-sale securities) is based on quoted market prices at the end of the reporting period. The quoted market price used for financial assets held by the entity is the current bid price.

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. The entity uses a variety of methods and makes assumptions that are based on market conditions existing at the end of each reporting period. Quoted market prices or dealer quotes for similar instruments are used for long-term debt. Other techniques, such as estimated discounted cash flows, are used to determine fair value for the remaining financial instruments. The fair value of interest rate swaps is calculated as the present value of the estimated future cash flows. The fair value of forward foreign exchange contracts is determined using quoted forward exchange rates at the end of the reporting period.

The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair values. The fair value of financial liabilities for disclosure purposes is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the entity for similar financial instruments.

**Impairment testing**

The entity reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable. In addition, goodwill is tested on an annual basis

## // ACCOUNTING POLICIES

for impairment. Assets are grouped at the lowest level for which identifiable cash flows are largely independent of cash flows of other assets and liabilities. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets. Expected future cash flows used to determine the value in use of tangible assets are inherently uncertain and could materially change over time. They are significantly affected by a number of factors including production estimates, supply demand, together with economic factors such as research units closed as part of the revitalisation process.

### Provisions

Provisions were raised and management determined an estimate based on the information available. Additional disclosure of these estimates of provisions are included in note 14 - Provisions.

### Post retirement benefits

The present value of the post retirement obligation depends on a number of factors that are determined on an actuarial basis using a number of assumptions. The assumptions used in determining the net cost (income) include the discount rate. Any changes in these assumptions will impact on the carrying amount of post retirement obligations.

The entity determines the appropriate discount rate at the end of each year. This is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the pension obligations. In determining the appropriate discount rate, the entity considers the interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension liability.

Other key assumptions for pension obligations are based on current market conditions. Additional information is disclosed in Note 8.

### 1.3 BIOLOGICAL ASSETS THAT FORM PART OF AN AGRICULTURAL ACTIVITY

The entity recognises a Biological asset or agricultural produce when, and only when:

- the entity controls the asset as a result of past events;
- it is probable that future economic benefits or service potential associated with the asset will flow to the entity; and
- the fair value or cost of the asset can be measured reliably.

Biological assets are measured at their fair value less point-of-sale costs. Agricultural produce harvested from an entity's biological assets shall be measured at its fair value less estimated point-of-sale costs at point of harvest.

A gain or loss arising on initial recognition of Biological assets at fair value less point -of- sale costs to sell and from a change in fair value less estimated point-of-sale costs of Biological assets is included in surplus or deficit for the period in which it arises.

Where biological assets are acquired at no cost, or for a nominal cost, the cost is determined to be its fair value less point-of-sale costs as at the date of acquisition.

Where fair value cannot be measured reliably, biological assets are measured at cost less any accumulated impairment losses.

### 1.4 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are tangible non-current assets (including infrastructure assets) that are held for use in the production or supply of goods or services, rental to others, or for administrative purposes, and are expected to be used during more than one period.

The cost of an item of property, plant and equipment is recognised as an asset when:

- it is probable that future economic benefits or service potential associated with the item will flow to the entity; and
- the cost of the item can be measured reliably.

Property, plant and equipment is initially measured at cost.

## // ACCOUNTING POLICIES

The cost of an item of property, plant and equipment is the purchase price and other costs attributable to bring the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Trade discounts and rebates are deducted in arriving at the cost. Subsequent costs of replacing part of an item of property, plant and equipment is recognised in the carrying amount of the asset if it is probable that the future economic benefits embodied within the part will flow to the Council and its costs can be measured reliably. The costs of day to day servicing of property, plant and equipment are recognised in the surplus or deficit.

Where an asset is acquired through a non-exchange transaction, its cost is its fair value as at date of acquisition.

When significant components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses.

Property, plant and equipment are depreciated on the straight line basis over their expected useful lives to their estimated residual value.

The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Depreciation method	Average useful life
Buildings	Straight line	40 - 50 years
Vehicles and containers	Straight line	5 - 10 years
Furniture and office equipment	Straight line	3 - 15 years
Computer equipment	Straight line	5 - 10 years
Air conditioners	Straight line	10 - 15 years
Irrigation equipment	Straight line	10 - 15 years
Signage	Straight line	10 - 15 years
Usufruct buildings	Straight line	over life of asset

Item	Depreciation method	Average useful life
Prefabricated buildings	Straight line	20 -30 years
Laboratory equipment	Straight line	10 - 30 years

The residual value, and the useful life and depreciation method of each asset are reviewed at the end of each reporting date. If the expectations differ from previous estimates, the change is accounted for as a change in accounting estimate. The useful lives of assets are based on management's estimation. The actual useful lives of assets and residual values are assessed annually, and may vary depending on a number of factors. In re-assessing asset useful lives, factors such as technology, innovation, product life cycles and maintenance programmes are taken into account. The estimation of residual values of assets determine whether they will be sold or used to the end of their useful lives and what their condition would be like at that time. Residual value assessments consider issues such as future market conditions, the remaining life of the asset and the projected disposal values.

Reviewing the useful life of an asset on an annual basis does not require the entity to amend the previous estimate unless expectations differ from the previous estimate.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The depreciation charge for each period is recognised in surplus or deficit unless it is included in the carrying amount of another asset.

Items of property, plant and equipment are derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in surplus or deficit when the item is derecognised. The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

## // ACCOUNTING POLICIES

Assets which the entity sells via auction when it is obsolete or can no longer be used by the entity, are not accounted for as non-current assets held for sale. Proceeds from sales of these assets are recognised as revenue. All cash flows on these assets are included in cash flows from operating activities in the cash flow statement.

Reviewing the impairment of assets is performed on an annual basis. Assets impaired as a result of restructuring are not accounted for as cash generating assets held for sale as these assets will be transferred to institutions for higher learning.

### 1.5 INTANGIBLE ASSETS

An asset is identifiable if it either:

- is separable, i.e. is capable of being separated or divided from an entity and sold, transferred, licensed, rented or or exchanged, either individually or together with a related contract, identifiable assets or liability, or
- arises from contractual rights or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

Intangible assets is an identifiable non-monetary asset without physical substance.

An intangible asset is recognised when:

- it is probable that the expected future economic benefits or service potential that are attributable to the asset will flow to the entity; and
- the cost or fair value of the asset can be measured reliably.

Intangible assets are initially recognised at cost.

Where an intangible asset is acquired through a non-exchange transaction, its initial cost at the date of acquisition is measured at its fair value as at that date.

Expenditure on research activities, undertaken with the prospect of gaining new scientific or technical knowledge or understanding, is recognised as an expense when it is incurred.

Intangible assets are carried at cost less any accumulated amortisation and any impairment losses.

An intangible asset is regarded as having an indefinite useful life when, based on all relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows or service potential. Amortisation is not provided for these intangible assets, but they are tested for impairment annually and whenever there is an indication that the asset may be impaired. For all other intangible assets amortisation is provided on a straight line basis over their useful life.

The amortisation period and the amortisation method for intangible assets are reviewed at each reporting date and any change is accounted for as a change in estimate.

Amortisation is provided to write down the intangible assets, on a straight line basis, to their residual values. The estimated useful lives for current and comparative periods are as follows:

Item	Useful life
Computer software	3-10 years

Intangible assets are derecognised:

- on disposal; or
- when no future economic benefits or service potential are expected from its use or disposal.

The gain or loss is the difference between the net disposal proceeds, if any, and the carrying amount. It is recognised in surplus or deficit when the asset is derecognised.

### 1.6 INVESTMENTS IN CONTROLLED ENTITIES

Investments in controlled entities are carried at cost less any accumulated impairment.

### 1.7 FINANCIAL INSTRUMENTS

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or a residual interest of another entity.

A concessionary loan is a loan granted to or received by an entity on terms that are not market related.

## // ACCOUNTING POLICIES

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

Derecognition is the removal of a previously recognised financial asset or financial liability from an entity's statement of financial position.

A derivative is a financial instrument or other contract with all three of the following characteristics:

- Its value changes in response to the change in a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index, or other variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract (sometimes called the 'underlying').
- It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors.
- It is settled at a future date.

The effective interest method is a method of calculating the amortised cost of a financial asset or a financial liability (or group of financial assets or financial liabilities) and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, an entity shall estimate cash flows considering all contractual terms of the financial instrument (for example, prepayment, call and similar options) but shall not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate (see the Standard of GRAP on Revenue from Exchange Transactions), transaction costs, and all other premiums or discounts. There is a presumption that the cash flows and the expected life of a group of similar financial instruments can be estimated reliably. However, in those rare cases when it is not possible to reliably estimate the cash flows or the expected life of a financial instrument (or group of financial instruments), the entity

shall use the contractual cash flows over the full contractual term of the financial instrument (or group of financial instruments).

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable willing parties in an arm's length transaction.

A financial asset is:

- cash;
- a residual interest of another entity; or
- a contractual right to:
  - receive cash or another financial asset from another entity; or
  - exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity.

A financial liability is any liability that is a contractual obligation to:

- deliver cash or another financial asset to another entity; or
- exchange financial assets or financial liabilities under conditions that are potentially unfavourable to the entity.

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Liquidity risk is the risk encountered by an entity in the event of difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset.

Loan commitment is a firm commitment to provide credit under pre-specified terms and conditions.

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market.

## // ACCOUNTING POLICIES

A financial asset is past due when a counterparty has failed to make a payment when contractually due.

Transaction costs are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial asset or financial liability. An incremental cost is one that would not have been incurred if the entity had not acquired, issued or disposed of the financial instrument.

Financial instruments at amortised cost are non-derivative financial assets or non-derivative financial liabilities that have fixed or determinable payments, excluding those instruments that:

- the entity designates at fair value at initial recognition; or
- are held for trading.

Financial instruments at cost are investments in residual interests that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured.

Financial instruments at fair value comprise financial assets or financial liabilities that are:

- derivatives;
- combined instruments that are designated at fair value;
- instruments held for trading. A financial instrument is held for trading if:
  - it is acquired or incurred principally for the purpose of selling or repurchasing it in the near-term; or
  - on initial recognition it is part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short term profit-taking;
  - non-derivative financial assets or financial liabilities with fixed or determinable payments that are designated at fair value at initial recognition; and
  - financial instruments that do not meet the definition of financial instruments at amortised cost or financial instruments at cost.

### Classification

The entity has the following types of financial assets (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class of financial instrument	Category
Trade debtors	Financial assets measured initially at fair value and subsequently measured at amortised cost using the effective interest rate method, less a provision for impairment
Shares	Held for trading measured at fair value
Unit trusts	Held for trading measured at fair value
Cash and cash equivalents	Financial asset measured at fair value
Other financial assets	Financial asset measured at fair value
Loans and receivables	Financial asset measured at amortised cost

The entity has the following types of financial liabilities (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Trade payables	Financial liability initially measured at fair value and subsequently measured at amortised cost, using the effective interest method
Other financial liability	Financial liability measured at fair value

### Initial recognition

The entity recognises a financial asset or a financial liability in its statement of financial position when the entity becomes a party to the contractual provisions of the instrument.

The entity recognises financial assets using trade date accounting.

## // ACCOUNTING POLICIES

### Initial measurement of financial assets and financial liabilities

The entity measures a financial asset and financial liability initially at its fair value [if subsequently measured at fair value].

### Subsequent measurement of financial assets and financial liabilities

The entity measures all financial assets and financial liabilities after initial recognition using the following categories:

- Financial instruments at fair value.
- Financial instruments at amortised cost.

All financial assets measured at amortised cost, or cost, are subject to an impairment review.

### Presentation

Interest relating to a financial instrument or a component that is a financial liability is recognised as revenue or expense in surplus or deficit.

Dividends or similar distributions relating to a financial instrument or a component that is a financial liability is recognised as revenue or expense in surplus or deficit.

Losses and gains relating to a financial instrument or a component that is a financial liability is recognised as revenue or expense in surplus or deficit.

### 1.8 LEASES

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership. A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership.

When a lease includes elements of both land and buildings, the entity assesses the classification of each element separately.

### Finance leases - lessee

Finance leases are recognised as assets and liabilities in the statement of financial position at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payments. The liability to the lessor is included in the statement of financial position as a finance lease obligation.

Minimum lease payments are apportioned between the finance charge and reduction of the outstanding liability. The finance charge is allocated to each period during the lease term so as to produce a constant periodic rate of on the remaining balance of the liability.

### Operating leases - lessor

Operating lease revenue is recognised as revenue on a straight-line basis over the lease term.

Initial direct costs incurred in negotiating and arranging operating leases are added to the carrying amount of the leased asset and recognised as an expense over the lease term on the same basis as the lease revenue.

Income for leases is disclosed under revenue in cash flow statement and note to cash flow statement.

### Operating leases - lessee

Operating lease payments are recognised as an expense on a straight-line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as a prepayment or liability.

### 1.9 IMPAIRMENT OF NON-CASH-GENERATING ASSETS

Cash-generating assets are those assets held by the entity with the primary objective of generating a commercial return. When an asset is deployed in a manner consistent with that adopted by a profit-orientated entity, it generates a commercial return.

Non-cash-generating assets are assets other than cash-generating assets.

## // ACCOUNTING POLICIES

Impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation (amortisation).

Carrying amount is the amount at which an asset is recognised in the statement of financial position after deducting any accumulated depreciation and accumulated impairment losses thereon.

A cash-generating unit is the smallest identifiable group of assets held with the primary objective of generating a commercial return that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

Costs of disposal are incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expense.

Depreciation (Amortisation) is the systematic allocation of the depreciable amount of an asset over its useful life.

Fair value less costs to sell is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal.

Recoverable service amount is the higher of a non-cash-generating asset's fair value less costs to sell and its value in use.

Useful life is either:

- (a) the period of time over which an asset is expected to be used by the entity; or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

### Identification

When the carrying amount of a non-cash-generating asset exceeds its recoverable service amount, it is impaired.

The entity assesses at each reporting date whether there is any indication that a non-cash-generating asset may be impaired. If any such indication exists, the entity estimates the recoverable service amount of the asset.

Irrespective of whether there is any indication of impairment, the entity also test a non-cash-generating intangible asset with an indefinite useful life or a non-cash-generating intangible asset not yet available for use for impairment annually by comparing its carrying amount with its recoverable service amount. This impairment test is performed at the same time every year. If an intangible asset was initially recognised during the current reporting period, that intangible asset was tested for impairment before the end of the current reporting period.

### Value in use

Value in use of non-cash-generating assets is the present value of the non-cash-generating assets remaining service potential.

The present value of the remaining service potential of a non-cash-generating assets is determined using the following approach:

### Recognition and measurement

If the recoverable service amount of a non-cash-generating asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable service amount. This reduction is an impairment loss.

An impairment loss is recognised immediately in surplus or deficit.

When the amount estimated for an impairment loss is greater than the carrying amount of the non-cash-generating asset to which it relates, the entity recognises a liability only to the extent that is a requirement in the Standards of GRAP.

After the recognition of an impairment loss, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

### Reversal of an impairment loss

The entity assess at each reporting date whether there is any indication that an impairment loss recognised in prior periods for a non-cash-generating asset may no longer exist or may have decreased. If any such indication exists, the entity estimates the recoverable service amount of that asset.

## // ACCOUNTING POLICIES

An impairment loss recognised in prior periods for a non-cash-generating asset is reversed if there has been a change in the estimates used to determine the asset's recoverable service amount since the last impairment loss was recognised. The carrying amount of the asset is increased to its recoverable service amount. The increase is a reversal of an impairment loss. The increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss for a non-cash-generating asset is recognised immediately in surplus or deficit.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

### 1.10 EMPLOYEE BENEFITS

Employee benefits are all forms of consideration given by an entity in exchange for service rendered by employees.

A qualifying insurance policy is an insurance policy issued by an insurer that is not a related party (as defined in the Standard of GRAP on Related Party Disclosures) of the reporting entity, if the proceeds of the policy can be used only to pay or fund employee benefits under a defined benefit plan and are not available to the reporting entity's own creditors (even in liquidation) and cannot be paid to the reporting entity, unless either:

- the proceeds represent surplus assets that are not needed for the policy to meet all the related employee benefit obligations; or
- the proceeds are returned to the reporting entity to reimburse it for employee benefits already paid.

Termination benefits are employee benefits payable as a result of either:

- an entity's decision to terminate an employee's employment before the normal retirement date; or
- an employee's decision to accept voluntary redundancy in exchange for those benefits.

Other long-term employee benefits are employee benefits (other than post-employment benefits and termination benefits) that are not due to be settled within twelve months after the end of the period in which the employees render the related service.

A constructive obligation is an obligation that derives from an entity's actions where by an established pattern of past practice, published policies or a sufficiently specific current statement, the entity has indicated to other parties that it will accept certain responsibilities and as a result, the entity has created a valid expectation on the part of those other parties that it will discharge those responsibilities.

### Short-term employee benefits

Short-term employee benefits are employee benefits (other than termination benefits) that are due to be settled within twelve months after the end of the period in which the employees render the related service.

Short-term employee benefits include items such as:

- wages, salaries and social security contributions;
- short-term compensated absences (such as paid annual leave and paid sick leave) where the compensation for the absences is due to be settled within twelve months after the end of the reporting period in which the employees render the related employee service;
- bonus, incentive and performance related payments payable within twelve months after the end of the reporting period in which the employees render the related service; and
- non-monetary benefits (for example, medical care) for current employees.

When an employee has rendered service to the entity during a reporting period, the entity recognise the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service:

- as a liability (accrued expense), after deducting any amount already paid. If the amount already paid exceeds the undiscounted amount of the benefits, the entity recognise that excess as an asset (prepaid expense) to the extent that the prepayment will lead to, for example, a reduction in future payments or a cash refund; and
- as an expense, unless another Standard requires or permits the inclusion of the benefits in the cost of an asset.

## // ACCOUNTING POLICIES

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs. The entity measure the expected cost of accumulating compensated absences as the additional amount that the entity expects to pay as a result of the unused entitlement that has accumulated at the reporting date.

The entity recognise the expected cost of bonus, incentive and performance related payments when the entity has a present legal or constructive obligation to make such payments as a result of past events and a reliable estimate of the obligation can be made. A present obligation exists when the entity has no realistic alternative but to make the payments.

### Post-employment benefits

Post-employment benefits are employee benefits (other than termination benefits) which are payable after the completion of employment.

Post-employment benefit plans are formal or informal arrangements under which an entity provides post-employment benefits for one or more employees.

### Post-employment benefits: Defined contribution plans

Defined contribution plans are post-employment benefit plans under which an entity pays fixed contributions into a separate entity (a fund) and will have no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits relating to employee service in the current and prior periods.

When an employee has rendered service to the entity during a reporting period, the entity recognise the contribution payable to a defined contribution plan in exchange for that service:

- as a liability (accrued expense), after deducting any contribution already paid. If the contribution already paid exceeds the contribution due for service before the reporting date, an entity recognise that excess as an asset (prepaid expense) to the extent that the prepayment will lead to, for example, a reduction in future payments or a cash refund; and

- as an expense, unless another Standard requires or permits the inclusion of the contribution in the cost of an asset.

Where contributions to a defined contribution plan do not fall due wholly within twelve months after the end of the reporting period in which the employees render the related service, they are discounted. The rate used to discount reflects the time value of money. The currency and term of the financial instrument selected to reflect the time value of money is consistent with the currency and estimated term of the obligation.

Defined benefit plans are post-employment benefit plans other than defined contribution plans.

Actuarial gains and losses comprise experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred) and the effects of changes in actuarial assumptions. In measuring its defined benefit liability the entity recognise actuarial gains and losses in surplus or deficit in the reporting period in which they occur.

Assets held by a long-term employee benefit fund are assets (other than non-transferable financial instruments issued by the reporting entity that are held by an entity (a fund) that is legally separate from the reporting entity and exists solely to pay or fund employee benefits and are available to be used only to pay or fund employee benefits, are not available to the reporting entity's own creditors (even in liquidation), and cannot be returned to the reporting entity, unless either:

- the remaining assets of the fund are sufficient to meet all the related employee benefit obligations of the plan or the reporting entity; or
- the assets are returned to the reporting entity to reimburse it for employee benefits already paid.

Current service cost is the increase in the present value of the defined benefit obligation resulting from employee service in the current period.

Interest cost is the increase during a period in the present value of a defined benefit obligation which arises because the benefits are one period closer to settlement.

Past service cost is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting

## // ACCOUNTING POLICIES

in the current period from the introduction of, or changes to, post-employment benefits or other long-term employee benefits. Past service cost may be either positive (when benefits are introduced or changed so that the present value of the defined benefit obligation increases) or negative (when existing benefits are changed so that the present value of the defined benefit obligation decreases). In measuring its defined benefit liability the entity recognise past service cost as an expense in the reporting period in which the plan is amended.

Plan assets comprise assets held by a long-term employee benefit fund and qualifying insurance policies.

The present value of a defined benefit obligation is the present value, without deducting any plan assets, of expected future payments required to settle the obligation resulting from employee service in the current and prior periods.

The return on plan assets is interest, dividends or similar distributions and other revenue derived from the plan assets, together with realised and unrealised gains or losses on the plan assets, less any costs of administering the plan (other than those included in the actuarial assumptions used to measure the defined benefit obligation) and less any tax payable by the plan itself.

The entity account not only for its legal obligation under the formal terms of a defined benefit plan, but also for any constructive obligation that arises from the entity's informal practices. Informal practices give rise to a constructive obligation where the entity has no realistic alternative but to pay employee benefits. An example of a constructive obligation is where a change in the entity's informal practices would cause unacceptable damage to its relationship with employees.

The amount recognised as a defined benefit liability is the net total of the following amounts:

- the present value of the defined benefit obligation at the reporting date;
- minus the fair value at the reporting date of plan assets (if any) out of which the obligations are to be settled directly;
- plus any liability that may arise as a result of a minimum funding requirement

The amount determined as a defined benefit liability may be negative (an asset). The entity measure the resulting asset at the lower of:

- the amount determined above; and
- the present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. The present value of these economic benefits is determined using a discount rate which reflects the time value of money.

Any adjustments arising from the limit above is recognised in surplus or deficit.

The entity determine the present value of defined benefit obligations and the fair value of any plan assets with sufficient regularity such that the amounts recognised in the annual financial statements do not differ materially from the amounts that would be determined at the reporting date.

The entity recognises the net total of the following amounts in surplus or deficit, except to the extent that another Standard requires or permits their inclusion in the cost of an asset:

- current service cost;
- interest cost;
- the expected return on any plan assets and on any reimbursement rights;
- actuarial gains and losses;
- past service cost;
- the effect of any curtailments or settlements; and
- the effect of applying the limit on a defined benefit asset (negative defined benefit liability).

The entity uses the Projected Unit Credit Method to determine the present value of its defined benefit obligations and the related current service cost and, where applicable, past service cost. The Projected Unit Credit Method (sometimes known as the accrued benefit method prorated on service or as the benefit/years of service method) sees each period of service as giving rise to an additional unit of benefit entitlement and measures each unit separately to build up the final obligation.

Actuarial valuations are conducted on an annual basis by independent actuaries separately for each plan. The results of the valuation are updated for any material transactions and other material changes in circumstances (including changes in market prices and interest rates) up to the reporting date.

## // ACCOUNTING POLICIES

The entity recognises gains or losses on the curtailment or settlement of a defined benefit plan when the curtailment or settlement occurs.

The gain or loss on a curtailment or settlement comprises:

- any resulting change in the present value of the defined benefit obligation; and
- any resulting change in the fair value of the plan assets.

Before determining the effect of a curtailment or settlement, the entity re-measures the obligation (and the related plan assets, if any) using current actuarial assumptions (including current market interest rates and other current market prices).

When it is virtually certain that another party will reimburse some or all of the expenditure required to settle a defined benefit obligation, the right to reimbursement is recognised as a separate asset. The asset is measured at fair value. In all other respects, the asset is treated in the same way as plan assets. In surplus or deficit, the expense relating to a defined benefit plan is [OR is not] presented as the net of the amount recognised for a reimbursement.

The entity offsets an asset relating to one plan against a liability relating to another plan when the entity has a legally enforceable right to use a surplus in one plan to settle obligations under the other plan and intends either to settle the obligations on a net basis, or to realise the surplus in one plan and settle its obligation under the other plan simultaneously.

### **Actuarial assumptions**

Actuarial assumptions are unbiased and mutually compatible.

Financial assumptions are based on market expectations, at the reporting date, for the period over which the obligations are to be settled.

The rate used to discount post-employment benefit obligations (both funded and unfunded) reflect the time value of money. The currency and term of the financial instrument selected to reflect the time value of money is consistent with the currency and estimated term of the post-employment benefit obligations.

Post-employment benefit obligations are measured on a basis that reflects:

- estimated future salary increases;
- the benefits set out in the terms of the plan (or resulting from any constructive obligation that goes beyond those terms) at the reporting date; and
- estimated future changes in the level of any state benefits that affect the benefits payable under a defined benefit plan, if, and only if, either:
  - those changes were enacted before the reporting date; or
  - past history, or other reliable evidence, indicates that those state benefits will change in some predictable manner, for example, in line with future changes in general price levels or general salary levels.

Assumptions about medical costs take account of estimated future changes in the cost of medical services, resulting from both inflation and specific changes in medical costs.

### **Post retirement medical aid obligations**

The MRC provides post-retirement health care benefits, to some of its employees and their legitimate spouses.

The entitlement to post-retirement health care benefits is based on the employee remaining in service up to retirement age and the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment. Independent qualified actuaries carry out valuations of these obligations.

The amount recognised as a liability for other long-term employee benefits is the net total of the following amounts:

- the present value of the defined benefit obligation at the reporting date;
- minus the fair value at the reporting date of plan assets (if any) out of which the obligations are to be settled directly.

## // ACCOUNTING POLICIES

The entity shall recognise the net total of the following amounts as expense or revenue, except to the extent that another Standard requires or permits their inclusion in the cost of an asset:

- current service cost;
- interest cost;
- the expected return on any plan assets and on any reimbursement right recognised as an asset;
- actuarial gains and losses, which shall all be recognised immediately;
- past service cost, which shall all be recognised immediately; and
- the effect of any curtailments or settlements.

### **Termination benefits**

- terminate the employment of an employee or group of employees before the normal retirement date; or
- provide termination benefits as a result of an offer made in order to encourage voluntary redundancy.
- the location, function, and approximate number of employees whose services are to be terminated;
- the termination benefits for each job classification or function; and
- the time at which the plan will be implemented.

Termination benefits are payable whenever an employee's employment is terminated before normal retirement date or whenever an employee accepts voluntary redundancy in exchange for these benefits. The MRC recognises termination benefits as an expense when it is demonstrably committed to either terminate the employment of current employees according to a detailed formal plan without the possibility of withdrawal or to provide termination benefits as a result of an offer made to encourage voluntary redundancy. Benefits falling due more than 12 months after reporting date are discounted to present value.

### **Pension plan:**

Contributions to a pension plan, in respect of service in a particular period are included in the total cost of employment and are charged to the statement of financial performance in the year in which they relate as part of the cost of employment. The amount recognised in the surplus or deficit for the period under defined benefit plans represents the movement in the present value of the defined benefit obligation and the fair value of plan assets, after adjusting for contributions paid to the fund, as well as any unrecognised past service costs. Actuarial gains or losses are recognised in income in the period in which it occurs.

## **1.11 PROVISIONS AND CONTINGENCIES**

Provisions are recognised when:

- the entity has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation; and
- a reliable estimate can be made of the obligation.

The amount of a provision is the best estimate of the expenditure expected to be required to settle the present obligation at the reporting date.

Provisions are measured at the present value of the expenditures expected to be made to settle the obligation using the Pre-Tax rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due the passage of time is recognised as finance charges.

Where some or all of the expenditure required to settle a provision is expected to be reimbursed by another party, the reimbursement is recognised when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement is treated as a separate asset. The amount recognised for the reimbursement does not exceed the amount of the provision.

Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate. Provisions are reversed if it is no longer probable that an outflow of resources embodying economic benefits or service potential will be required, to settle the obligation.

A provision is used only for expenditures for which the provision was originally recognised.

Provisions are not recognised for future operating deficits.

## // ACCOUNTING POLICIES

A constructive obligation to restructure arises only when an entity:

- has a detailed formal plan for the restructuring, identifying at least:
  - the activity/operating unit or part of a activity/operating unit concerned;
  - the principal locations affected;
  - the location, function, and approximate number of employees who will be compensated for services being terminated;
  - the expenditures that will be undertaken; and
  - when the plan will be implemented; and
- has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement that plan or announcing its main features to those affected by it.

A restructuring provision includes only the direct expenditures arising from the restructuring, which are those that are both:

- necessarily entailed by the restructuring; and
- not associated with the ongoing activities of the entity

No obligation arises as a consequence of the sale or transfer of an operation until the entity is committed to the sale or transfer, that is, there is a binding arrangement.

After their initial recognition contingent liabilities recognised in entity combinations that are recognised separately are subsequently measured at the higher of:

- the amount that would be recognised as a provision; and
- the amount initially recognised less cumulative amortisation.

Contingent assets and contingent liabilities are not recognised. Contingencies are disclosed in note 33.

### 1.12 COMMITMENTS

Items are classified as commitments when an entity has committed itself to future transactions that will normally result in the outflow of cash.

Commitments for which disclosure is necessary to achieve a fair presentation is disclosed in a note to the financial statements, if both the following criteria are met:

- Contracts should be non-cancellable or only cancellable at significant cost (for example, contracts for computer or building maintenance services); and
- Contracts should relate to something other than the routine, steady, state business of the entity – therefore salary commitments relating to employment contracts or social security benefit commitments are excluded.

### 1.13 REVENUE FROM EXCHANGE TRANSACTIONS

Revenue is the gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net assets, other than increases relating to contributions from owners.

An exchange transaction is one in which the municipality receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in the form of goods, services or use of assets) to the other party in exchange.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

#### Measurement

Revenue is measured at the fair value of the consideration received or receivable.

#### Sale of goods

Revenue from the sale of goods is recognised when all the following conditions have been satisfied:

- the entity has transferred to the purchaser the significant risks and rewards of ownership of the goods;
- the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

#### Rendering of services

When the outcome of a transaction involving the rendering of services can be estimated reliably, revenue associated with the transaction is recognised by reference to the stage of completion of the transaction at the reporting date. The outcome of a transaction can be estimated reliably when all the following conditions are satisfied:

- the amount of revenue can be measured reliably;

## // ACCOUNTING POLICIES

- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity;
- the stage of completion of the transaction at the reporting date can be measured reliably; and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

When services are performed by an indeterminate number of acts over a specified time frame, revenue is recognised on a straight line basis over the specified time frame unless there is evidence that some other method better represents the stage of completion. When a specific act is much more significant than any other acts, the recognition of revenue is postponed until the significant act is executed.

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue is recognised only to the extent of the expenses recognised that are recoverable.

Service revenue is recognised by reference to the stage of completion of the transaction at the reporting date. Stage of completion is determined by the proportion that costs incurred to date bear to the total estimated costs of the transaction.

#### Interest, royalties and dividends

Revenue arising from the use by others of entity assets yielding interest, royalties and dividends is recognised when:

- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity, and
- The amount of the revenue can be measured reliably.

Interest is recognised, in surplus or deficit, using the effective interest rate method.

Royalties are recognised as they are earned in accordance with the substance of the relevant agreements.

Dividends or their equivalents are recognised, in surplus or deficit, when the entity's right to receive payment has been established.

Service fees included in the price of the product are recognised as revenue over the period during which the service is performed.

### 1.14 REVENUE FROM NON-EXCHANGE TRANSACTIONS

Revenue comprises gross inflows of economic benefits or service potential received and receivable by an entity, which represents an increase in net assets, other than increases relating to contributions from owners.

Conditions on transferred assets are stipulations that specify that the future economic benefits or service potential embodied in the asset is required to be consumed by the recipient as specified or future economic benefits or service potential must be returned to the transferor.

Control of an asset arise when the entity can use or otherwise benefit from the asset in pursuit of its objectives and can exclude or otherwise regulate the access of others to that benefit.

Exchange transactions are transactions in which one entity receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in the form of cash, goods, services, or use of assets) to another entity in exchange.

Non-exchange transactions are transactions that are not exchange transactions. In a non-exchange transaction, an entity either receives value from another entity without directly giving approximately equal value in exchange, or gives value to another entity without directly receiving approximately equal value in exchange.

Stipulations on transferred assets are terms in laws or regulation, or a binding arrangement, imposed upon the use of a transferred asset by entities external to the reporting entity.

The taxable event is the event that the government, legislature or other authority has determined will be subject to taxation.

Taxes are economic benefits or service potential compulsorily paid or payable to entities, in accordance with laws and or regulations, established to provide revenue to government. Taxes do not include fines or other penalties imposed for breaches of the law.

## // ACCOUNTING POLICIES

### Recognition

An inflow of resources from a non-exchange transaction recognised as an asset is recognised as revenue, except to the extent that a liability is also recognised in respect of the same inflow.

As the entity satisfies a present obligation recognised as a liability in respect of an inflow of resources from a non-exchange transaction recognised as an asset, it reduces the carrying amount of the liability recognised and recognises an amount of revenue equal to that reduction.

### Measurement

Revenue from a non-exchange transaction is measured at the amount of the increase in net assets recognised by the entity.

When, as a result of a non-exchange transaction, the entity recognises an asset, it also recognises revenue equivalent to the amount of the asset measured at its fair value as at the date of acquisition, unless it is also required to recognise a liability. Where a liability is required to be recognised it will be measured as the best estimate of the amount required to settle the obligation at the reporting date, and the amount of the increase in net assets, if any, recognised as revenue. When a liability is subsequently reduced, because the taxable event occurs or a condition is satisfied, the amount of the reduction in the liability is recognised as revenue.

### Gifts and donations, including goods in-kind

Gifts and donations, including goods in kind, are recognised as assets and revenue when it is probable that the future economic benefits or service potential will flow to the entity and the fair value of the assets can be measured reliably.

### 1.15 REVENUE RECOGNITION

Revenue represents the parliamentary grant from government as well as the external income.

Parliamentary grant (Revenue from non-exchange transactions)

Government grants are recognised when it is probable that the future economic benefit will flow to the MRC and these benefits

can be measured reliably. The grant is recognised to the extent that there are no further obligations arising from the receipt of the grant. Government grants are assistance by government in the form of transfer of resources in return for compliance with conditions related to operating activities. Grants that compensate the MRC for expenses incurred are recognised in surplus or deficit in the same periods in which the expenses are recognised.

Revenue other than grants, donations, project revenue and council activities (Revenue from exchange transactions)

Revenue is recognised on the accrual basis. Revenue is recognised when significant risks and rewards of the ownership have been transferred.

### Research revenue

Revenue is recognised only to the extent of research costs incurred and is probable that they will be recoverable. Advance income received in respect of which no work has been done, is treated as deferred income until such time the expenditure is incurred or the conditions of the grant/contract are met.

### Rental income

Rental income from tenants is recognised in the statement of financial performance on a straight line basis over the term of the lease. Lease incentives granted are recognised as an integral part of the total rental income, over the term of the lease.

### Deferred income

Deferred income is recognised to the extent that expenses are incurred and that conditions of the grant are met.

### 1.16 BORROWING COSTS

Borrowing costs are interest and other expenses incurred by an entity in connection with the borrowing of funds.

Borrowing costs are recognised as an expense in the period in which they are incurred.

## // ACCOUNTING POLICIES

### 1.17 TRANSLATION OF FOREIGN CURRENCIES

#### Foreign currency transactions

A foreign currency transaction is recorded, on initial recognition in Rands, by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction.

At each reporting date:

- foreign currency monetary items are translated using the closing rate;
- non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction; and
- non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous annual financial statements are recognised in surplus or deficit in the period in which they arise.

When a gain or loss on a non-monetary item is recognised directly in net assets, any exchange component of that gain or loss is recognised directly in net assets. When a gain or loss on a non-monetary item is recognised in surplus or deficit, any exchange component of that gain or loss is recognised in surplus or deficit.

Cash flows arising from transactions in a foreign currency are recorded in Rands by applying to the foreign currency amount the exchange rate between the Rand and the foreign currency at the date of the cash flow.

### 1.18 VAT

The MRC accounts for vat on the accrual on the invoice basis

### 1.19 COMPARATIVE FIGURES

Comparative figures are consistent with the previous year.

### 1.20 FRUITLESS AND WASTEFUL EXPENDITURE

Fruitless and wasteful expenditure means expenditure which was made in vain and would have been avoided had reasonable care been exercised.

All expenditure relating to fruitless and wasteful expenditure is recognised as an expense in the cash flow statement and note to cash flow statement in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the cash flow statement and note to cash flow statement.

### 1.21 IRREGULAR EXPENDITURE

Irregular expenditure as defined in section 1 of the PFMA is expenditure other than unauthorised expenditure, incurred in contravention of or that is not in accordance with a requirement of any applicable legislation, including -

- (a) this Act; or
- (b) the State Tender Board Act, 1968 (Act No. 86 of 1968), or any regulations made in terms of the Act; or
- (c) any provincial legislation providing for procurement procedures in that provincial government.

National Treasury practice note no. 4 of 2008/2009 which was issued in terms of sections 76(1) to 76(4) of the PFMA requires the following (effective from 1 April 2008):

Irregular expenditure that was incurred and identified during the current financial and which was condoned before year end and/or before finalisation of the financial statements will be disclosed in the notes to the annual financial statements.

Irregular expenditure that was incurred and identified during the current financial year and for which condonement is being awaited at year end will be disclosed in the notes to the annual financial statements.

Where irregular expenditure was incurred in the previous financial year and is only condoned in the following financial year, the register and the disclosure note to the annual financial statements will be updated with the amount condoned.

Irregular expenditure that was incurred and identified during the current financial year and which was not condoned by the National

## // ACCOUNTING POLICIES

Treasury or the relevant authority must be recorded appropriately in the irregular expenditure register. If liability for the irregular expenditure can be attributed to a person, a debt account must be created if such a person is liable in law. Immediate steps will be taken to recover the amount from the person concerned. If recovery is not possible, the accounting authority may write off the amount as debt impairment and disclose such in the relevant note to the financial statements.

### 1.22 BUDGET INFORMATION

General purpose financial reporting by entity shall provide information on whether resources were obtained and used in accordance with the legally adopted budget.

The approved budget is prepared on an accrual basis and presented by functional classification linked to performance outcome objectives.

The approved budget covers the fiscal period from 2014/04/01 to 2015/03/31.

The budget for the economic entity includes all the entities approved budgets under its control.

The annual financial statements and the budget are on the same basis of accounting therefore a comparison with the budgeted amounts for the reporting period have been included in the Statement of comparison of budget and actual amounts.

Comparative information is not required.

### 1.23 RELATED PARTIES

The entity operates in an economic sector currently dominated by entities directly or indirectly owned by the South African Government. As a consequence of the constitutional independence of the three spheres of government in South Africa, only entities within the national sphere of government are considered to be related parties.

Management are those persons responsible for planning, directing and controlling the activities of the entity, including those charged with the governance of the entity in accordance with legislation, in instances where they are required to perform such functions.

Close members of the family of a person are considered to be those family members who may be expected to influence, or be influenced by, that management in their dealings with the entity.

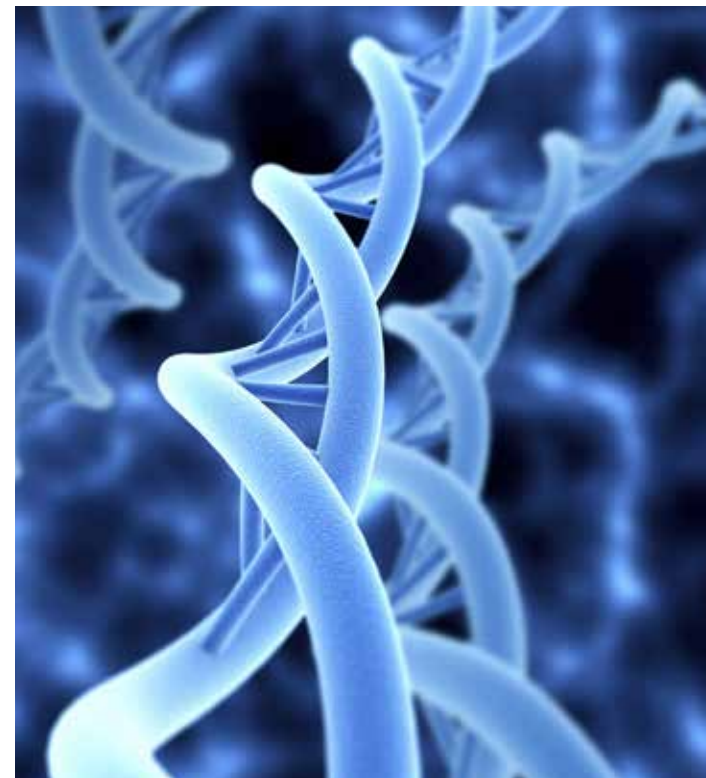
Only transactions with related parties not at arm's length or not in the ordinary course of business are disclosed.

### 1.24 EARMARKED FUNDS

These funds represent monies that have been received for clearly defined purposes. The monies received have been allocated to a separate account. The monies are held separately from the cash balances of the MRC.

### 1.25 CONDITIONAL GRANTS AND RECEIPTS

Revenue received from conditional grants, donations and funding are recognised as revenue to the extent that the entity has complied with any of the criteria, conditions or obligations embodied in the agreement. Revenue relating to criteria, conditions or obligations that have not been met is shown in deferred income.



## // NOTES TO THE FINANCIAL STATEMENTS

### FINANCE TEAM



L-R: Sarah Bok, Patrick Charls, Phillip du Plessis, Natalie Bingham-Jonkers, Roseline Cupido, Nadeem Chilwan, Nick Buick

## 2. NEW STANDARDS AND INTERPRETATIONS

### 2.1 STANDARDS AND INTERPRETATIONS EFFECTIVE AND ADOPTED IN THE CURRENT YEAR

There are no new standards and interpretations that were effective that affected the entity.

### 2.2 STANDARDS AND INTERPRETATIONS ISSUED, BUT NOT YET EFFECTIVE

The entity has not applied the following standards and interpretations, which have been published and are mandatory for the entity's accounting periods beginning on or after 01 April 2015 or later periods:

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
<b>GRAP 18:</b> Segment Reporting	01 April 2015	None
<b>GRAP 105:</b> Transfers of functions between entities under common control	01 April 2015	None
<b>GRAP 106:</b> Transfers of functions between entities not under common control	01 April 2015	None
<b>GRAP 107:</b> Mergers	01 April 2015	None
<b>IGRAP 11:</b> Consolidation – Special purpose entities	01 April 2015	The impact of the amendment is not material.
<b>IGRAP 12:</b> Jointly controlled entities – Non-monetary contributions by ventures	01 April 2015	None
<b>GRAP 6 (as revised 2010):</b> Consolidated and Separate Financial Statements	01 April 2015	The impact of the amendment is not material.

## // NOTES TO THE FINANCIAL STATEMENTS

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
<b>GRAP 7 (as revised 2010):</b> Investments in Associates 01 April 2015 The impact of the amendment is not material		
<b>GRAP 8 (as revised 2010):</b> Interests in Joint Ventures	01 April 2015	None
<b>GRAP32:</b> Service Concession Arrangements: Grantor	01 April 2016	None
<b>GRAP108:</b> Statutory Receivables	01 April 2016	None
<b>IGRAP17:</b> Service Concession Arrangements where a Grantor Controls a Significant Residual Interest in an Asset	01 April 2016	None
<b>DIRECTIVE 11:</b> Changes in measurement bases following the initial adoption of Standards of GRAP	01 April 2016	The adoption of this amendment has not had a material impact on the results of the entity but has resulted in more disclosure than would have previously been provided in the financial statements

### GRAP 20: Related parties

The objective of this standard is to ensure that a reporting entity's annual financial statements contain the disclosures necessary to draw attention to the possibility that its financial position and surplus or deficit may have been affected by the existence of related parties and by transactions and outstanding balances with such parties.

An entity that prepares and presents financial statements under the accrual basis of accounting (in this standard referred to as the reporting entity) shall apply this standard in:

- identifying related party relationships and transactions;
- identifying outstanding balances, including commitments, between an entity and its related parties;
- identifying the circumstances in which disclosure of the items in (a) and (b) is required; and
- determining the disclosures to be made about those items.

This standard requires disclosure of related party relationships, transactions and outstanding balances, including commitments, in the consolidated and separate financial statements of the reporting entity in accordance with the Standard of GRAP on Consolidated and Separate Financial Statements. This standard also applies to individual annual financial statements.

Disclosure of related party transactions, outstanding balances, including commitments, and relationships with related parties may affect users' assessments of the financial position and performance of the reporting entity and its ability to deliver agreed

services, including assessments of the risks and opportunities facing the entity. This disclosure also ensures that the reporting entity is transparent about its dealings with related parties.

The standard states that a related party is a person or an entity with the ability to control or jointly control the other party, or exercise significant influence over the other party, or vice versa, or an entity that is subject to common control, or joint control. As a minimum, the following are regarded as related parties of the reporting entity:

- A person or a close member of that person's family is related to the reporting entity if that person:
  - has control or joint control over the reporting entity;
  - has significant influence over the reporting entity;
  - is a member of the management of the entity or its controlling entity.
- An entity is related to the reporting entity if any of the following conditions apply:
  - the entity is a member of the same economic entity (which means that each controlling entity, controlled entity and fellow controlled entity is related to the others);
  - one entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of an economic entity of which the other entity is a member);
  - both entities are joint ventures of the same third party;
  - one entity is a joint venture of a third entity and the other entity is an associate of the third entity;
  - the entity is a post-employment benefit plan for the benefit of employees of either the entity or an entity related to the

## // NOTES TO THE FINANCIAL STATEMENTS

- entity. If the reporting entity is itself such a plan, the sponsoring employers are related to the entity;
- the entity is controlled or jointly controlled by a person identified in (a); and
  - a person identified in (a)(i) has significant influence over that entity or is a member of the management of that entity (or its controlling entity).

The standard furthermore states that related party transaction is a transfer of resources, services or obligations between the reporting entity and a related party, regardless of whether a price is charged.

The standard elaborates on the definitions and identification of:

- Close member of the family of a person;
- Management;
- Related parties;

- Remuneration; and
- Significant influence

The standard sets out the requirements, inter alia, for the disclosure of:

- Control;
- Related party transactions; and
- Remuneration of management

The effective date of the standard is for years beginning on or after 01 April 2016.

The entity expects to adopt the standard for the first time in the 2016 annual financial statements.

The adoption of this standard is not expected to impact on the results of the entity, but may result in more disclosure than is currently in the annual financial statements.

### 3. BIOLOGICAL ASSETS THAT FORM PART OF AN AGRICULTURAL ACTIVITY

	2015			2014		
	Cost/Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost/Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Bearer mature biological assets	904 792	-	904 792	1 067 700	-	1 067 700
<b>Reconciliation of biological assets that form part of agricultural activity - March 2015</b>						
	Opening balance	Disposals	Gains or losses arising from changes in fair value	Other changes, movements	Total	
Bearer mature biological assets	1 067 700	(182 100)	(77 408)	96 600	904 792	
<b>Reconciliation of biological assets that form part of an agricultural activity - March 2014</b>						
	Opening balance	Disposals	Other changes, movements	Total		
Bearer mature biological assets	1 136 100	(132 800)	64 400	1 067 700		
<b>Methods and assumptions used in determining fair value</b>						
MRC holds certain monkeys, baboons and horses for research purposes. All research activities are monitored and controlled to ensure humane treatment of animals.						
Fair value less estimated point-of-sale costs of agricultural produce harvested during the period, determined at the point of harvest				904 792	1 067 700	

## // NOTES TO THE FINANCIAL STATEMENTS

## 4. PROPERTY, PLANT AND EQUIPMENT

	2015			2014					
	Cost/ Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost/ Valuation	Accumulated depreciation and accumulated impairment	Carrying value			
Buildings	77 504 559	(28 357 461)	49 147 098	74 062 850	(25 888 349)	48 174 501			
Motor vehicles	22 470 373	(14 900 205)	7 570 168	23 096 817	(14 094 888)	9 001 929			
Office equipment	27 405 382	(16 871 602)	10 533 780	29 230 471	(18 025 466)	11 205 005			
IT equipment	56 459 398	(36 467 874)	19 991 524	61 798 643	(39 905 729)	21 892 914			
Laboratory equipment	37 562 151	(13 884 671)	23 677 480	56 579 790	(32 032 058)	24 547 732			
<b>Total</b>	<b>221 401 863</b>	<b>(110 481 813)</b>	<b>110 920 050</b>	<b>244 768 571</b>	<b>(129 946 490)</b>	<b>114 822 081</b>			
<b>Reconciliation of property, plant and equipment - March 2015</b>									
	<b>Opening balance</b>	<b>Additions</b>	<b>Disposals</b>	<b>Transfers</b>	<b>Other changes, movements</b>	<b>Deprecia- tion</b>	<b>Impairment loss</b>	<b>Impairment reversal</b>	<b>Total</b>
Buildings	48 174 501	3 073 235	(273 195)	18 108	126	(1 845 677)	-	-	49 147 098
Motor vehicles	9 001 929	1 881 957	(377 005)	-	-	(2 449 722)	(486 991)	-	7 570 168
Office equipment	11 205 005	1 659 903	(349 757)	(18 108)	(298)	(2 222 036)	(1)	259 072	10 533 780
IT equipment	21 892 914	6 043 300	(372 803)	-	2	(7 810 946)	(16)	239 073	19 991 524
Laboratory equipment	24 547 732	2 887 476	(13 834 211)	-	168	(2 103 551)	(247 484)	12 427 350	23 677 480
	<b>114 822 081</b>	<b>15 545 871</b>	<b>(15 206 971)</b>	<b>-</b>	<b>(2)</b>	<b>(16 431 932)</b>	<b>(734 492)</b>	<b>12 925 495</b>	<b>110 920 050</b>
<b>Reconciliation of property, plant and equipment - March 2014</b>									
	<b>Opening balance</b>	<b>Additions</b>	<b>Disposals</b>	<b>Depreciation</b>	<b>Impairment loss</b>	<b>Total</b>			
Buildings	48 313 979	1 663 225	(31 308)	(1 771 395)	-	48 174 501			
Motor vehicles	7 997 689	3 547 653	(634 060)	(1 909 353)	-	9 001 929			
Office equipment	11 875 738	2 256 394	(340 852)	(2 252 068)	(334 207)	11 205 005			
IT equipment	13 303 082	15 130 854	(157 065)	(6 024 576)	(359 381)	21 892 914			
Laboratory equipment	38 107 166	2 978 135	(503 040)	(3 028 225)	(13 006 304)	24 547 732			
	<b>119 597 654</b>	<b>25 576 261</b>	<b>(1 666 325)</b>	<b>(14 985 617)</b>	<b>(13 699 892)</b>	<b>114 822 081</b>			

## // NOTES TO THE FINANCIAL STATEMENTS

## 4. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

	Other information				
				2015	2014
<b>Property, plant and equipment fully depreciated and still in use (Gross carrying amount)</b>					
Property, plant and equipment - Buildings				573	617
Property, plant and equipment - Laboratory equipment				524	665
Property, plant and equipment - IT equipment				2 760	3 465
Property, plant and equipment - Office equipment				9 034	9 046
				<b>12 891</b>	<b>13 793</b>
<b>Impaired assets loss March 2015</b>					
	<b>Indigenous Knowledge Systems</b>	<b>Tuberculosis Unit Durban</b>	<b>Malaria Research Unit ( Mozambique assets)</b>	<b>Web &amp; Media</b>	<b>Oncology</b>
Property, plant and equipment - Laboratory equipment	125 171	425 594	247 484	-	28 189
Property, plant and equipment - IT equipment	1 835	118 472	16	-	-
Property, plant and equipment - Office equipment	21 622	53 514	1	-	-
Property, plant and equipment - Motor vehicles	-	-	486 991	-	-
	<b>148 628</b>	<b>597 580</b>	<b>734 492</b>	<b>-</b>	<b>28 189</b>
<b>Impaired assets loss March 2014</b>					
	<b>Indigenous Knowledge Systems</b>	<b>Tuberculosis Unit Durban</b>	<b>Programme for Mycotoxins &amp; Experimental Carcinogenesis</b>	<b>Web &amp; Media</b>	<b>Oncology</b>
Property, plant and equipment - Laboratory equipment	8 987 595	523 196	3 467 324	-	28 189
Property, plant and equipment - IT equipment	90 942	134 942	79 661	53 836	-
Property, plant and equipment - Office equipment	126 656	84 379	42 431	80 741	-
	<b>9 205 193</b>	<b>742 517</b>	<b>3 589 416</b>	<b>134 577</b>	<b>28 189</b>

The assets impaired for the discontinued research units is reflected above. The assets impaired constitutes 1.36% (2014 - 10.67%) of the carrying cost of property, plant and equipment and Nil% (2014 - 12.34% of the carrying value of intangible assets (refer note 4). The MRC Board, at its meeting of 1 March 2013, approved the restructuring of the MRC to focus on the 10 highest causes of death in the burden of disease in South Africa. Following this decision the Board at its meeting of 19 February 2014 further approved that discussions be held with institutions for higher learning regarding the transfer of staff and assets of the following units, Promec, Indigenous Knowledge Systems, Oncology and Tuberculosis. To ensure that

research in these areas was continued at these institutions it was further agreed that the assets be transferred for no consideration. The approval for this transaction was received from the Minister of Health in terms of the MRC materiality framework on 3 April 2014.

During the period under review the impaired assets of Promec, Indigenous Knowledge Systems and Tuberculosis were transferred to an institution of higher learning/clinics.

All items of property, plant and equipment is owned by the entity.

## // NOTES TO THE FINANCIAL STATEMENTS

### 5. INTANGIBLE ASSETS

	2015			2014		
	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value
Computer software	15 328 639	(7 644 091)	7 684 548	14 365 969	(6 162 094)	8 203 875
<b>Reconciliation of intangible assets - March 2015</b>						
	Opening balance	Additions	Disposals	Amortisation	Impairment reversal	Total
Computer software	8 203 875	1 070 908	(76 160)	(1 590 235)	76 160	7 684 548
<b>Reconciliation of intangible assets -March 2014</b>						
	Opening balance	Additions	Amortisation	Impairment loss	Total	
Computer software	9 825 221	26 065	(1 571 251)	(76 160)	8 203 875	

### 6. INVESTMENTS IN CONTROLLED ENTITIES

Name of company	Held by	% holding 2015	% holding 2014	Carrying amount 2015	Carrying amount 2014
Medres (Pty) Ltd		100.00 %	100.00 %	1	1
Jirehsa Medical (Pty) Ltd	Medres (Pty) Ltd	25.00 %	25.00 %	1	1
				<b>2</b>	<b>2</b>

The carrying amounts of controlled entities are shown net of impairment losses.

The financial statements of Medres (Pty) Ltd and Jirehsa (Pty) Ltd have not been consolidated with those of the MRC, because the amounts are not material.

#### **Controlled entities with less than 50% voting powers held**

Although the entity holds less than 50% of the voting powers in Jirehsa Medical (Pty) Ltd the investment is considered a controlled entity because MRC staff manages the entity.

## // NOTES TO THE FINANCIAL STATEMENTS

### 7. OTHER FINANCIAL ASSETS

Designated at fair value	2015	2014
<b>Listed shares</b> Sanlam demutualisation shares - No. of shares 12715 (2014 - 12715) and Old Mutual demutualisation shares - No. shares 3682 (2014 - 3682)	1 144 749	862 001
<b>Unit trusts</b> SIM General Equity Fund R - 15403,51 units (2014 - 15146,98 units) and SIM Balanced Fund R - 25601,29 units (2014 - 24852,26)	5 189 329	4 637 309
	<b>6 334 078</b>	<b>5 499 310</b>
At amortised cost	2015	2014
Tertiary Education and Research Network of SA (TENET) The loan is unsecured and interest free. The loan is repaid in monthly instalments by debiting the CIR Bid account, amount due by the MRC to TENET, in respect of the INT-SEA service	235 307	384 132
<b>Total other financial assets</b>	<b>6 569 385</b>	<b>5 883 442</b>
<b>Non-current assets</b>		
Loans and Receivables -at amortised cost	235 307	384 132
<b>Current assets</b>		
Designated at fair value	6 334 078	5 499 310
<b>Financial assets at fair value</b>		
<b>Fair values of financial assets measured at fair value follows</b>		
Class 1 Listed shares Methods used to determine fair value are as follow: Quoted selling price per share at 31 March 2015	1 144 749	862 001
Class 2 Unit trusts Methods used to determine fair value are as follow: Valuation certificate received from Sanlam indicating the unit balance and price per unit and market value at 31 March 2015	5 189 329	4 637 309
	<b>6 334 078</b>	<b>5 499 310</b>

#### **Fair value hierarchy of financial assets at fair value**

For financial assets recognised at fair value, disclosure is required of a fair value hierarchy which reflects the significance of the inputs used to make the measurements. The fair value hierarchy have the following levels:

Level 1 represents those assets which are measured using unadjusted quoted prices in active markets for identical assets.

Level 2 applies inputs other than quoted prices that are observable for the assets either directly (i.e. as prices) or indirectly (i.e. derived from prices).

Level 3 applies inputs which are not based on observable market data.



## // NOTES TO THE FINANCIAL STATEMENTS

Level 1	2015	2014
Class 1 Listed shares	1 144 749	862 001
Class 2 Unit trusts	5 189 329	4 637 309
	<b>6 334 078</b>	<b>5 499 310</b>

The entity has not reclassified any financial assets from cost or amortised cost to fair value, or from fair value to cost or amortised cost during the current or prior period.

There were no gains or losses realised on the disposal of held to maturity financial assets in March 2015 and March 2014, as all the financial assets are disposed of at their redemption date.

**8. EMPLOYEE BENEFIT OBLIGATIONS**

	2015	2014
Post retirement medical aid obligation	4 005 000	3 447 000
Pension fund - Defined benefit obligation	8 179 000	-
	<b>12 184 000</b>	<b>3 447 000</b>

**POST RETIREMENT BENEFITS****Post retirement medical aid plan**

MRC, took a compulsory insurance policy in order to fund post retirement medical obligations of its ex-employees. Given the nature of the policy, it is appropriate to treat this as a plan asset. Certain assets have been allocated specifically for the purpose of covering the post retirement medical aid defined benefit liability. The defined benefit medical liability has been recognised and accounted for under the requirements of GRAP 25 - Employee Benefits. The assets have been accounted for in terms of the requirements of the accounting standards to which they relate and not in terms of GRAP 25 because the plan is not registered. The relevant assets are included in investments and cash balances.

**Pension funds**

MRC personnel are members of the following pension funds

- Pension fund associated institutions (Act No. 51 of 1963)
- Pension fund for temporary employees (Act No. 75 of 1979)
- MRC Pension fund (since January 1994)

(a) The first two funds were established by Law and are regulated by the respective Acts.

(b) The last-named fund is regulated by the Pension Fund Act and is managed by an independent Board of Trustees. The fund was actuarially valued at 1 April 2014. Next valuation for the fund is 1 April 2017.

(c) The first two funds offer defined benefits to staff. With regard to the MRC Pension fund, some members are on a defined benefit scheme, while the remainder are on a defined contribution scheme.

## // NOTES TO THE FINANCIAL STATEMENTS

**Post retirement medical aid plan**

The amounts recognised in the statement of financial position are as follows:

Carrying value	2015	2014
Present value of the defined benefit obligation-wholly unfunded	(1 067 000)	(889 000)
Present value of the defined benefit obligation-partly or wholly funded	(21 763 000)	(20 534 000)
Fair value of plan assets	18 825 000	17 976 000
<b>Net liability</b>	<b>(4 005 000)</b>	<b>(3 447 000)</b>

The fair value of plan assets includes:

Changes in the present value of the defined benefit obligation are as follows:

	2015	2014
Opening balance	21 423 000	24 619 000
Interest costs	1 786 000	1 836 000
Service costs	54 000	124 000
Benefits paid	(1 790 000)	(1 704 000)
Actuarial (gain) loss	1 357 000	(3 452 000)
<b>Closing balance</b>	<b>22 830 000</b>	<b>21 423 000</b>

Net expense recognised in the cash flow statement and note to cash flow statement	2015	2014
Current service cost	54 000	124 000
Interest cost	1 786 000	1 836 000
Expected return on assets	(1 564 000)	(1 425 000)
Recognised actuarial (gain) loss	282 000	(3 206 000)
<b>Total included in employee related cost</b>	<b>558 000</b>	<b>(2 671 000)</b>

Calculation of actuarial gains and losses	2015	2014
Actuarial (gains) losses – Obligation	1 357 000	(3 452 000)
Actuarial (gains) losses – Plan assets	(1 075 000)	246 000
	<b>282 000</b>	<b>(3 206 000)</b>

## // NOTES TO THE FINANCIAL STATEMENTS

**Changes in the fair value of plan assets are as follows:**

	2015	2014
Opening balance	17 976 000	18 501 000
Actuarial gains (losses)	1 075 000	(246 000)
Expected return	1 564 000	1 425 000
Benefits paid	(1 790 000)	(1 704 000)
<b>Closing balance</b>	<b>18 825 000</b>	<b>17 976 000</b>

The entity will investigate the options available to eliminate the net liability as far as possible.

**Key assumptions used**

Assumptions used at the reporting date:

	2015	2014
Discount rates used	8.00 %	8.70 %
General increases to medical aid subsidy	6.60 %	7.00 %
Expected rate of return on assets	8.00 %	8.70 %
Proportion continuing membership at retirement	100.00 %	100.00 %
Proportion of retiring members who are married	80.00 %	80.00 %
Retirement age for staff who joined prior to 1 May 1998	65	65
Retirement age for staff who joined after to 1 May 1998	65	65

The expected rate of return on plan assets is based on market expectations, at the beginning of the period, for returns over the entire life of the related obligation.

The discount rate has been determined by reference to market yields at the balance sheet date of South African long-term bonds.

**Other assumptions**

Assumed healthcare cost trends rates have a significant effect on the amounts recognised in surplus or deficit. A one percentage point change in assumed healthcare cost trends rates would have the following effects:

	Impact on liability RM	% Increase/Decrease
<b>March 2015</b>		
Assumptions as above	22,830	
Discount rate - increases by 1% p.a.	21,290	(7)
Discount rate - decreases by 1% p.a.	25,288	11
Medical inflation - increases by 1% p.a.	25,102	10
Medical inflation - decreases by 1% p.a.	21,425	(6)

## // NOTES TO THE FINANCIAL STATEMENTS

	Impact on liability RM	% Increase/Decrease
<b>March 2014</b>		
Assumptions as above	21,423	
Discount rate - increases by 1% p.a.	19,726	(8)
Discount rate - decreases by 1% p.a.	23,409	9
Medical inflation - increases by 1% p.a.	23,238	8
Medical inflation - decreases by 1% p.a.	19,851	7

Amounts for the current and previous four years are as follows:

	2015	2014	2013	2012	2011
Defined benefit obligation - partially or wholly unfunded	21 763 000	20 534 000	22 932 000	20 399 000	18 277 000
Defined benefit obligation - wholly unfunded	1 067 000	889 000	1 687 000	1 332 000	1 080 000
Plan assets	18 825 000	17 976 000	18 501 000	17 968 000	17 450 000

**Pension funds**

Defined benefit obligation - Wholly funded	2015	2014
Present value of obligation	(106 556 000)	(88 433 000)
Fair value of plan assets	98 377 000	89 805 000
<b>Net (Liability) Asset</b>	<b>(8 179 000)</b>	<b>1 372 000</b>
Net asset prior to limitation	-	1 372 000
Limitation of asset	-	(1 372 000)
	-	-

**Changes in the present value of the defined benefit obligation are as follows:**

	2015	2014
Opening defined benefit obligation	88 433 000	116 740 000
Benefits paid	(10 434 000)	(45 539 000)
Service cost	4 887 000	5 426 000
Interest cost	7 076 000	7 165 000
Actuarial loss	16 594 000	4 641 000
<b>Closed defined benefit obligation closing balance</b>	<b>106 556 000</b>	<b>88 433 000</b>

## // NOTES TO THE FINANCIAL STATEMENTS

**Changes in the fair value of plan assets are as follows:**

	2015	2014
Opening fair value of plan assets after limitation	89 805 000	116 997 000
Contributions	3 935 000	4 385 000
Benefits paid	(10 434 000)	(45 539 000)
Expected return on assets	7 356 000	7 184 000
Actuarial gain	7 715 000	6 778 000
<b>Closing fair value of plan assets</b>	<b>98 377 000</b>	<b>89 805 000</b>

<b>Calculation of actuarial gains and losses</b>	2015	2014
Actuarial (gains) / loss - Obligation	16 594 000	4 641 000
Actuarial (gains) / loss - Plan assets	(7 715 000)	(6 778 000)
	<b>8 879 000</b>	<b>(2 137 000)</b>

**Staff costs includes the following in respect of the defined benefit pension plan:**

	2015	2014
Current service cost	4 887 000	5 426 000
Interest cost	7 076 000	7 165 000
Expected return on planned assets	(7 356 000)	(7 184 000)
Net actuarial (losses) / gains recognised in current year	8 879 000	(2 137 000)
Previous asset limitation	(5 307 000)	(3 270 000)
	<b>8 179 000</b>	<b>-</b>

**The principal actuarial assumptions used in determining the pension plan per annum were:**

	2015	2014
General inflation rate	5.49%	6.20%
Discount rate	7.80%	8.50%
Expected return on plan assets	7.80%	8.50%
Salary inflation - percentage plus merit increase	6.49%	7.20%

## // NOTES TO THE FINANCIAL STATEMENTS

	2015	2014	2013	2012	2011
Defined benefit obligation	106 556 000	88 433 000	116 740 000	102 251 000	85 080 000
Plan assets	98 377 000	89 805 000	116 997 000	108 539 000	99 324 000

**9. PREPAYMENTS**

Prepayments relate to expenditure paid in advance for subscriptions, annual computer licenses and straight-lining of operating leases.

	2015	2014
Prepayments	1 794 906	1 795 294

**10. RECEIVABLES FROM EXCHANGE TRANSACTIONS**

	2015	2014
Trade debtors	24 196 507	32 415 602
Employee costs in advance	19 826	322 088
Deposits	1 380 653	416 067
Travel and subsistence	633 040	792 057
	<b>26 230 026</b>	<b>33 945 814</b>

The Executive Committee considers the carrying value of trade and other receivables to approximate their fair values.

The decrease in receivables from exchange transactions is mainly attributed to the change in method of recovery of project costs for major funding organisations, the costs are claimed online and received within one month of submission.

**Trade and other receivables past due but not impaired**

Trade and other receivables which are less than 3 months past due are not considered to be impaired. At 31 March 2015, R322,701 - (March 2014: R159,927) were past due but not impaired.

The ageing of amounts past due but not impaired is as follows:

	2015	2014
1 month past due	302 451	41 930
2 months past due	19 833	41 208
3 months past due	417	76 789

**Trade and other receivables impaired**

The amount of the provision was R1,792,883 - as of 31 March 2015 (2014: - R 169,507).

## // NOTES TO THE FINANCIAL STATEMENTS

	2015	2014
1 month but less than 2 months past due	446 889	-
2 months but less than 3 months past due	649 816	-
More than 3 months past due	696 178	169 507

<b>Reconciliation of provision for impairment of trade and other receivables</b>	2015	2014
Opening balance	169 507	442 979
Provision for impairment	1 792 883	169 507
Unused amounts reversed	(169 507)	(442 979)
	1 792 883	169 507

**11. VAT RECEIVABLE**

	2015	2014
VAT	3 860 873	8 293 545

**12. CASH AND CASH EQUIVALENTS***Cash and cash equivalents consist of:*

	2015	2014
Cash on hand	12 843	14 426
Bank balances	313 777 491	335 112 204
	<b>313 790 334</b>	<b>335 126 630</b>

<b>Analysis of bank balances</b>	2015	2014
ABSA and Standard Bank	1 888 613	1 218 204
ABSA funders accounts	6 227 171	6 665 121
First National Bank	2 487 443	7 760 755
Cash at the Reserve Bank	267 519 826	319 468 124
First National Bank funders accounts	35 654 438	-
	<b>313 777 491</b>	<b>335 112 204</b>

The cash at the Reserve Bank includes funds for the Botha Trust; Bruhns Trust; Melville Douglas Trust, Q&S Abdool Karim Trust and Motor vehicle reserve fund.

## // NOTES TO THE FINANCIAL STATEMENTS

The Motor vehicle reserve fund was established to provide self-insurance of motor vehicles with a low market value.

<b>Motor vehicle reserve fund</b>	2015	2014
Balance at beginning of year	2 394 200	1 929 954
Allocation for the year	364 752	464 246
	<b>2 758 952</b>	<b>2 394 200</b>

<b>Earmarked funds</b>	2015	2014
Botha trust	151 636	151 636
Bruhns trust	987 507	943 867
Melville Douglas trust	13 325	13 325
Q&S Abdool Karim Trust	2 007 670	-
	<b>3 160 138</b>	<b>1 108 828</b>

The Executive Committee considers the carrying value of cash and cash equivalents to approximate their fair values.

**13. ACCUMULATED SURPLUS**

	2015	2014
Accumulated surplus	242 124 322	245 891 698

Accumulated surplus will be used to fund capital projects, the 2015/2016 budget deficit and other commitments.

**14. PROVISIONS***Reconciliation of provisions - March 2015*

	Opening Balance	Additions	Utilised during the year	Total
Restructuring	655 010	-	(655 010)	-
Provision for bonus dispute	30 965 460	-	(30 036 441)	929 019
Provision for collaborative research	2 692 136	4 241 579	(2 692 136)	4 241 579
Provision for performance bonus	-	3 573 000	-	3 573 000
Other provisions	4 185 993	13 003 569	-	17 189 562
	<b>38 498 599</b>	<b>20 818 148</b>	<b>(33 383 587)</b>	<b>25 933 160</b>

## // NOTES TO THE FINANCIAL STATEMENTS

**Reconciliation of provisions - March 2014**

	Opening Balance	Additions	Utilised during the year	Reversed during the year	Total
Restructuring	12 443 876	655 010	(12 443 876)	-	655 010
Provision for bonus dispute	-	30 965 460	-	-	30 965 460
Provision for collaborative research	4 622 660	2 692 136	(2 507 767)	(2 114 893)	2 692 136
Other provisions	9 610 042	3 123 496	(8 547 545)	-	4 185 993
	<b>26 676 578</b>	<b>37 436 102</b>	<b>(23 499 188)</b>	<b>(2 114 893)</b>	<b>38 498 599</b>

**Restructuring provision**

The MRC Board at its meeting of 30 October 2013 approved the restructuring of the support divisions into a centralised structure. As a result of the new structure adopted by the Board, the services of a few employees will be terminated. A provision has been raised in respect of severance packages to be paid to those staff members affected by the restructuring. The process was finalised in August 2014.

**Collaborative research costs**

The provision relates to collaborative research costs for self initiated research grants and extra-mural units at NHLS (2014-SHIP and flagship awards and self initiated research grants) that will be settled in the next twelve months.

**Provision for bonus dispute**

The bonus dispute provision relates to the estimated legal costs that needs to be paid to the NEHAWU.

**Other provisions**

The other provisions relate to the Department of Labour assessment for the claim for occupational injury on duty assessment for 2015 (COIDA) estimate and grant funds received on completed projects and projects relating to research units closed during the rationalisation process that need to be repaid to the funders within the next twelve months.

In 2015 the grant funds that need to be repaid amounted to R 16,790,036, being R12,604,043 that needed to be repaid to Global Fund; Department of Science and Technology; National Research Foundation (2014 - R4,185,993).

**Provision for performance bonus**

The performance bonus cycle was changed after discussions and agreement with the union. The Board approved the new bonus cycle, which will be paid after the financial year.

**15. EARMARKED FUNDS**

The Earmarked funds are donations received for clearly defined purposes. During the year under review a new fund was established from a donation received from Q and S Abdool Karim of R1 million and R1 million matched by MRC, interest is capitalised on this fund.

**16. DEFERRED INCOME**

	2015	2014
Deferred income	123 424 757	122 716 452

Summary of deferred income	2015	2014
Research grants received in advance	122 110 212	122 575 405
Other funds received in advance	1 314 545	141 047
	<b>123 424 757</b>	<b>122 716 452</b>

## // NOTES TO THE FINANCIAL STATEMENTS

**17. PAYABLES FROM EXCHANGE TRANSACTIONS**

	2015	2014
Trade payables	31 546 964	23 214 351
Personnel provision fund	16 359 716	14 965 744
Accruals	11 086 808	53 190 119
Interest due to funders	5 953 488	6 105 592
Credit cards	(18 437)	-
	<b>64 928 539</b>	<b>97 475 806</b>
<b>Fair value of trade and other payables</b>		
Trade & other payables	64 928 539	97 475 806

The decrease in accounts payable can be attributed to the significant decrease in accruals in 2015.

**Personnel provision fund**

The Personnel provision fund was instituted to provide for the payments of personnel benefits, mainly leave gratuities, death and disability benefits, on the retirement or death of the personnel.

Personnel provision fund	2015	2014
Balance at the beginning of the year	14 965 744	16 562 991
Leave payouts	(1 519 927)	(3 911 584)
Movement recognised in profit or loss	2 913 899	2 314 337
	<b>16 359 716</b>	<b>14 965 744</b>

**18. TOTAL REVENUE**

	2015	2014
Income from contracts, grants and services rendered	275 887 835	285 846 732
Rental income	2 925 031	1 957 690
Other income	3 752 841	4 111 289
Interest received - investment	19 045 116	20 183 006
Dividends received	92 444	79 094
Government grants & subsidies	391 518 421	365 315 789
	<b>693 221 688</b>	<b>677 493 600</b>

## // NOTES TO THE FINANCIAL STATEMENTS

The amount included in revenue arising from exchanges of goods or services are as follows:

	2015	2014
Income from contracts, grants and services rendered	275 887 835	285 846 732
Rental income	2 925 031	1 957 690
Other income	3 752 841	4 111 289
Interest received - investment	19 045 116	20 183 006
Dividends received	92 444	79 094
	<b>301 703 267</b>	<b>312 177 811</b>

The amount included in revenue arising from non-exchange transactions is as follows:

	2015	2014
Government grants & subsidies	391 518 421	365 315 789
<b>Revenue</b>		
Income from contracts, grants and services rendered	275 887 835	285 846 732
Government grants	391 518 421	365 315 789
	<b>667 406 256</b>	<b>651 162 521</b>

## 19. OTHER INCOME AS REFLECTED IN THE STATEMENT OF FINANCIAL PERFORMANCE

	2015	2014
Rental income	2 925 031	1 957 690
Gain on foreign exchange	1 450 343	2 702 023
Other income	3 752 841	4 111 289
	<b>8 128 215</b>	<b>8 771 002</b>

## 20. OTHER INCOME AS REFLECTED IN THE DETAILED INCOME STATEMENT

	2015	2014
Other income	3 752 841	4 111 289

## // NOTES TO THE FINANCIAL STATEMENTS

## 21. INVESTMENT REVENUE

	2015	2014
<b>Dividend revenue</b>		
Listed financial assets - Local	a) 92 444	79 094
<b>Interest revenue</b>		
Unit trusts	47 441	31 258
Bank	531 520	695 667
Interest charged on trade and other receivables	8 936	8 621
Corporation for public deposits	18 457 219	19 447 460
	b) 19 045 116	20 183 006
	a + b 19 137 560	20 262 100

## 22. EMPLOYEE RELATED COSTS

	2015	2014
Basic	147 349 475	139 804 184
Other non pensionable allowances	71 138 115	69 261 170
Bonus	4 405 989	4 024 248
UIF	1 186 718	1 280 113
SDL	2 646 092	2 437 783
Leave payments	2 833 052	6 469 196
Legal proceedings - Bonus provision	-	24 930 723
Adjustments from the application of IAS 19/GRAP 25	8 737 000	(2 671 000)
Other salary related costs	4 536 563	2 005 391
Defined pension benefit plan expense - current service cost	2 848 832	3 217 168
Overtime payments	145 095	222 621
Temporary staff	14 675 251	24 080 830
Retrenchments	2 863 718	10 885 043
Defined pension contribution plan expense	13 865 198	12 151 530
	<b>277 231 098</b>	<b>298 099 000</b>

## // NOTES TO THE FINANCIAL STATEMENTS

## 23. IMPAIRMENT/REVERSAL OF ASSETS

## IMPAIRMENTS/REVERSAL OF IMPAIRMENTS

	2015	2014
<b>Property, plant and equipment</b> Impairment of property, plant and equipment was identified at the year-end by management. Internal indicators such as the research study being finalised and the Malaria unit being closed were key factors in deciding to impair the property, plant and equipment. Impairment reversals relating to closed units amounted to R12,779,526 for assets that were disposed or brought back into use. (2014- Internal impairment indicators such as units closing as part of the revitalisation process and the Board approving the transfer of assets/ sale of assets at no cost/net book value were factors in deciding to impair the property, plant and equipment used by the research units that have been closed)	734 492	13 699 892
<b>Intangible assets</b> Impairment reversal was identified at the year-end assessment, the software previously impaired was disposed. (2014 - Internal impairment indicators such as research units that closed as part of the revitalisation process and the Board approving the intangibles and property, plant and equipment to be transferred at no cost/net book value were key factors in deciding to impair the software).	-	76 160
	<b>734 492</b>	<b>13 776 052</b>

<b>Reversal of impairments</b> Property, plant and equipment The reversal of previously impairment of property, plant and equipment was identified by management for assets that were disposed or brought back into use. (2014- Internal impairment indicators such as units closing as part of the revitalisation process and the Board approving the transfer of assets/ sale of assets at no cost/net book value were factors in deciding to impair the property, plant and equipment used by the research units that have been closed.	(12 925 495)	-
<b>Intangible assets</b> Impairment reversal was identified at the year-end assessment, the software previously impaired was disposed. (2014 - Internal impairment indicators such as research units that closed as part of the revitalisation process and the Board approving the intangibles and property, plant and equipment to be transferred at no cost/net book value were key factors in deciding to impair the software)	(76 160)	-
	(13 001 655)	-
<b>Total impairment losses (recognised) reversed</b>	<b>(12 267 163)</b>	<b>13 776 052</b>

## // NOTES TO THE FINANCIAL STATEMENTS

## 24. FINANCE COSTS

	2015	2014
Other interest paid	1 370 197	5 932 313

MRC had to refund interest to its funders for monies received in advance. Interest paid to suppliers for late payments of account is not classified as fruitless and wasteful expenditure if the invoice is received late from the supplier.

An amount of R1,288,140 was paid on the additional bonus award by the CCMA for the period April to July 2014.

## 25. DEBT IMPAIRMENT

	2015	2014
Debt impairment	48 818	172 944
Provision / (Reversal) of debt impairment	1 791 819	(441 915)
	<b>1 840 637</b>	<b>(268 971)</b>

The debt impairment reflected above include the current periods provision for bad debt of R1,792,883 and reversal of the previous year's provision (March 2014 provision for bad debts of R479,868)



## // NOTES TO THE FINANCIAL STATEMENTS

**26. GENERAL EXPENSES**

	2015	2014
Advertising	1 733 536	1 245 908
Auditors remuneration	2 462 008	2 169 109
Bank charges	160 495	290 355
Computer expenses	12 289 004	11 854 969
Consulting and professional fees	11 826 268	13 495 219
Insurance	2 780 763	2 506 268
Magazines, books and periodicals	5 573 810	1 964 309
Postage and courier	1 544 593	1 476 750
Printing and stationery	3 783 482	4 104 114
Security	6 056 479	6 983 006
Subscriptions and membership fees	652 968	387 675
Telephone and fax	2 801 320	3 204 922
Training	2 467 312	1 122 143
Travel, subsistence and conference attendance	31 869 654	43 055 686
Utilities	11 467 287	12 019 664
Laboratory operating cost	15 210 974	17 813 142
Collaborative research	261 346 256	189 600 230
Other expenses	6 746 827	11 073 437
	<b>380 773 036</b>	<b>324 366 906</b>

**Travel, subsistence and conference attendance**

	2015	2014
Local travel	5 498 063	6 478 722
Overseas travel	5 448 467	8 618 518
Accommodation - local and overseas	6 011 156	6 979 809
Subsistence and travel expenditure	11 717 039	16 790 632
Conference expenditure	3 194 929	4 188 005
	<b>31 869 654</b>	<b>43 055 686</b>

## // NOTES TO THE FINANCIAL STATEMENTS

**OTHER EXPENSES**

	2015	2014
Canteen costs	706 240	1 148 402
Personnel teas	750 835	1 017 082
Royalty distribution	9 755	59 396
Hire of premises and equipment	4 159 341	8 590 421
Licences	88 104	31 398
Staff recruitment costs	217 390	211 080
Fruitless & wasteful	-	15 658
Transfer of Contract funds	815 162	-
	<b>6 746 827</b>	<b>11 073 437</b>

**27. FAIR VALUE ADJUSTMENTS**

	2015	2014
Biological assets - (Fair value model)	(77 408)	-
Other financial assets		
• Other financial assets (Held for trading)	728 922	946 771
	<b>651 514</b>	<b>946 771</b>

**28. AUDITORS' REMUNERATION**

	2015	2014
Fees	2 462 008	2 169 109

## // NOTES TO THE FINANCIAL STATEMENTS

**29. (DEFICIT)/SURPLUS**

(Deficit)/Surplus for the year is stated after accounting for the following:

	2015	2014
Operating lease charges		
Premises	4 718 587	6 008 199
• Contractual amounts		
Loss on sale of property, plant and equipment	(14 823 035)	(636 130)
Impairment on property, plant and equipment	734 492	13 699 893
Impairment on intangible assets	(13 001 655)	76 160
Amortisation on intangible assets	1 590 235	1 571 251
Depreciation on property, plant and equipment	16 431 932	14 985 617
Employee costs	277 231 098	298 099 000

**30. CASH USED IN OPERATIONS**

	2015	2014
Surplus / (deficit)	(3 767 376)	4 533 526
<b>Adjustments for:</b>		
Depreciation and amortisation	18 022 167	16 556 868
(Gain) /loss on sale of assets and liabilities	14 823 035	636 130
Gain on foreign exchange	(1 450 343)	(2 702 023)
Fair value adjustments	(651 514)	(946 771)
Impairment	(12 267 163)	13 776 052
Debt impairment	1 840 637	(268 971)
Movements in retirement benefit assets and liabilities	8 737 000	(2 671 000)
Movements in provisions	(12 565 439)	11 822 021
Non cash adjustment on biological assets	(19 192)	(64 400)
Impairment corrections	505	-
<b>Changes in working capital:</b>		
Receivables from exchange transactions	7 325 494	(4 709 094)
Prepayments	388	1 324 420
Payables from exchange transactions	(32 547 266)	46 996 454
VAT	4 432 672	(6 674 722)
Deferred income	708 305	(86 521 615)
	<b>(7 378 090)</b>	<b>(8 913 125)</b>

## // NOTES TO THE FINANCIAL STATEMENTS

**31. FINANCIAL INSTRUMENTS DISCLOSURE****CATEGORIES OF FINANCIAL INSTRUMENTS****2015****Financial assets**

	At fair value	At amortised cost	Total
Trade and other receivables from exchange transactions	26 230 026	-	26 230 026
Cash and cash equivalents	313 790 334	-	313 790 334
Investments in controlled entities	2	-	2
Other financial assets - shares and unit trusts	6 334 078	-	6 334 078
Other financial assets - loans and receivables	-	235 307	235 307
	<b>346 354 440</b>	<b>235 307</b>	<b>346 589 747</b>

**Financial liabilities**

	At fair value	Total
Trade and other payables from exchange transactions	64 928 539	64 928 539

**2014****Financial assets**

	At fair value	At amortised cost	Total
Trade and other receivables from exchange transactions	33 945 814	-	33 945 814
Cash and cash equivalents	335 126 630	-	335 126 630
Investments in controlled entities	2	-	2
Other financial assets	5 499 310	-	5 499 310
Other financial assets - loans and receivables	-	384 132	384 132
	<b>374 571 756</b>	<b>384 132</b>	<b>374 955 888</b>

**Financial liabilities**

	At fair value	Total
Trade and other payables from exchange transactions	97 475 806	97 475 806

## // NOTES TO THE FINANCIAL STATEMENTS

## 32. COMMITMENTS

Authorised commitments	2015	2014
Already contracted for but not provided for		
• Property, plant and equipment	11 708 597	4 975 630
• Goods and services	1 223 731	5 450 790
Research grants	8 442 982	25 823 067
	<b>21 375 310</b>	<b>36 249 487</b>

Already contracted for but not provided for	21 375 310	36 249 487
---	------------	------------

This committed expenditure relates to property, plant and equipment, goods and services and research grants and will be financed by retained surpluses, existing cash resources, funds internally generated, etc.

**Operating leases - as lessee (expense)**

Minimum lease payments due	2015	2014
• within one year	1 693 352	1 917 035
• in second to fifth year inclusive	287 490	320 911
	<b>1 980 842</b>	<b>2 237 946</b>

**Operating leases - as lessor (income)**

Minimum lease payments due	2015	2014
- within one year	3 706 902	1 521 886
- in second to fifth year inclusive	3 312 998	2 475 859
	<b>7 019 900</b>	<b>3 997 745</b>

Certain of the entity's buildings generate rental income. Lease agreements have terms from 12 months to 9 years and eleven months.

## 33. CONTINGENCIES

There are no contingencies at the reporting date.

## // NOTES TO THE FINANCIAL STATEMENTS

## 34. RELATED PARTIES

<b>Executive authority</b>	Dept. of Health (DOH)
<b>Controlled entities</b>	Medres (Pty) Ltd Refer to note 6
<b>Associates</b>	Jiresha Medical (Pty) Ltd Refer to note 5
<b>Members of key management</b>	<p>Prof. S Abdool Karim (Interim President) and Director of CAPRISA (MRC debtor) Contract ended 31 March 2014</p> <p>Prof G Gray (President appointed 1 April 2014)</p> <p>Mr. N Buick (Chief Financial Officer appointed 16 July 2012)</p> <p>Mr. M Bikwani (Executive Manager Human Capacity Development appointed 1 April 2013)</p> <p>Ms. S Bok (Executive Manager: Corporate and Public Affairs -no longer an EMC member from 1 October 2014)</p> <p>Dr. N Bhagwandin (Executive Manager: Strategic Research Initiatives - no longer an EMC member from 1 October 2014)</p> <p>Dr. R Gordon (Ex officio Executive Management Committee member from 1 April 2013 and employee of Medicines for Malaria Ventures (MRC debtor)</p> <p>Prof. C Parry (Acting Executive Director: Research from 1 November 2012 to 30 September 2014)</p> <p>Prof. R Jewkes (Acting Executive Director: Research from 1 February 2013 to 30 September 2014)</p> <p>Prof. A Bunn (Ex officio Executive Management Committee member from 1 January 2013 to 30 April 2013) Appointed as a consultant via Cardio Respiratory CC</p> <p>Prof. DC Stefan (Vice President appointed 1 October 2014)</p> <p>Adv. N Bhuka appointed an EMC member from 1 October 2014)</p> <p>Prof. MJ Mphahlele (Vice President appointed 1 October 2014)</p>

<b>Board member:</b>	<p>Board members are employed by Universities who contract with SA Medical Research Council for grant income or collaborative research</p> <p>Dr S Gumbi (Director of AEC Amersham - MRC supplier and an employee of Technology Innovation Agency an MRC debtor)</p> <p>Prof. M Sathekge (University of Pretoria - supplier and debtor)</p> <p>Prof. Z Dlamini (UNISA - supplier and debtor)</p> <p>Prof. K Mokwena &amp; Prof. P Mntla (Univ. of Limpopo - supplier and debtor)</p> <p>Prof. K Moodley (Univ. of Stellenbosch - supplier and debtor, resigned as Board member effective 1 July 2014)</p> <p>Prof. C Feldman and Dr. F Conradie (Univ. of Witwatersrand and Wits Health Consortium- supplier and debtor)</p> <p>Dr. Z Kwitshana (Univ. KwaZulu Natal - supplier and debtor)</p> <p>Prof. K Mfenyana (Walter Sisulu University - supplier and debtor)</p> <p>Prof, Y Osman (Univ. of Western Cape - supplier and debtor)</p> <p>Prof. K Setswe (HSRC - supplier and debtor)</p> <p>Prof. A Walubo (Free State University - supplier and debtor)</p>
<b>Employee: Mr P Swart</b>	Bestmed Medical Aid (MRC medical aid insurers, staff member was a Board trustee till November 2014)
<b>Ex officio Executive Management Committee/ Retired employee</b>	Prof. A Bunn (Member of Cardio Respiratory Computers CC MRC supplier)

## // NOTES TO THE FINANCIAL STATEMENTS

## RELATED PARTY BALANCES

	2015	2014
<b>Loan accounts - Owing (to) by related parties</b>		
Medres (Pty) Ltd (The loan is not considered to be recoverable)	184 074	67 444
<b>Amounts included in Trade receivable (Trade Payable) regarding related parties</b>		
CAPRISA	-	274 496
University of Kwazulu-Natal	(677 063)	50 148
University of Pretoria	-	4 560
University of Pretoria	-	(379 719)
University of Stellenbosch	-	41 187
University of Stellenbosch	-	(12 268)
University of Western Cape	10 547	124 148
University of Witwatersrand	(353 064)	119 308
University of Free State	-	-
Wits Health Consortium	(1 340 296)	-
University of Western Cape	(1 375 000)	-

<b>Deferred Income</b>		
Dept. of Health (DOH)	4 936 133	6 292 466
Dept. of Science and Technology (DST)	33 773 503	20 813 600

<b>Revenue</b>		
Dept. of Health (DOH)	391 518 421	365 315 789
Dept. of Health (DOH) Contracts	7 466 733	3 062 227
CAPRISA	-	1 173 142
University of Stellenbosch	132 547	280 107
Wits Health Consortium	1 186 104	184 796
University of Witwatersrand	26 578	209 639
Dept. of Science and Technology (DST)	52 968 508	31 718 397
Human Sciences Research Council (HSRC)	37 281	-
Medicines for Malaria Ventures	-	882 475
University of Pretoria	-	219 875

## // NOTES TO THE FINANCIAL STATEMENTS

	2015	2014
UNISA	141 171	206 744
Jembi Health Systems	-	57 315
University of Limpopo	-	25 263
Kenya Medical research Institute	-	3 048
University of Kwazulu- Natal	126 170	251 682
University of Western Cape	90 512	79 255
	<b>453 694 025</b>	<b>403 669 754</b>

**Expenditure incurred with related party suppliers**

University of Pretoria	13 650 154	12 716 501
UNISA	-	32 970
University of Limpopo	84 000	6 477 134
University of Stellenbosch	19 961 367	19 668 200
Wits Health Consortium	41 360 741	14 999 214
University of Witwatersrand	3 164 689	12 003 780
University of Kwazulu-Natal	4 496 484	10 098 955
University of Western Cape	8 001 215	5 279 966
University of Free State	2 632 281	199 206
Walter Sisulu University	1 356 140	-
Cardio Respiratory Computers CC	165 561	690 313
Bestmed Medical Aid	5 333 607	720 225
	<b>100 206 239</b>	<b>82 886 464</b>

## EXECUTIVE AUTHORITY INFORMATION

**Minister: Dr. A Motsoaledi**

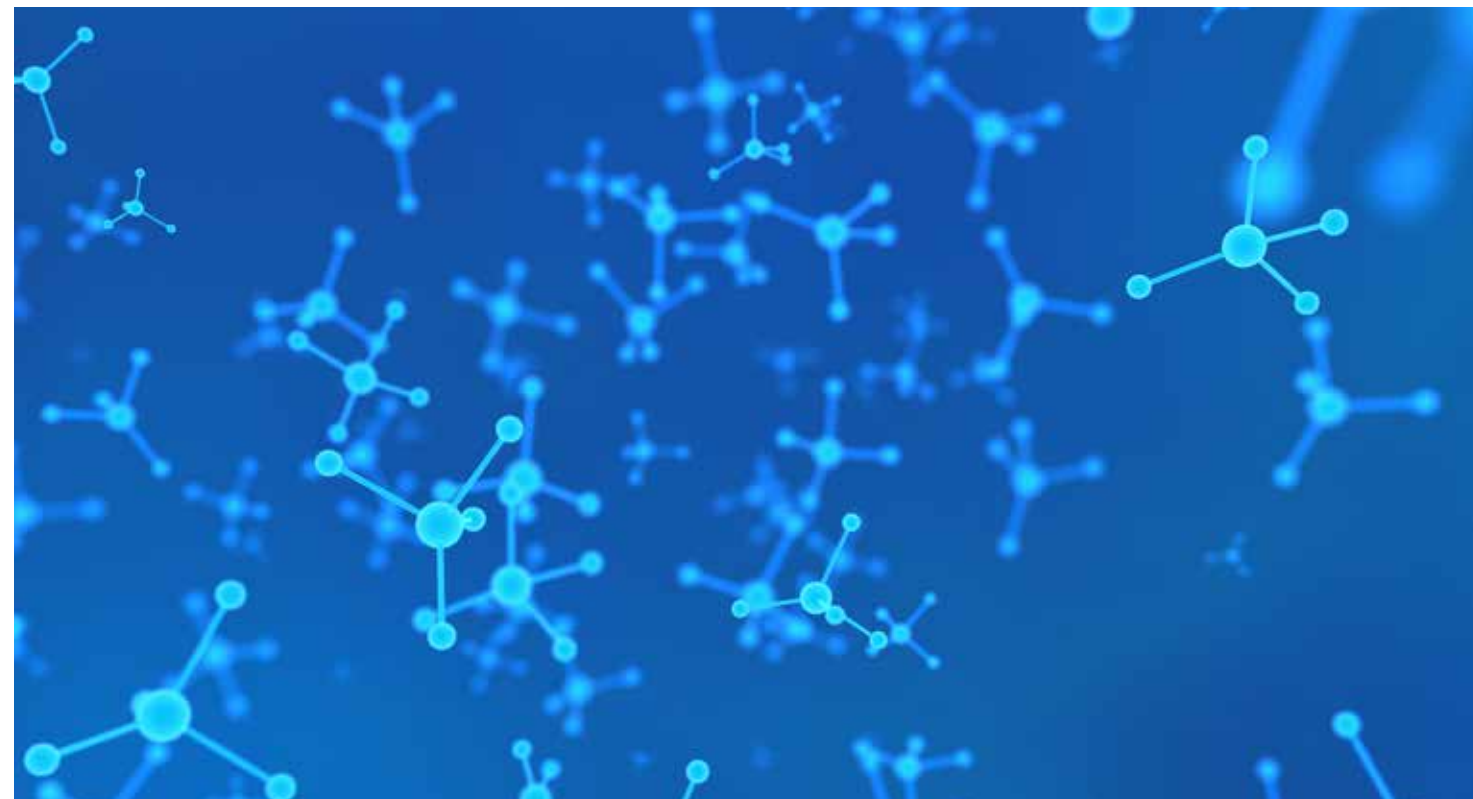
No subsistence, travel and other related re-imbusement costs have been paid.

**Director General: Ms. Precious Matsoso**

No subsistence, travel and other related re-imbusement costs have been paid.

## // NOTES TO THE FINANCIAL STATEMENTS

Executive Directors/Managers leave balances	2015	2014
Dr. N Bhagwandin	-	162 255
Adv. N Bhuka	32 376	11 400
Mr. M Bikwani	168 998	95 210
Ms. S Bok	-	195 708
Mr. N Buick	112 822	105 936
Mr. A Gangerdine	-	20 734
Dr. R Gordon	59 844	161 700
Prof. G Gray	161 700	-
Prof. R Jewkes	-	35 660
Prof. M Mphahlele	76 000	-
Prof. C Parry	-	89 691
Prof. D Stefan	67 270	161 700
	<b>679 010</b>	<b>1 039 994</b>



## // NOTES TO THE FINANCIAL STATEMENTS

## 35. MEMBER'S EMOLUMENTS

EXECUTIVE  
March 2015

	Emoluments	Vehicle & parking & cell phone allowance	Accommodation and entertainment	Local Airtravel and parking	Total
** Professor M Sathekge	175 536	10 794	8 111	52 289	246 730
*** Professor E Bukusi	47 152	4 298	12 204	101 421	165 075
*** Doctor F Conradie	41 073	5 013	1 964	3 774	51 824
** Professor Z Dlamini	97 547	4 220	11 857	37 526	151 150
** Professor C Feldman	36 632	2 778	880	7 631	47 921
** Doctor S. Gumbi	115 216	2 158	5 901	44 968	168 243
** Doctor P. Hanekom	121 720	1 322	1 964	52 583	177 589
*** Doctor Z Kwitshana	81 968	4 298	17 213	57 986	161 465
*** Professor K Mfenyana	43 160	12 132	5 917	33 688	94 897
*** Professor P Mntla	45 336	6 466	881	7 631	60 314
** Doctor K Mokwena	120 192	5 860	9 010	44 105	179 167
** Professor K Moodley	12 336	-	1 717	300	14 353
*** Professor Y Osman	67 456	4 298	2 012	18 263	92 029
*** Advocate J Ralefatane	43 520	3 070	5 944	44 232	96 766
*** Professor K Setswe	54 400	4 920	2 845	7 631	69 796
*** Professor A Walubo	63 104	4 627	9 897	38 097	115 725
	<b>1 166 348</b>	<b>76 254</b>	<b>98 317</b>	<b>552 125</b>	<b>1 893 044</b>

\* Old Board member

\*\* Old and current Board member

\*\*\* New Board member

## // NOTES TO THE FINANCIAL STATEMENTS

## March 2014

	Emoluments	Vehicle & parking & cell phone allowance	Accommodation and entertainment	Local Airtravel and parking	Total
* Professor L Mazwai	139 792	8 264	19 405	57 360	224 821
** Professor M Sathekge	120 680	3 773	11 445	58 408	194 306
*** Professor E Bukusi	12 336	-	2 223	14 858	29 417
*** Doctor f Conradie	8 224	-	1 000	7 475	16 699
** Professor Z Dlamini	78 128	700	8 556	21 829	109 213
** Professor C Feldman	61 576	1 441	6 242	21 830	91 089
** Doctor S Gumbi	67 848	1 107	2 625	21 829	93 409
** Doctor P Hanekom	92 720	2 362	2 674	58 233	155 989
*** Doctor Z Kwitshana	14 392	-	4 091	15 015	33 498
* Professor U Lalloo	12 336	146	1 095	10 500	24 077
* Doctor M Lidovho	8 224	3 212	4 790	7 337	23 563
*** Professor K Mfenyana	14 392	-	5 326	21 634	41 352
*** Professor P Mntla	8 224	-	1 000	7 475	16 699
** Doctor K Mokwena	86 040	1 872	5 119	21 829	114 860
** Professor K Moodley	64 968	1 154	-	7 337	73 459
* Professor L Morris	24 672	-	1 624	16 878	43 174
*** Professor Y Osman	12 336	-	-	-	12 336
*** Advocate J Ralefatane	16 448	-	5 282	22 079	43 809
*** Professor K Setswe	12 336	-	1 000	7 475	20 811
* Professor E Vries	40 912	433	3 164	14 354	58 863
*** Professor A Walubo	12 336	-	1 000	5 009	18 345
	<b>908 920</b>	<b>24 464</b>	<b>87 661</b>	<b>418 744</b>	<b>1 439 789</b>

\* Old Board member

\*\* Old and current Board member

\*\*\* New Board member

## // NOTES TO THE FINANCIAL STATEMENTS

## EXECUTIVE DIRECTORS/MANAGERS EMOLUMENTS

## March 2015

	Package Total incl. leave payout and allowances	Bonus & Interest	S & T	Company Contributions	Total
G Gray	1 977 756	-	14 627	140 385	2 132 768
* N Bhuka	961 332	-	-	68 560	1 029 892
* M Bikwani	1 136 580	50 943	-	88 697	1 276 220
N Buick	2 165 700	105 828	10 176	199 223	2 480 927
** R Gordon	1 134 240	49 461	24 498	80 779	1 288 978
DC Stefan	818 952	-	9 174	75 242	903 368
MJ Mphahlele	942 180	-	6 794	66 893	1 015 867
	<b>9 136 740</b>	<b>206 232</b>	<b>65 269</b>	<b>719 779</b>	<b>10 128 020</b>

\* Executive manager

Acting executive director research and executive managers who are no longer members of the EMC at 31 March 2015 are not disclosed in the note above.

\*\* Co-opted executive management committee member

## March 2014

	Package Total incl. leave payout and allowances	Bonus	S & T	Company Contributions	Total
* N Bhagwandin	1 072 576	27 284	1 570	75 899	1 177 329
S Abdool Karim	2 638 659	-	-	1 338	2 639 997
* N Bhuka	301 220	-	-	21 495	322 715
* M Bikwani	1 073 354	13 628	-	76 754	1 163 736
*SH Bok	973 206	18 774	-	81 614	1 073 594
N Buick	2 047 417	53 070	4 253	168 033	2 272 773
**** A Bunn	209 427	-	7 308	9 802	226 537
* A Gangerdine	236 000	-	800	16 886	253 686
**** R Gordon	1 018 828	16 565	1 853	72 368	1 109 614
*** R Jewkes	1 475 861	29 558	19 435	103 952	1 628 806
** CD Parry	1 547 021	25 985	15 326	103 281	1 691 613
	<b>12 593 569</b>	<b>184 864</b>	<b>50 545</b>	<b>731 422</b>	<b>13 560 400</b>

\* Executive manager

\*\* Acting executive director research from November 2012 to September 2014. Acting allowance reflected.

\*\*\* Acting executive director research from February 2013 to September 2014. Acting allowance reflected

\*\*\*\* Co-opted executive management committee member

## // NOTES TO THE FINANCIAL STATEMENTS

**36. COMPARATIVE FIGURES**

Certain cashflow comparative figures have been reclassified.

**Disclosure for cashflow was altered in the 2014/2015 financial year.**

The effects of the reclassification are as follows:

Cash Flow Statement and note to cash flow statement	2014 Previous	2014 Reclassified
Suppliers	(586 295 430)	(584 571 201)
Post retirement benefit obligation	2 671 000	-
Movement of financial assets	(658 604)	(87 081)
Loans and receivables repaid	-	375 248
Receivables from exchange transactions	(4 978 065)	(4 709 094)
Consumer debtors	268 971	-
Fair value adjustment on financial assets	946 771	-

**37. RISK MANAGEMENT****LIQUIDITY RISK**

The entity's risk to liquidity is a result of the funds available to cover future commitments. The entity manages liquidity risk through an ongoing review of future commitments and credit facilities.

The table below analyses the entity's financial liabilities and net-settled derivative financial liabilities into relevant maturity groupings based on the remaining period at the statement of financial position to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

At 31 March 2015	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	64 928 539	-	-	-

At 31 March 2014	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	97 475 806	-	-	-

MRC's primary source of income is government grants and contractual income, funds receivable is estimated when preparing the MTEF. Budgets are prepared for each contract and spend is monitored on an ongoing basis to ensure the liquidity of the entity.

**INTEREST RATE RISK**

In respect of income-earning financial assets interest-bearing financial liabilities, the table below indicates their average effective interest rates at the reporting date and the periods in which they mature.

## // NOTES TO THE FINANCIAL STATEMENTS

**CASH FLOW INTEREST RATE RISK**

Financial instrument	Average effective interest rate	Due in less than a year	Due in one to two years	Due in two and more years	2015	2014
Trade and other receivables - normal credit terms	9.25 %	26 230 026	-	-	26 230 026	33 945 814
Cash in current banking institutions	- %	-	-	-	313 790 334	335 126 630
Trade and other payables - extended credit terms	9.25 %	64 928 539	-	-	64 928 539	97 475 806
Operating lease obligations	- %	1 693 352	287 490	-	1 980 842	2 237 946

**INTEREST RATE SENSITIVITY ANALYSIS**

The sensitivity analysis below has been determined based on financial instruments exposure to interest rates at reporting date. For floating rate instruments, the analysis is prepared assuming the amount of the instrument outstanding at the reporting date was outstanding for the whole year.

The basis points increases or decreases, as detailed in the table below, were determined by management and represent the management's assessment of the reasonably possible change in the interest rates.

A positive number below indicates an increase in surplus. A negative number below indicates a decrease in surplus.

The sensitivity analysis shows the reasonable expected change in the interest rate, either an increase or decrease in the interest rate percentage. The equal but opposite % adjustment to the interest rate would result in an equal but opposite effect on surplus and therefore has not been separately disclosed below.

As the entity does not have any instruments that effect net assets directly, the disclosure only indicates the effect of the change in interest rates on surplus.

There were no changes in the methods and assumptions used in preparing the sensitivity analysis from one year to the next.

Most of interest bearing financial instruments have fixed rates and no interest was expected for the following period based on historic events. Accordingly the sensitivity analysis below is based on items with a floating rate namely cash and cash equivalents.

Increase in interest rates	2015	2014
The estimated increase in basis points - minimum	50	50
Effect on deficit/surplus	1 568 952	1 675 633
The estimated increase in basis points - maximum	200	200
Effect on deficit/surplus	6 275 807	6 702 533

**CREDIT RISK**

This is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. Management has a debtors policy in place, and this makes provision for credit evaluation for customers requiring credit above R1 million. Investments are allowed only in liquid securities and only with the SARB and the four major banks with high credit standing.

Contract work constitutes the biggest portion of the MRC's income, and the major exposure is delays in finalising contracts, and disputes in terms of whether or not the outputs have been produced. A certain number of contracts are stated and paid on a reimbursive basis, and this poses a risk if the funder is not satisfied with the outputs.

## // NOTES TO THE FINANCIAL STATEMENTS

**FOREIGN EXCHANGE RISK**

The MRC operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar and the Euro. MRC receives substantial funding from the USA and Europe, as a result its statement of financial position can be affected by movements in the US dollar and Euro. Foreign exchange risk arises from future commercial transactions, recognised assets and liabilities and net investments in foreign operations.

Due to uncertainties in respect of when cash will be received from overseas, MRC does not hedge foreign exchange fluctuations.

Approximately 24% of MRC's debtors (R1,740,687) are exposed to currency compared to 51% last year (R2,221,726).

MRC's project office does a scenario calculation looking at how much would be lost if there was an unfavourable currency change. On the basis of this outcome, it will be decided whether or not to proceed with a particular project.

**FOREIGN CURRENCY EXPOSURE AT STATEMENT OF FINANCIAL POSITION DATE**

Exchange rates used for conversion of foreign items were:	2015	2014
USD	12.2020	10.5953
GBP	18.0479	17.6222
EURO	13.116	14.5887

**FAIR VALUES**

At March 2015 and March 2014, the carrying amounts of cash, accounts receivable, accounts payable approximated their values due to the short term maturities of these assets and liabilities.

**38. GOING CONCERN**

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

**39. FRUITLESS AND WASTEFUL EXPENDITURE**

	2015	2014
Fruitless and wasteful expenditure current year	69 508	16 266
Recovered/approved	(60 680)	(16 266)
	<b>8 828</b>	<b>-</b>

Expenditure relates to interest on creditor accounts, invoices were in dispute and was only paid once the queries were resolved. Interest on Telkom and municipal accounts have also been paid late due to the invoices not being received timeously, we have registered online and a number of municipal accounts are being received electronically, this should eliminate the risk of invoices not being received on time.

**40. IRREGULAR EXPENDITURE**

	2015	2014
Opening balance	541 407	2 853 691
Add: Irregular Expenditure - current period	729 528	215 440
Less: Amounts condoned	(950 439)	(2 527 724)
	<b>320 496</b>	<b>541 407</b>

**Analysis of expenditure awaiting condonation per age classification**

	2015	2014
Current period	320 496	134 192
Prior years	-	407 215
	<b>320 496</b>	<b>541 407</b>

## // NOTES TO THE FINANCIAL STATEMENTS

Details of irregular expenditure – current year		2015	2014
Non compliance with Supply Chain Management Practices	National Treasury - TR 16A6.1 & TR 16A6.4 SCM Practice note 8 of 2007/08; Paragraph 3.2.	15 229	33 446
	National Treasury - TR 16A6.1 & TR16A6.4 SCM Practice note 8 of 2007/08; Paragraph 3.3.	714 299	143 402
	National Treasury - TR 16A6.1 & TR 16A6.4 SCM Practice note 8 of 2007/08; Paragraph 3.4.	-	-
	SCM Practice note 7 of 2009/2010 and TR 16AS.3(a)(i)	-	-
	National Treasury - TR16A9.1(d) & Preferential Procurement Policy regulation 14	-	-
Expenditure relating to finance leases that have not been approved by National Treasury	-	38 592	
		<b>729 528</b>	<b>215 440</b>

**Details of irregular expenditure condoned**

National Treasury condoned the finance lease transactions entered into by MRC amounting to R 445,807.

At its meeting on 29 May 2014; 31 July 2014; 20 November 2014 and 19 February 2015 the Board condoned irregular expenditure within its authority, totalling R95,600; R379,815; R26,222 and R2,995.

**41. THE EFFECTS OF CHANGES IN FOREIGN EXCHANGE RATES (EFFECTS OF TRANSITIONAL PROVISIONS)**

In accordance with its transitional provision as per Directive 2 of the GRAP Reporting Framework, the entity need not comply with the standard on The Effects Of Changes in Foreign Exchange Transactions, until such time as the measurement period in the transitional provision for any of the following Standards of GRAP have expired:

- Construction Contracts
- Inventories
- Investment Property
- Property Plant and Equipment
- Provisions, Contingent Liabilities and Contingent Assets
- Agriculture
- Intangible Assets
- Heritage assets

**42. DEVIATION FROM SUPPLY CHAIN MANAGEMENT REGULATIONS**

Paragraph 12(1)(d)(i) of Government gazette No. 27636 issued on 30 May 2005 states that a supply chain management policy must provide for the procurement of goods and services by way of a competitive bidding process.

Paragraph 36 of the same gazette states that the accounting officer may dispense with the official procurement process in certain circumstances, provided that he records the reasons for any deviations and reports them to the next meeting of the accounting authority and includes a note to the annual financial statements.

All deviations were documented and submitted to the Accounting Authority or its delegate in terms of the Delegation of Authority Framework. Deviations were motivated in advance and subsequently approved.

**43. PUBLIC FINANCE MANAGEMENT ACT (PFMA)****SECTION 55 (2)**

No material losses through criminal conduct were incurred during the period ended 31 March 2015. Irregular and fruitless and wasteful expenditure incurred has been disclosed in notes 39 and 40.

## // NOTES TO THE FINANCIAL STATEMENTS

**SECTION 53 (3)**

The Council may not accumulate surpluses unless written approval of the National Treasury has been obtained. Approval for the retention of the accumulated surplus as at 31 March 2014 was obtained from National Treasury.

**SECTION 54 (2)**

In terms of the PFMA and Treasury Regulation 28.1.5 the Council has developed and agreed to a framework of acceptable levels of materiality and significance.

**44. BUDGET DIFFERENCES****Material differences between budget and actual amounts**

Efficiency savings were generated on infra-structural, communication and statutory costs, information technology; travel and subsistence, laboratory costs as well as printing and stationery costs which were lower than budget.

Collaborative research costs were higher than budget resulting in higher than anticipated income recognised on contracts and grants.

Staff costs were higher than budget due to the provision raised to offset the deficit in the defined benefit pension fund.

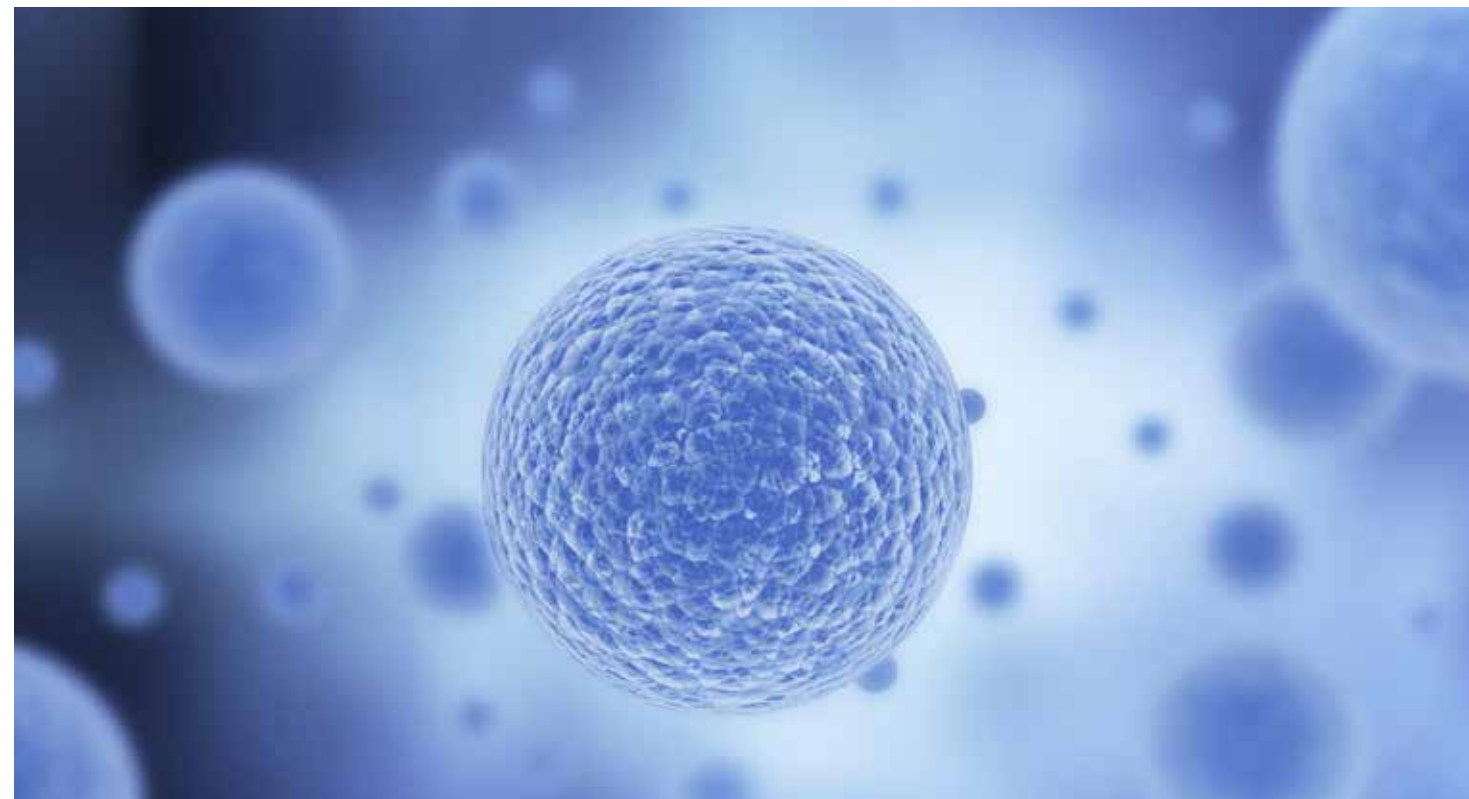
The budget did not include the reversal of impairment losses.

**CHANGES FROM THE APPROVED BUDGET TO THE FINAL BUDGET**

The changes between the approved and final budget are a consequence of changes in the overall budget parameters. For details on these changes please refer to pages 133 to 134 in the annual report.

## // DETAILED INCOME STATEMENT

	Note(s)	2015	2014
<b>Revenue</b>			
Rendering of services		275 887 835	285 846 732
Rental income		2 925 031	1 957 690
Other income	20	3 752 841	4 111 289
Interest received - investment		19 045 116	20 183 006
Dividends received		92 444	79 094
Government grants & subsidies		391 518 421	365 315 789
<b>Total revenue</b>		<b>693 221 688</b>	<b>677 493 600</b>
<b>Expenditure</b>			
Employee related costs	22	(277 231 098)	(298 099 000)
Depreciation and amortisation		(18 022 167)	(16 556 868)
Impairment loss/ Reversal of impairments	23	12 267 163	(13 776 052)
Finance costs	24	(1 370 197)	(5 932 313)
Lease rentals on operating lease		(4 718 587)	(6 008 199)
Debt Impairment	25	(1 840 637)	268 971
Repairs and maintenance		(12 579 327)	(11 502 371)
General Expenses	26	(380 773 036)	(324 366 906)
<b>Total expenditure</b>		<b>(684 267 886)</b>	<b>(675 972 738)</b>
<b>Operating surplus</b>	29	<b>8 953 802</b>	<b>1 520 862</b>
Loss on disposal of assets and liabilities		(14 823 035)	(636 130)
Gain on foreign exchange		1 450 343	2 702 023
Fair value adjustments	27	651 514	946 771
		<b>(12 721 178)</b>	<b>3 012 664</b>
<b>(Deficit) surplus for the year</b>		<b>(3 767 376)</b>	<b>4 533 526</b>



## // LIST OF ABBREVIATIONS

ABV	Antiretroviral therapy, Bleomycin and Vincristine	I-R	Ischemia-Reperfusion
ARIC	Audit, Risk and IT Committee	KMC	Kangaroo Mother Care
ART	Antiretroviral Therapy	LRA	Labour Relations Act
ARV	Anti-Retroviral	MARP	Most at Risk Population
BCM	Body Cell Mass	MIC	Minimal Inhibition Concentrations
BMD	Bone Mineral Density	MTB	Mycobacterium Tuberculosis
BMI	Body Mass Index	MDR TB	Multi Drug Resistant Tuberculosis
BODS	Burden of Disease Survey	MTEF	Medium Tern Expenditure Framework
CCMA	Commission for Conciliation Mediation and Arbitration	NCD	Non-Communicable Disease
		NDoH	National department of Health
CDC	Centre for Disease Control	NDoST	National department of Science and Technology
CDM	Clean Development Mechanism	NHI	National Health Insurance
CEO	Chief Executive Officer	NHRC	National Health Research Committee
CFO	Chief Finance Officer	NIH	National Institute for Health
CHC	Community health Centre	NIAID	National Institute of Allergy and Infectious Diseases
CHW	Community Health Worker		
COX	Cyclooxygenase	NSDA	National Service Delivery Agreement
CRA	Comparative Risk Assessment	OSD	Occupational Specific Dispensation
CSG	Child Support Grant	PFMA	Public Finance Management Act
CSRI	Council for Scientific and Industrial Research	PHC	Public Health Clinic
CVD	Cardiovascular Disease	PD	Pharmacodynamics
DH	District Hospital	PK	Pharmacokinetics
DSM-5	Diagnostic and Statistical Manual	PLWHA	People Living with HIV/Aids
EAP	Employee Assistance Programme	PMTCT	Prevention of Mother to Child Transmission
EE	Employment Equity	PPIP	Perinatal Problem Identification Programme
EDCTP	European Developing Countries Clinical Trials Partnership	POC	Point of Care
		PSCBC	Public Service Coordinating Bargaining Council
EMC	Executive Management Committee	SACENDU	South African Community Epidemiology Network on Drug Use
ERMU	Entity-wide Risk Management Unit		
FFS	Fee for Service	SCM	Supply Chain Management
GACD	Global Alliance for Chronic Disease	SHIP	Strategic Health Innovation Partnership
GBV	Gender-Based Violence	STAT	Signal Transducer and Activator Transcription
GCP	Good Clinical Practices	SWEET	Study of Women Entering and in Endocrine Transition
GLP	Good Laboratory Practices		
GPCR	G Protein-Coupled Receptor	TB	Tuberculosis
LDL	Low Density Lipoprotein	TESA	Trials of Excellence in Southern Africa
HIV	Human Immunodeficiency Virus	TIA	Technology innovation Agency
HIVR4P	HIV Research for Prevention	US	United States
HPV	Human Papilloma Virus	VCT	Voluntary Counselling and Testing
HLA	Human Leukocyte Antigen	VF	Ventricular Fibrillation
HPCSA	Health Professional Council of South Africa	VT	Ventricular Tachycardia
HPV	Human Papillomavirus	WHO	World Health Organisation
ICT	Information Communication Technology	XDR	Extensively Drug-resistant tuberculosis

