Discovery
Foundation

THE DISCOVERY

FOUNDATION AWARDS

2014

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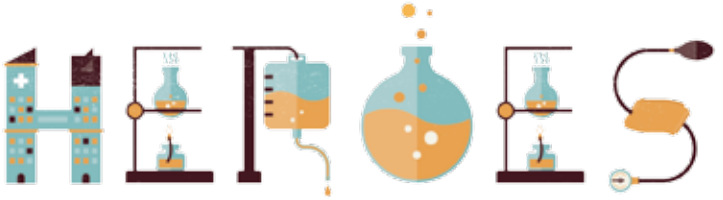
CELEBRATING



IN HEALTHCARE

DISCOVERY FOUNDATION

ACADEMIC FELLOWSHIP AWARDS

1. Dr Christine Albertyn
2. Dr Adrie Bekker
3. Dr Mishal Pandie
4. Dr Angela Dramowski
5. Dr Charles Kyriakakis
6. Dr Nasreen Mahomed
7. Dr Michelle Meiring
8. Dr Winter-Rose Nkosi
9. Dr Lionel Green-Thompson
10. Dr Patryk Szymanski
11. Dr Nolwandle Duma
12. Dr Joanna Skelton

DISCOVERY FOUNDATION

SUB-SPECIALIST AWARDS

1. Dr Timothy Forgan
2. Dr Annari van Rensburg
3. Dr Kealeboga Rammego
4. Dr Pieter Zwanepoel
5. Dr Kefilwe Dire
6. Dr Bhekifa Dube
7. Dr Mfundo Feketshane
8. Dr Engelina Groenewald

DISCOVERY FOUNDATION

RURAL FELLOWSHIP AWARDS

1. Dr Joleen Cairncross
2. Dr Jimmy Mohale
3. Holy Cross Hospital, St Elizabeth's Hospital, St Patrick's Hospital
4. Port Elizabeth Metropolitan Anaesthetist Service
5. Job Shimankana Tabane Hospital
6. Moses Kotane Hospital & Brits Hospital
7. Bethesda Hospital
8. Moses Kotane Hospital & Brits Hospital
9. Tonga Hospital

DISCOVERY FOUNDATION

EXCELLENCE AWARD

1. Hospice Palliative Care Association of South Africa

FOREWORD

VINCENT MAPHAI

CHAIRPERSON OF THE DISCOVERY FOUNDATION

Next year is very significant, particularly in the area of healthcare. This is because focus will fall squarely on how far, as a country, and as a global community, we have travelled towards meeting the United Nations' Millennium Development Goals (MDGs). The primary objectives of the MDGs are to uphold the principles of human dignity, equality, and equity and to create a world free from extreme poverty. The quality of healthcare services is central to three of the eight MDGs, which include the reduction of child mortality, the improvement of maternal health, and the combat of HIV/Aids, malaria, and other diseases. All these healthcare challenges affect mainly sub-Saharan Africa. As a result, our country is obliged to continuously put itself in a position to deal with these challenges effectively.

Adding to this complexity is the reality that today's life choices have led to a change in disease patterns from communicable to non-communicable diseases. According to the Oxford Health Alliance's 3-4-50 model, three human behaviours, namely, smoking, poor nutrition, and physical inactivity lead to four chronic diseases of lifestyle, namely, cancer, diabetes, lung, and heart diseases. These in turn account for over 50% of deaths worldwide.

It is against this background that the Discovery Foundation's drive to support academic medical research should be viewed. The Foundation does this by funding the training of specialists in some of our country's leading research institutions as well as international institutions such as the Massachusetts General Hospital and Cleveland Clinic in the United States. Research pursuits by our outstanding award recipients promise to elevate the quality of our healthcare in general, and the prevention of some of the chronic lifestyle diseases mentioned. This, in turn, will hopefully alleviate other preventable healthcare challenges, especially in maternal and child mortality.

The Foundation's aim and efforts speak directly to the healthcare challenges in the MDGs and the 3-4-50 model. The Foundation is investing over R150 million to train doctors whose innovative research is designed to enable our country to meet healthcare challenges head on. We have made progress in our mandate to fund the training of more specialists for the public sector, ensuring we continue to bridge the gap of quality of healthcare between the private and public sector.

We are delighted that the Foundation's efforts align with government's policy of mitigating the healthcare burden in our country by increasing investment and introducing the National Health Insurance system. The health department's changes are aimed at ensuring equitable access to essential healthcare and it is obvious that specialists will play a critical role in delivering quality care in that system.

Our message, reiterated over the past years, remains pertinent today, namely, that the Foundation is proud to be a resource to our talented doctors, who ensure that our country continues to live up to its calling as a leading medical research platform since the groundbreaking research and first human heart transplant surgery by Dr Christiaan Barnard.

I would like to congratulate this year's award recipients and wish them well in finding innovative solutions to alleviate the growing medical challenges facing our world. Let us remember that the reward arising from our doctors' efforts is that more people will have access to highly skilled health professionals who employ innovative methods and world class systems to provide high quality healthcare. This should push us even further towards meeting the MDGs and health goals beyond 2015.

WE MAKE A DIFFERENCE

IN THE SOUTH AFRICAN HEALTHCARE SYSTEM THROUGH INVESTMENT IN EDUCATION AND TRAINING.

Access to timely, acceptable, and affordable healthcare of appropriate quality is globally recognised as a fundamental human right.

Governments and private healthcare systems across the world face a complex battle to ensure that citizens are able to access quality healthcare while managing the spiralling costs associated with the healthcare sector. Our country faces the same global funding challenges that come with managing healthcare costs in a population that is living longer, but is increasingly afflicted by chronic diseases of lifestyle. Only 17% of our population has access to private healthcare cover, while the vast majority of the population rely on the stretched resources provided by the public healthcare sector.

There is an undeniable need for innovative partnerships to create and maintain a sustainable healthcare delivery system in our country. Our commitment to this cause led to the establishment of the Discovery Foundation in 2006.

Understanding the challenges in our healthcare sector

South Africa does not have enough skilled medical professionals in all areas of healthcare to meet its people's needs. We have a doctor to patient ratio of 5.5 doctors per 10 000 people, which compares poorly with both developed nations and other BRICS group of countries. We are proud to offer our support to address this shortage, alongside government initiatives.

Also, there is a great disparity between our public and private healthcare systems. In the private sector our quality and access to care are comparative to the best systems in the world, but our public sector lags behind in certain areas. There is a particular need for infrastructure and staffing in remote rural areas. This lack of easily accessible healthcare services has a negative impact on people's ability to make good health choices and to access intervention when they need it most.

Another primary aim of the Foundation is to ensure that practitioners work in a supportive environment, conducive to the provision of consistently excellent healthcare. It is important that our doctors do not feel so discouraged that they leave our country, taking their valuable skills with them. As a corporate, and as one of our country's key role players in the healthcare industry, we are able to make our biggest contribution in this arena and play an important role in improving and strengthening our country's healthcare system for the benefit of all.

Investing in today's talented doctors to ensure a lasting legacy in healthcare delivery that will benefit current and future generations

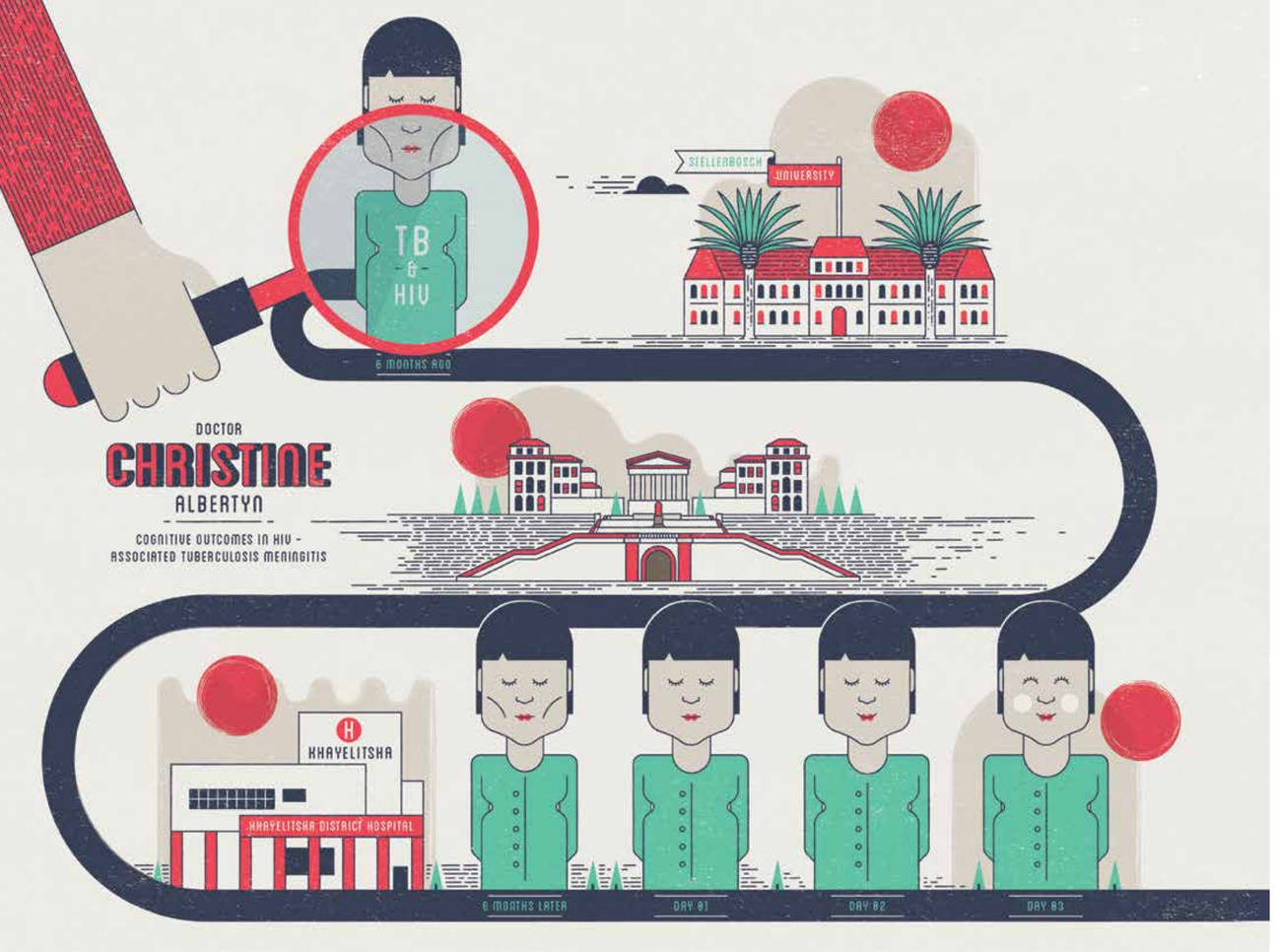
Our target, as the Discovery Foundation is to invest over R150 million in the education and training of 300 medical specialists over ten years, and in the development of academic and research centres with a specific focus on those areas with the greatest need. To date, we have trained and educated over 150 medical specialists, who are focused on numerous initiatives that will help boost South Africa's healthcare system and support the government in its vision of providing healthcare for all our citizens.

Each year, these funds are disbursed to a number of selected recipients through the Discovery Foundation Awards, which consists of a series of grants that enable recipients to specialise further in the medical field of their choice. Through these awards, we are boosting South Africa's reputation as an international hub of academic excellence and clinical research, contributing to the nation's future health and wellbeing.

DISCOVERY FOUNDATION

ACADEMIC FELLOWSHIP AWARDS

These awards are aimed at boosting clinical and academic research and knowledge in South Africa



DR CHRISTINE ALBERTYN

The field of behavioural neurology is significantly underdeveloped in South Africa yet it holds important outcomes for many diseases like HIV, TB, certain strokes, epilepsy, and trauma.

UNDER THE MICROSCOPE

Dr Christine Albertyn (35) graduated from the University of the Free State. "Medicine encompasses many areas from mathematics and science to biology and psychology and this diversity combined with my empathetic nature drew me to the field," she says. When not beside her patients, you'll find her at Newlands Cricket Ground in Cape Town which fortunately for this cricket fanatic is within walking distance of her home. Family cycling holidays are another form of relaxation, which she shares with her husband Peter and their year old son, James.

Historically, cognition has not been easy to measure with an objective tool and has seemed rather intangible, says Dr Christine Albertyn. But for behavioural neurologists focusing on diseases that affect cognition, the future is exhilarating. "As the boundaries between neurology and psychiatry/psychology blur, this has become an important and exciting field for the future as doctors discover more of the mind with the aid of functional neuroimaging."

"A behavioural neurologist thinks about thinking!" Dr Albertyn explains. "This includes how we reason, remember, think abstractly, multitask, recognise social cues, plan actions and process emotions." It was while working in Ireland that her love for neurology developed. "My husband and I visited Ireland for a year of overseas work experience after community service. But we loved the countryside and the warm, down-to-earth, non-classist society and stayed for five years, delving deeper into the field of neurology within the Irish health system.

"I had wonderful consultants who taught me a lot about the academic and human side of neurology. There was healthy competition amongst neurology trainees and this gave rise to high quality graduates," she says. However, while it was a privilege to have access to first world medicine and high levels of research, there were limitations to patients' access to care (even more following the recession). "In some hospitals waiting times for a routine neurology appointment or an MRI scan approached one year," Dr Albertyn reveals.

"My time there also made me appreciate the training we receive in South Africa with its emphasis on bedside skills and less emphasis on super-specialisation early on."

While in Dublin, Dr Albertyn presented many times at the hospital's weekly neurosciences meetings which included all neurology units in the city. She also presented posters at international meetings and made several oral presentations. "I found her an absolutely excellent registrar who was extremely keen to learn," says Dr Raymond Murphy, consultant neurologist at Dublin's Adelaide and Meath Hospital.

There is a strong element of detective work to neurology, says Dr Albertyn, and it's this that particularly excites her about her chosen field. "As you take a history from a patient and examine them to get closer to a diagnosis there is much satisfaction in the 'pieces of the puzzle' fitting together and the building of a relationship that follows with a patient and their family."

"I would love to carve out a niche for myself as a behavioural neurologist in the public sector in South Africa. With our high prevalence of HIV and its associated neurocognitive disorders, there is a particular need for specialists in this field." She cites Prof Roland Eastman as a masterful teacher in all areas of neurology during her time as a neurology registrar at Groote Schuur Hospital and more recently in the field of neuropsychology, the spirited teaching of Prof Mark Solms.

UNDER THE MICROSCOPE

Dr Adrie Bekker qualified as a neonatal sub-specialist in Paediatrics in 2008, and has been a consultant at Tygerberg Hospital and a part-time research fellow at the Desmond Tutu TB Centre at Stellenbosch University since 2010 where she has participated in clinical research projects. She believes that to supervise and mentor junior doctors appropriately, it is essential for her to upscale her own research skills, and abilities. Dr Bekker (41) was drawn to neonatology because of the special bond between mothers and their newborns. She lives in Observatory, Cape Town and when not at work enjoys reading, cooking, birding, and gardening.

Premature and low birth weight babies born to women with TB and HIV are at very high risk of developing TB, yet poor understanding of optimal drug dosages for the babies is hampering treatment.

Globally, close to three million women develop active tuberculosis. In Africa, TB rates are up to 10 times higher in pregnant women living with HIV and the mortality risk in both mothers and babies is 300% higher than those without HIV. "HIV-infected mothers co-infected with TB typically present with more complicated and disseminated TB disease, which complicates not only their own care, but also that of their offspring," says neonatologist Dr Adrie Bekker.

"Integration of TB care has been neglected in this very vulnerable group, and a limiting factor in providing optimal care for newborns and infants with TB is our inadequate knowledge of the correct dosing of TB medicines in these very young children. Through her PhD research Dr Bekker will test TB drug levels in babies to determine the most accurate dosing. "Almost no pharmacokinetic (PK) studies have been published anywhere on infants (< 12 months) receiving first- and second-line anti-tuberculosis drugs," she says. "These PK studies evaluate the TB drug level in a baby on TB medication and enable us to make recommendations regarding the correct dose for small children who undergo many developmental changes. Guidelines generated from our studies will assist with the future manufacturing of fixed dose combinations and child-friendly formulations."

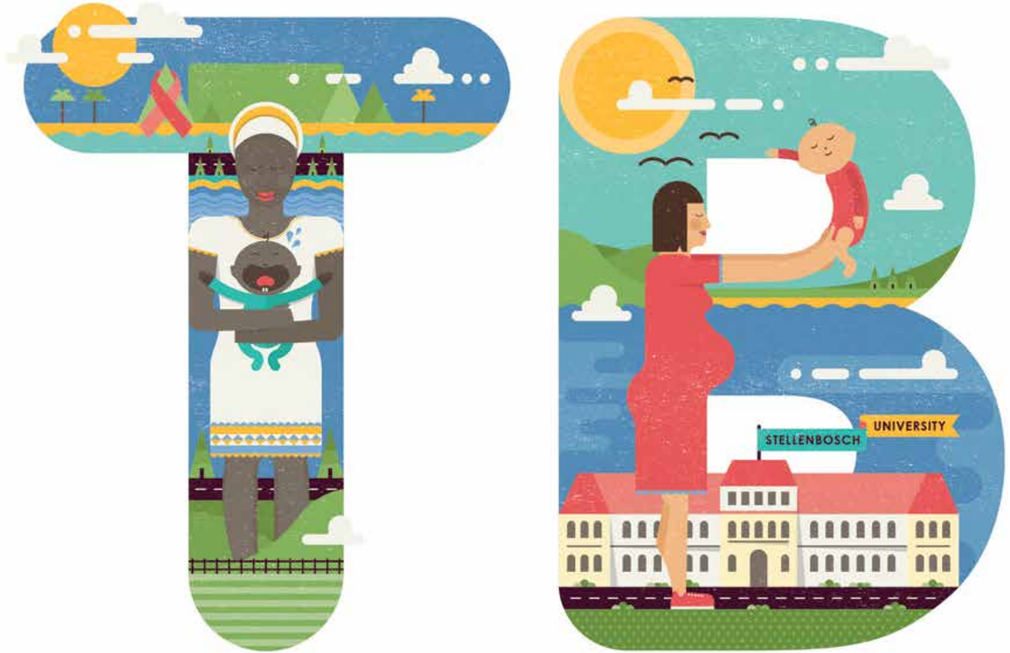
Dr Bekker is a strong proponent of research, which she believes gives depth to her clinical work. She believes research teaches one to think critically and analyse a problem in a scientific way. She is hoping her research will raise awareness and understanding of maternal and infant TB care, and help to strengthen health systems to improve TB care for newborns. "The advantage of research is that you can disseminate your findings to a bigger audience and therefore influence decision-making processes on a wider scale," she says. Her studies will generate six first-author publications in peer-reviewed journals and help her to build research capacity among other South African investigators.

In 2010 Dr Bekker co-authored the scientific review, 'Tuberculosis at extremes of age', which was published in the journal: Respirology. This constituted the early foundation for her PhD thesis. "It is a pleasure to work with Adrie," says the review's co-author Professor HS Schaaf. "She maintains a high quality of work and an ethical approach to her work." Through her research Dr Bekker will impact significantly on knowledge gaps and strategies to improve tuberculosis control in neonates and infants, believes Prof Schaaf, who is a senior consultant in the Department of Paediatrics and Child Health at Stellenbosch University.

Professor Anneke Hessling, Dr Bekker's primary supervisor for this PhD and the director of the Paediatric TB Research Programme at the Desmond Tutu TB Centre, says Dr Bekker is an extremely valuable member of the clinical research community in South Africa and in the international context. "She is a dedicated, passionate, and driven individual. Her unique skills and focus area of research will make a considerable contribution to the existing limited knowledge base."

DR ADRIE BEKKER

Consultant in Neonatology | Tygerberg Hospital and Stellenbosch University | Cape Town |
PhD: Prevention and treatment of perinatal and infant TB in the HIV era



DR ADRIE BEKKER

THE PREVENTION AND TREATMENT OF PERINATAL AND INFANT TB IN THE HIV ERA

DR MISHAL PANDIE

UNDER THE MICROSCOPE

Dr Mishal Pandie has done a fair amount of stumbling in his life but it has paid off handsomely. The 35-year-old Capetonian had no career plan after high school and can't remember why he chose medicine. Then he fell into a job as a medical officer in infectious diseases at Groote Schuur Hospital and that's when things got really interesting. "I planned to do it for six months but I really enjoyed the work and stayed for four years," he says. Described by colleagues as a highly intelligent and thoughtful doctor who is committed to making a difference to the health of fellow South Africans, Dr Pandie admits that medicine can be a tough and stressful discipline, but that helping his community is his reward.

A new anti-tuberculosis agent being used for multi-drug resistant TB could form the backbone of management of the disease in South Africa.

The treatment of drug resistant tuberculosis is associated with poor success rates. Patients who fail second-line regimens have limited treatment options and a very poor prognosis. The new anti-tuberculosis drug bedaquiline is active against drug-sensitive and drug-resistant TB. Given the number of TB patients infected with HIV, it is essential to understand the drug interactions between this promising drug and antiretrovirals (ARVs).

Globally, one third of the 34 million people living with HIV are infected with TB and in sub-Saharan Africa up to 80% of new TB cases are HIV positive. All HIV positive patients with TB co-infection require ARVs.

"Phase two studies have shown faster time to culture conversation in MDR-TB patients when bedaquiline was added to standard therapy. Bedaquiline may also allow shorter treatment regimens for drug-sensitive TB," he says. Bedaquiline does not have regulatory approval in South Africa but is available through the Bedaquiline Clinical Access Programme for patients with pre-XDR-TB or XDR-TB. Dr Pandie's study will be conducted at sites participating in the Bedaquiline Clinical Access programme. "We will describe and compare the pharmacokinetics of Bedaquiline in patients receiving and not receiving ARVs, and correlate concentrations with clinical outcomes," Dr Pandie says.

"The results of this study will affect both national and global policy on the treatment of HIV/TB co-infection," says Dr Mishal Pandie. He hopes that this study will make an important contribution to the evidence-based management of patients with HIV/TB co-infection, and establish himself as a researcher in the field of infectious diseases.

"Dr Pandie is a first-rate clinician. He is extremely thorough and very empathetic and has wonderful teaching skills," says Professor Marc Blockman, of the division of Clinical Pharmacology at the University of Cape Town. "In clinical research Dr Pandie always puts the patient first and acts in accordance with the highest ethical standards. He has the qualities required to become a clinician-scientist and I am sure he will make a significant contribution in his chosen research field."

Professor Gary Maartens, Dr Pandie's supervisor and head of pharmacology at UCT, says it is clear that Dr Pandie has the skills and drive to become an outstanding clinical researcher.

Dr Pandie lives in Woodstock in Cape Town. When not at the hospital, he enjoys music, movies, and sport and spending time with friends and family. His kind, hardworking, and generous parents are his inspiration.

Infection prevention and control practices are poor in some South African healthcare facilities and too many children and newborns suffer or die unnecessarily from infections they acquire in hospitals.

DR ANGELA DRAMOWSKI

Paediatric Infectious Diseases sub-specialist | Tygerberg Hospital and Stellenbosch University | Cape Town |
PhD: Determinants of healthcare-associated infection among hospitalised children

The spread of multi-drug resistant bacteria is a serious threat to South Africa's healthcare system and a leading cause of hospital-associated death and disease. Combatting this spread through infection prevention and control is an important intervention and it's here that Dr Angela Dramowski is focusing her research.

"During my registrar and fellowship training I was struck by how many children and newborns suffered or died from infections they acquired in hospital. Many healthcare-associated infections (HAI) are preventable, but awareness of the problem and adherence to recommended infection prevention and control (IPC) practices is low in SA healthcare facilities," she says.

There are also few experts in paediatric IPC in South Africa, and a consequent lack of published research in the field. It was her work as an international ambassador for IPC and her exposure to international experts in this field that convinced Dr Dramowski to devote her studies to this area of medicine. "IPC is a key component of the National Core Standards for Health yet very few SA doctors have the training or experience to lead IPC programme improvements. This will position me as one of very few South African paediatricians with expertise in IPC." Her ultimate goal is to establish a regional network for paediatric HAI surveillance and research.

Dr Dramowski's study will be the first description of a large-scale, prospective clinical surveillance for paediatric HAI in SA in two decades. Outputs will include guidelines for surveillance and reporting of paediatric HAI and at least five peer-reviewed publications. She will study the epidemiology of paediatric HAI at Tygerberg Hospital in Cape Town where the burden of HAI (although currently unknown) will likely exceed that of high-income countries; a case-control study will measure the contribution of HIV to HAI. "Any immune-compromise will increase a patient's risk of developing a healthcare-associated infection. Children with HIV infection also have more regular healthcare contact (i.e. opportunities for exposure to infections), carry more antibiotic-resistant flora, and when hospitalised have an increased length of stay. For all of these reasons, we suspect that HIV-infection (and possibly also HIV-exposure) is an important locally relevant risk factor for HAI," Dr Dramowski says.

Paediatrics has always been a passion for this Durban-born doctor. "I have always known I wanted to be in a profession that helped people and paediatrics was an obvious choice of specialty for me as children are particularly vulnerable and reliant on adults for their total care." But it hasn't been easy. Breaking bad news to parents is particularly tough, she says, especially as she now has children of her own.

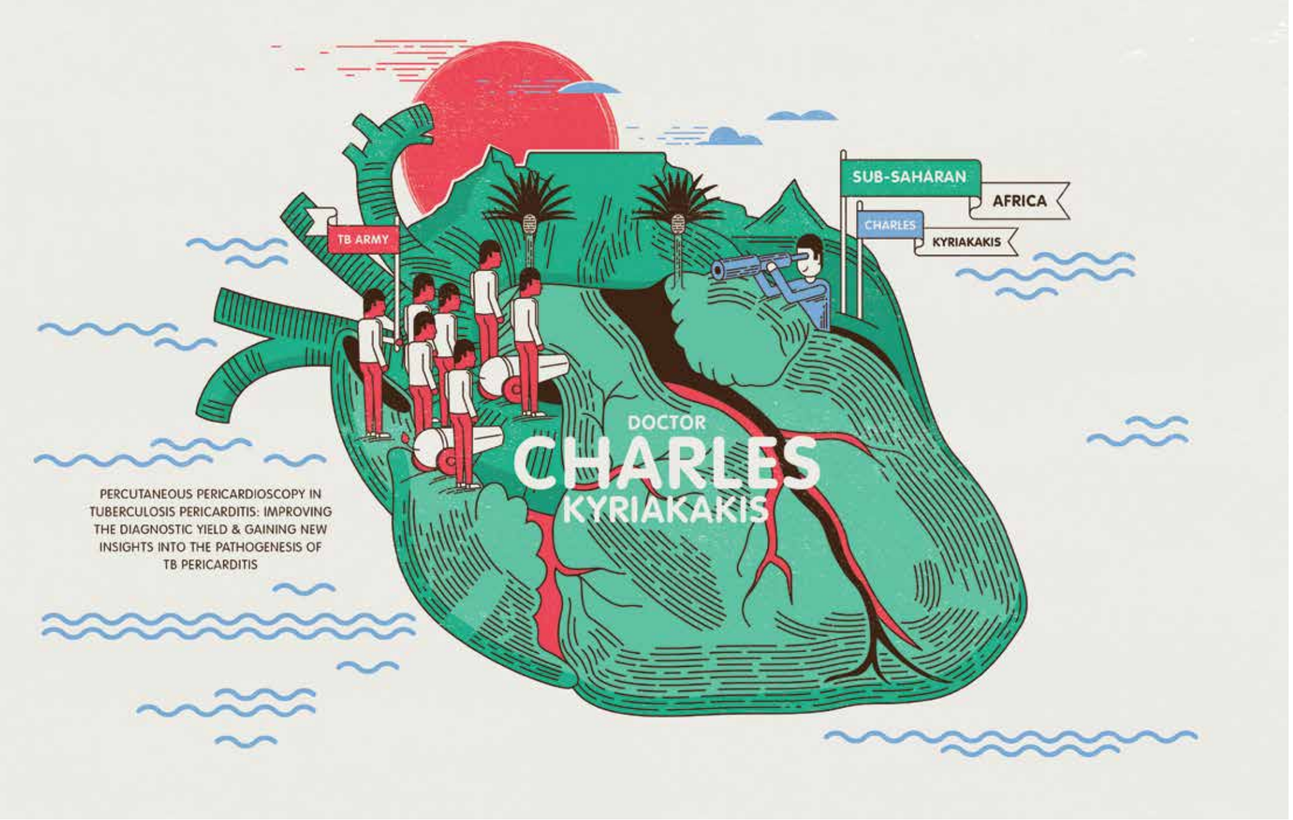
"I also knew very soon into my medical studies that I wanted to be involved in infectious diseases as it is such a dynamic, constantly evolving field of medicine. I wish that healthcare workers, managers, and the Department of Health would recognise the importance of, and take action to implement better standards in IPC. Patient safety and occupational safety for SA healthcare workers should be regarded as high priority areas for healthcare quality improvement."

"The leading Paediatric Infectious Disease (PID) clinicians and researchers who have been my mentors over the last five years – Professors Mark Cotton, Simon Schaaf, Ben Marais, and Dr Helena Rabie – have opened my eyes to the ability of good research to change clinical practice and improve outcomes for children suffering from HIV and TB. Their enthusiasm, unconditional support, 'can-do' attitude, and keen insight into PID research priorities have inspired me," Dr Dramowski says.

UNDER THE MICROSCOPE

Dr Angela Dramowski (37) lives in Bergvliet, Cape Town, with her merchant banker husband and two young sons. She dreams of being in a position to advise on paediatric infection prevention and control (IPC) issues at local, provincial, and national level and having completed her doctorate and established a research career in paediatric IPC, would like to be close to achieving her personal goal of being appointed a Professor.

"I enjoy supervising and mentoring junior doctors and believe that in order to do this well, I must continue to upscale my own research skills and abilities."
– Dr Adrie Bekker



Consultant Cardiologist | Tygerberg Hospital | Cape Town | PhD: Percutaneous Pericardioscopy in Tuberculous (TB) Pericarditis: improving the diagnostic yield and gaining new insights into the pathogenesis of TB pericarditis

DR CHARLES KYRIAKAKIS

UNDER THE MICROSCOPE

Dr Charles Kyriakakis (41) presented the results of his research at the European Society of Cardiology's Congress in 2011. "This is an outstanding achievement as only the very best abstracts are selected for presentation among submissions from very experienced researchers representing large units," says Stellenbosch University consultant cardiologist Dr Philip Herbst. Dr Kyriakakis also won the award for best young researcher at Stellenbosch University in 2009 and best oral presentation in adult cardiology at the SA Heart Congress.

These awards were in recognition of his pilot work on pericardioscopy in the setting of TB pericarditis. When not taking care of his patients' hearts he takes care of his own by swimming and walking or hiking to stay fit. Dr Kyriakakis is married to a paediatric neurologist and they live in Cape Town.

In sub-Saharan Africa with its substantial HIV pandemic, TB and particularly the extra-pulmonary manifestations of the disease, have become increasingly prevalent with significant increases in morbidity and mortality.

In South Africa, and particularly in the Western Cape Province where tuberculosis is endemic, the most common cause for a patient presenting with a large pericardial effusion is infection with TB; many of these patients are also found to be HIV positive which is a clear indication of the influence that the HIV era has had on TB. Ongoing chronic infection of the pericardium caused by TB can lead to the two thin layers of the pericardial sac becoming thickened, calcified and completely adhered to one another and the surface of the heart. This produces the clinical syndrome of constrictive pericarditis with resultant heart failure and a high mortality rate if the pericardium is not surgically removed early on.

"One of the challenges in TB pericarditis is the ability to establish a confirmed diagnosis of the disease, as the rate of identifying the TB bacillus by examining pericardial fluid specimens alone is low," says cardiologist Dr Charles Kyriakakis. "However, we have previously demonstrated that by obtaining tissue samples of the pericardium, by a technique not requiring open surgery, the ability to establish a definite diagnosis is significantly improved."

"Given the high prevalence of TB within South Africa and our comparatively high standards of both medical care and research within the sub-Saharan Africa context, South Africa is very well positioned to make a significant contribution to this spectrum of the disease," he says, and while in the developed world where TB pericarditis remains an unusual cause of a pericardial effusion, increasing immigration levels, the evolution of extreme drug resistant forms of TB and outdated anti-TB drug therapy suggests the incidence of the disease will rise here too.

"Dr Kyriakakis's work is poised to make an important and unique contribution to the field of pericardial cardiology," says Dr Herbst. Through his research Dr Kyriakakis has already become the only person in South Africa performing pericardioscopies (in excess of 60 so far), which facilitate biopsies via small cutaneous incisions. "It is fair to say he has become a world opinion leader on the procedure in the last five years – an unusual position to be in as he embarked on this research work whilst he was still a trainee, which speaks to his tenacity," Dr Herbst says. Through this research project under the supervision of Stellenbosch University cardiology head, Professor AF Doubell, Dr Kyriakakis hopes to improve his understanding of TB pericarditis and provide methods that would allow for a more accurate and rapid diagnosis to be established at primary and secondary level medical facilities.

"I feel the need to contribute to and further enhance what we already know with regard to TB pericarditis to both provide better care for our patients and also complement the hard work and dedication which has been invested in this disease by both my former and current colleagues in cardiology. Research is an integral part of medicine today and it offers me the opportunity to question the way we practise and how we can improve this" he says. It was his grandmother that drew him to medicine and specifically to cardiology. She died of a heart attack when he was just three years old. "The therapies that could have saved her weren't available then. This is why I decided to become a doctor and specialise in cardiac medicine and I have never looked back."

DR NASREEN MAHOMED

Acute lower respiratory tract infections are a leading cause of illness and death in South African children under the age of five. In 2011, 91% of paediatric HIV infections occurred in sub-Saharan Africa. It is Dr Nasreen Mahomed's intention to evaluate the role of chest X-rays in determining microbiological aetiology and guiding empiric treatment in a high HIV prevalence setting using novel molecular diagnosis in the era of bacterial conjugate vaccination and antiretroviral therapy.

Dr Mahomed was head of the paediatric radiology department at Chris Hani Baragwanath Academic Hospital for 5 years, and cites her community service rotation in the hospital's Harriet Shezi Paediatric HIV clinic as having significantly impacted and shaped her academic career, with her research focusing on paediatric HIV. She has worked at the hospital for 12 years.

As a passionate researcher who has already made a name internationally, Dr Mahomed is devoting these skills to improving pneumonia outcomes in children not only locally but hopefully at an international level. "There is an international need for an automated chest X-ray reading system for epidemiology studies of childhood pneumonia, especially in settings where there is limited clinical expertise in the interpretation of paediatric chest X-rays. My study seeks to develop an open source software on chest X-ray interpretation to standardise chest X-ray readings for future international studies".

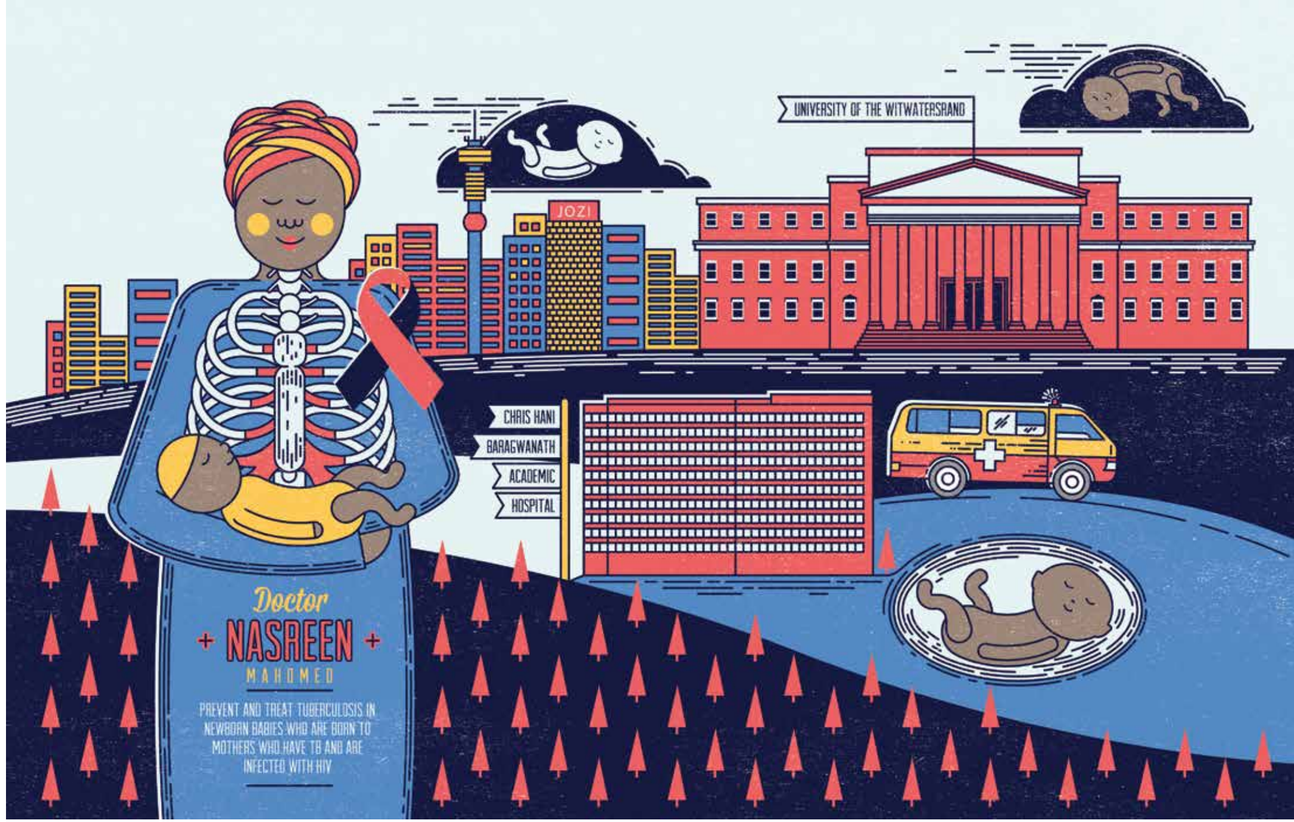
UNDER THE MICROSCOPE

Dr Nasreen Mahomed (35) lives in Lenasia, south of Soweto. She is an active researcher with 25 publications in print and has presented oral papers and multiple posters at three international and several local radiology conferences. "In my free time I am involved in charity work in my local community. I also enjoy writing poetry and fiction."

"She is committed to research in the public sector and was awarded Most Prolific Author Award 2011, 2012, and 2013 from the Department of Diagnostic Radiology at the University of the Witwatersrand with 25 published articles," says Professor Shabir Madhi, executive director of the National Institute for Communicable Diseases. "I am extremely proud of this doctor's achievements," says Prof Savvas Andronikou, President of the College of Radiologists of South Africa. "She is a true South African who shows academic spirit even when working under extreme clinical pressure at the hospital. Her collaboration with Harvard University has yielded publications with world-renowned paediatric radiologists."

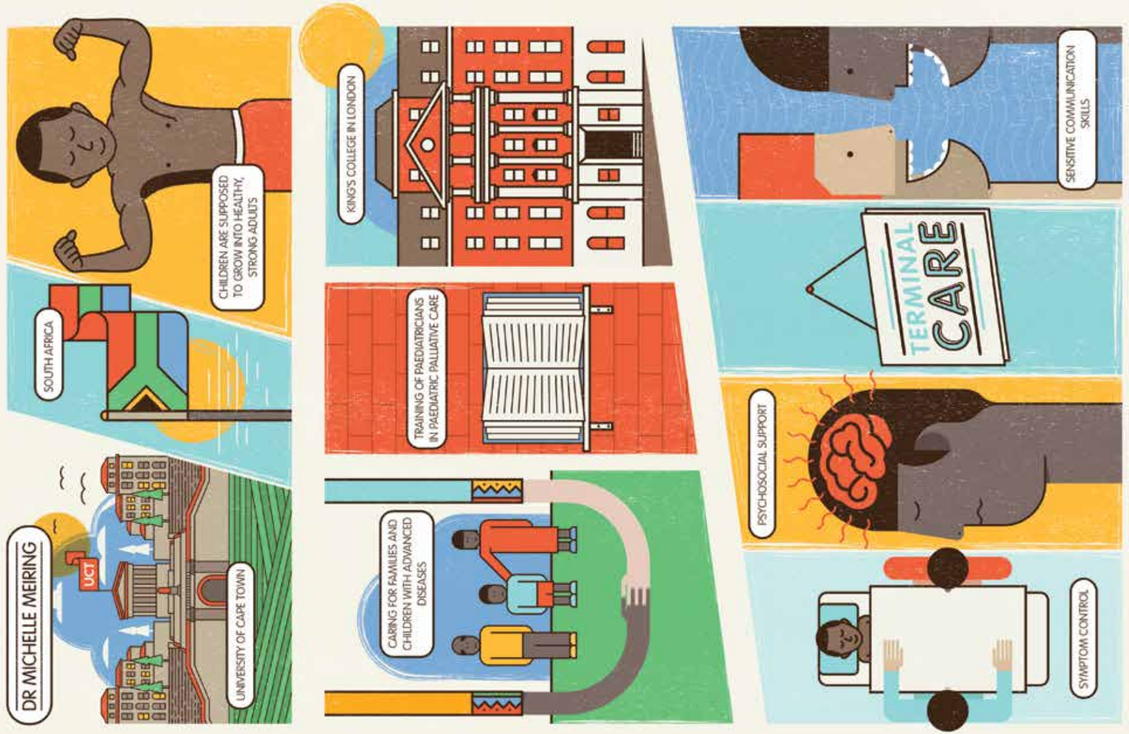
Dr Mahomed was also one of only three radiologists selected internationally by the Radiological Society of North America for the Derek Harwood-Nash International Fellowship in 2013. This highly prestigious fellowship was completed at Boston Children's Hospital, affiliated with Harvard University, making her the second South African to be accepted for this fellowship in 14 years. "This experience was an excellent opportunity to further my knowledge and has been very rewarding, enabling me to set up teaching collaborations via webinars and teleconferencing between the Radiological Society of South Africa and Boston Children's Hospital," Dr Mahomed says.

Asked what the biggest challenge facing radiologists is right now? "The shortage of radiologists and academic radiology in the public sector," she says.



Senior Consultant Radiologist | Chris Hani Baragwanath Academic Hospital | Johannesburg | PhD: Diagnostic utility of chest x-rays in childhood community acquired pneumonia in the era of bacterial conjugate vaccines, antiretroviral therapy, molecular diagnostics, and computer aided diagnosis

Paediatric Palliative Care Consultant and Lecturer | School of Child and Adolescent Health and School of Public Health and Family Medicine | University of Cape Town | Cape Town | PhD: How integrated is Paediatric Palliative Care in the South African public health care system?



DR MICHELLE MEIRING

Paediatric palliative medicine offers a holistic approach to the care of children with advanced disease with expert symptom control, sensitive communication skills and forward planning to ensure continued empathetic care.

Twelve years ago while on call at Chris Hani Baragwanath Hospital in Soweto, Dr Michelle Meiring had what she calls her "a-ha" moment.

A conscientious and hard-working registrar, she was absolutely determined to save as many babies and children as she could, even those infected with Aids who were not allowed into ICU. She held onto a 'no-one dies on my watch' motto. But that night things changed. For hours Dr Meiring battled to save a four-month-old baby infected with HIV. The baby had pneumonia, gastroenteritis, and kidney failure with very high sodium and potassium levels. "It was like a maths problem that required several calculations, fluid adjustments and ongoing measurement of the response to treatment," Dr Meiring recalls. These measurements were 'arterial stabs' where blood samples are drawn by jabbing a needle through the baby's wrist into her radial artery. "We didn't use any pain control in those days," Dr Meiring says. The baby died at 7am, one hour before Dr Meiring's shift ended. "I remember feeling angry at the child, thinking *I've been up all night trying to save you and this is how you thank me*". The anger quickly dissipated but Dr Meiring recalls with sadness how little comfort she was able to offer the baby's devastated mother. "I didn't have the strength or the words. I realised then that my medical training hadn't equipped me to manage the dying. I didn't know how to control pain; in fact I had inflicted needless pain. I didn't know how to ensure comfort (both to baby and mom) where death was inevitable. I didn't know when to call it quits. I guess the most difficult realisation was that I had compassion fatigue. The babies had become maths problems."

Years later and after extensive exposure to palliative care through volunteering at children's homes in Johannesburg and in her first job with the Wits Paediatric HIV working group, Dr Meiring came to appreciate the value of a palliative care approach. It bothered her though that some of the children's homes had no drugs or nurses to ease the children's pain. "Also of concern was that some of the deaths they were supporting should actually not have happened. The homes just assumed that the babies were dying from Aids and didn't get the necessary interventions for potentially reversible conditions," she says. "Collaborations between her NGO, Bigshoes and public sector hospitals followed in Johannesburg, Cape Town and Durban which improved palliative care to some extent," Dr Meiring says, "though the need to further develop palliative care for children in the public healthcare sector remains."

Through her PhD research Dr Meiring hopes to demonstrate the need for the development of Paediatric Palliative Care as a sub-specialty in Paediatrics and that the discipline will be integrated into paediatric services and training programmes across the country. Her long-term career goal is to contribute towards the establishment of Paediatric Palliative Care as a specialty in South Africa. "I believe that once established in South Africa, we have the potential to assist in the development of Paediatric Palliative Care elsewhere on the continent and also to make a valuable contribution to the much needed research in the field globally," Dr Meiring says.

A skill that palliative care teaches is how caregivers should take care of themselves to prevent burnout. "Our greatest healthcare need in South Africa is for a healthy (healthcare professionals) work force. I see and hear of so many young doctors and nurses who feel unsupported or who burn out or leave the public healthcare sector for the private sector or to work overseas. "We need to manage the healthcare resources we have," she says. Her patients and their families remain her biggest motivators and her faith keeps her strong.

UNDER THE MICROSCOPE

For as long as she can remember Dr Michelle Meiring (44) wanted to be a doctor. She joined the SA Red Cross as an eight-year-old, inspired by books, stories, and movies of mission doctors in Africa. Dr Meiring is involved in a paediatric palliative care network called Patch SA (www.patchsa.org) that recently produced a movie documentary on perinatal palliative care.

She is married to anaesthetist Owen Porrill and they have two children aged 11 and 6. When not at a bedside, Dr Meiring applies her creative skills to oil painting, decorating cakes, and carpentry or camping and hiking with the family.

UNDER THE MICROSCOPE

Dr Winter-Rose Nkosi (34) took her mother's dreams for her one step further: a year after qualifying as a nurse she went back to university to become a doctor graduating side-by-side with her sister, a former radiographer who also switched careers. "In the rural village where I grew up women dreamed of becoming nurses. My mother used to make up stories about me as a nurse so I studied nursing. But later at the hospital I worked at there were only three doctors for many, many patients and I realised the bigger need was for doctors," she says. After a year of nursing she returned to university, graduating cum laude from Medunsa as a doctor in 2008. When not at work she likes nothing better than being a mom to her two sons, aged 9 and 6.

DR WINTER-ROSE NKOSI

Registrar in Paediatrics | Dr George Mukhari Hospital | Gauteng | MMed: effects of vitamin D supplementation in children with acute lower respiratory tract infections

The anti-inflammatory properties of vitamin D hold promise for children suffering from acute respiratory tract infections.

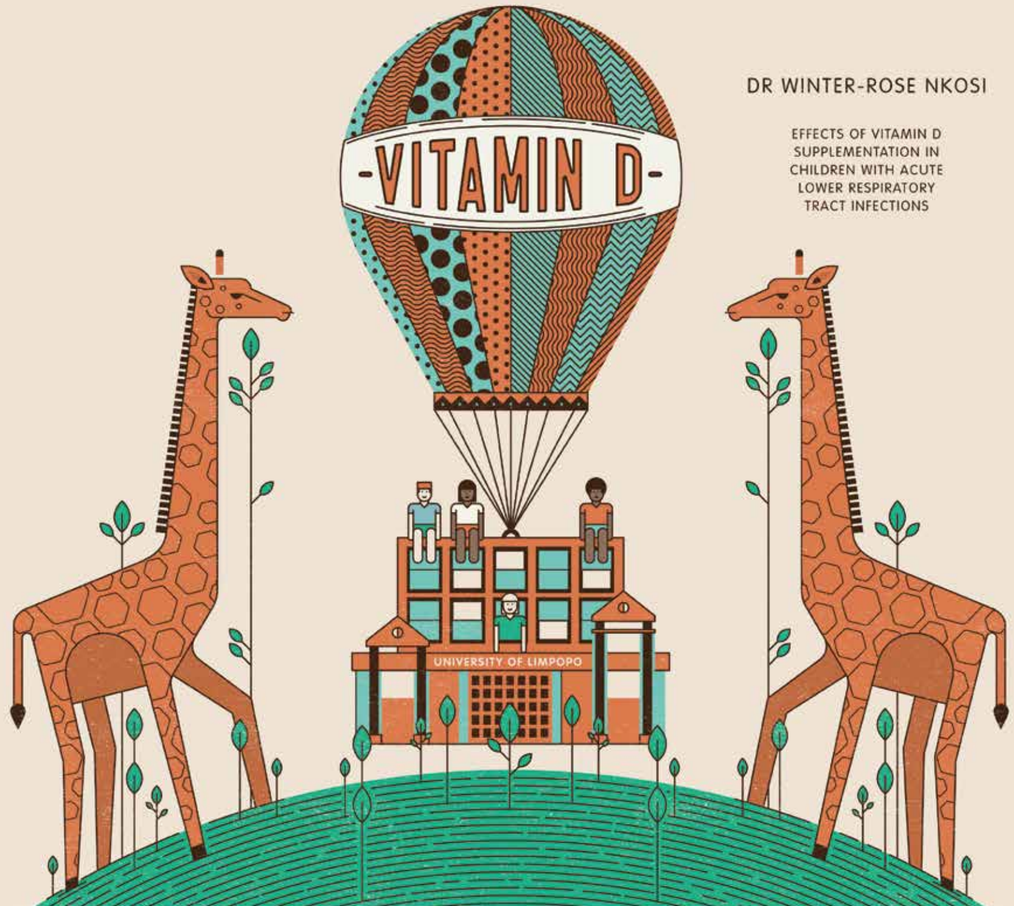
Acute lower respiratory tract infections are a major cause of morbidity and mortality in developing countries. "Respiratory tract infections are very common in South Africa, especially in children under five whose immune systems are compromised because of their age," says Dr Winter-Rose Nkosi who speaks from personal experience as the mother of two young boys who battle with asthma.

Her research will assess the effects of vitamin D deficiency and supplementation on the severity and duration of symptoms in children with acute lower respiratory tract infections. "Population-based studies showing an association between circulating vitamin D levels and lung function provide strong justification for randomised controlled trials of vitamin D supplementation in children with acute lower respiratory tract infections (ALRTI) to assess both efficacy and optimal dosing," she says.

"Given that vitamin D is a relatively cheap intervention, readily available, and accessible to many, it holds enormous promise for the poor and for young children and," says Dr Nkosi, "it holds the promise of saving millions of lives by reducing morbidity and mortality associated with ALRTI."

"This could also help to improve our country's economic situation by reducing costs associated with medical consultations and hospitalisation, and those costs associated with family responsibility leave taken by the parents of sick children," Dr Nkosi says. Her study will assess some 316 children aged one month to five years who are admitted to the paediatric unit at Dr George Mukhari Hospital suffering from ALRTI like bronchiolitis and/or pneumonia. "Her research protocol is original and has the potential of being published in an international journal," says research supervisor Professor Siyazi Mda. Professor Mda is the Principal Paediatrician in the Department of Paediatrics at Dr George Mukhari Hospital.

Dr Nkosi, who grew up at Dicks Halt, a rural settlement 34km from Newcastle in KwaZulu-Natal, is specialising in paediatrics at Dr George Mukhari Hospital. She'd like to return to Newcastle to practise as a specialist paediatrician. "As far as I know there is only one specialist paediatrician in that entire area," she says. "This would be giving back to my community." Dr Nkosi was recognised as the best undergraduate performer in Paediatrics and Child Health and Otorhinolaryngology. She was awarded the Linneas-Palme scholarship on merit to study Paediatrics and Obstetrics and Gynaecology in Europe in her final year of undergraduate training.



Clinical Coordinator | Centre for Health Science Education | University of the Witwatersrand | Johannesburg | PhD: The nature of social accountability in South African medical education and practice

Witnessing his doctor father administer not just medicine but also civic support to his patients inspired Dr Lionel Green-Thompson to strive for a health sciences education system that includes social development.

The Millennium Development Goals remind us that much of health is defined by the intersection of social development, equity, and empowerment, says Dr Lionel Green-Thompson, hence a growing sense that healthcare graduates need to become more than the sum of the facts they accumulate during their training.

But what constitutes the socially accountable practitioner and who decides what the nature of this being is? In determining the answers, Dr Green-Thompson will try to create a South African construct of the socially accountable doctor using the information gathered from community members, final year students and other stakeholders in the medical environment.

"There has been a growing concern internationally that health science faculties should direct their education, training, and research towards the health priorities of the country and region in which they are situated. South Africa is on the threshold of a transformed health system which will need transformative health graduates," reveals Dr Green-Thompson.

What do medical facilities in South Africa include in their curricula to instil a social consciousness in their graduates? What are community perceptions of the qualities of social accountability in their serving practitioners and who are those practitioners who are perceived by peers and communities to practise this value? These are the questions his study will examine.

Dr Green-Thompson's study will use focus groups and indepth interviews in a qualitative research paradigm. "Since the Flexner report of 1910 which defined much of medical education for the past century, there have been many innovations in health professions education, not least of which is the current surge in technology-based education. These innovations have often made the experience of the student a central tenet," Dr Green-Thompson says.

"While student centredness is an important part of the innovation, the Millennium Development Goals in many ways remain a reflection on the social determinants of health. So in response to this, much of the current wave of innovations in education seeks to address the graduates' social responsiveness."

"South Africa's greatest health need is universal access to healthcare of an appropriate quality. Educating a generation of health professionals who are more aware of the social determinants of health and as a result become social advocates for their patients in many different spaces is key to addressing that need," he says.

"While primary care needs the greatest development, the entire spectrum of healthcare must be borne in mind. As a nation we also have a greater need to focus on health and wellbeing," Dr Green-Thompson says.

Teaching sits comfortably with him. "The highlight of my career has come in these last years following my move into health sciences education where my encounters with students have been most rewarding; teaching around the bedside of patients and giving students the confidence to become good doctors when they are at risk of becoming despondent and cynical. Students have taught me as much as I have taught them about our capacity to grow, ensuring that we transform ourselves and the world around us."

UNDER THE MICROSCOPE

Dr Lionel Green-Thompson (49) graduated from the University of the Witwatersrand in 1988 and joined the university's Centre for Health Sciences Education in 2004. When not practising and teaching medicine he devotes his time to youth development, trying to give young people a sense of their power to decide – whether this is within church organisations or higher education. Reading and politics – which he sees as a different dimension of medicine – are his other interests. He lives in Roodepoort, and is married with three children.

DR LIONEL GREEN-THOMPSON

"I have always known I wanted to be in a profession that helped people."
– Dr Angela Dramowski

DR PATRYK SZYMANSKI

UNDER THE MICROSCOPE

A fascination for the sciences sparked an interest in medicine which, combined with wanting to make a difference in people's lives, led to Dr Patryk Szymanski's chosen career. And it has paid off. He finds the science behind medicine 'magical', says this 32-year-old Capetonian and seeing his patients return to health and productivity is the wonderful benefit of years of hard work and study. He heralds his parents as his inspiration in pursuing his goals.

Several lines of evidence suggest that in Africa the incidence, aetiology, and outcome of congestive heart failure may be different to other parts of the world.

Many heart failure cases on the African continent are due to non-ischaemic causes with hypertensive heart disease, rheumatic heart disease and cardiomyopathy accounting for too many patients being hospitalised for acute heart failure. Our understanding of heart failure in sub-Saharan Africa is still very limited yet the numbers are high and the population is young compared to those in the developed world, raising concerns about the labour force.

"By having a better understanding of heart failure in South Africa we will be able to refine our preventive measures and treatment of heart failure allowing this group of people to have a better quality of life," says Dr Patryk Szymanski.

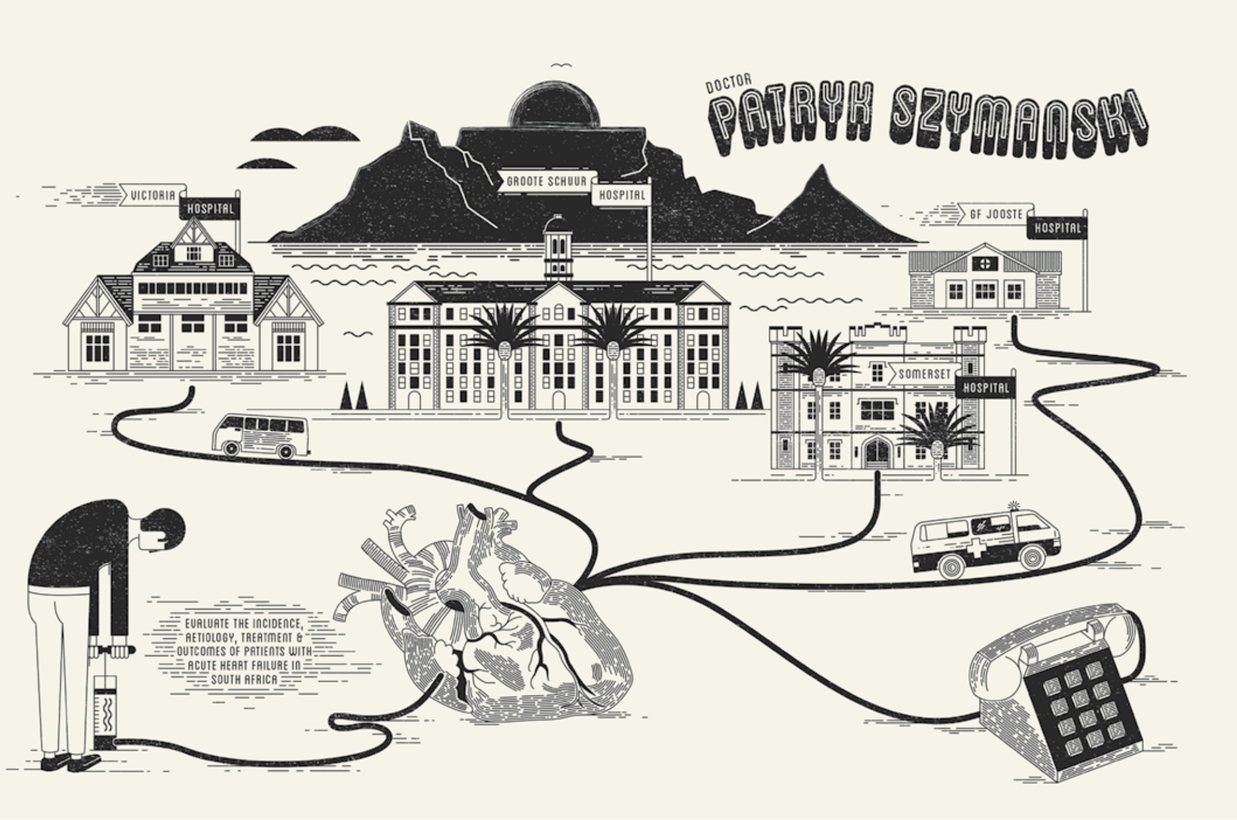
His study nestles within the greater sub-Saharan Africa Survey of Heart Failure (THESUS-HF), which is the first and largest prospective study of heart failure in Africa. Thus far, the contemporary treatment of acute heart failure is unknown and practitioner compliance with the standard guidelines for the use of ACE-inhibitors, beta-blockers, and other effective medical treatments have not been evaluated in a prospective study before.

"We propose to establish a prospective registry with a minimum of 400 incident cases of congestive heart failure who present at Groote Schuur, Victoria, GF Jooste, and New Somerset Hospitals," Dr Szymanski says.

Basic clinical information and echocardiographic features will be recorded and patients followed for up to 180 days with assessments for repeated hospitalisation and deaths.

"The benefits of this project are that it will identify gaps in the use of proven therapies for heart failure and identify risk factors for mortality in these patients. The findings of this study are likely to lead to the improvement in the care and outcomes of patients with heart failure in Cape Town and the lessons learned are likely to be applicable to patients elsewhere in South Africa and on the continent," Dr Szymanski says.

Dr Szymanski dreams of a South Africa where patients have better access to healthcare, with greater numbers of nurses, doctors, and hospitals. "I also feel that greater effort needs to be made in the education of the South African population with regard to health," he says. When not focused on heart disease and health systems Dr Szymanski enjoys travelling, hiking, and camping. His hobbies also include photography and music.



Registrar in Internal Medicine | Groote Schuur Hospital | Cape Town | MMed: The sub-Saharan Africa survey of heart failure study

DR NOLWANDLE DUMA

UNDER THE MICROSCOPE

Dr Nolwandle Duma (31) grew up in Verulam, KwaZulu-Natal and is the first doctor in her family. She was drawn to medicine by the need to help people and to make a positive difference to her community, though it is her mother, a nursing sister, who continually inspires her. Dr Duma is married to a newly qualified obstetrician and they live in Pretoria with their two children.

Supplementing with vitamin D could impact on the levels of asthma treatment in South African children, leading to better quality of life and reduced hospital costs.

The incidence of asthma among South African children is on the rise, and particularly among black children. Dr Nolwandle Duma says urbanisation is partly to blame, especially the effects of the Westernised diet. “These children are now eating food containing a lot of allergenic material, like preservatives and additives. This predisposes them to asthma,” she says. Junk food is a major culprit.

The mainstay of asthma treatment is inhaled corticosteroids and beta agonists but some children never attain control on these alone and in some underprivileged communities, step up regimens are simply not available. “There has been recent evidence showing that vitamin D has anti-inflammatory and immune modulatory effects,” Dr Duma says. However, there are very few studies to show what effect supplementing with vitamin D may have on improving asthma control. It is this that Dr Duma hopes to prove. “If vitamin D does boost the effects of the inhaled corticosteroids, children would have a better response to their current treatment, and fewer acute attacks. This could prove more cost-effective in the long term with fewer hospital admissions and the possibility of being able to step down treatment,” she says. While statistics on asthma are poor in South Africa mainly due to underreporting, Dr Duma believes the burden is significant with many children undiagnosed or misdiagnosed.

At the clinic she currently services, which covers Ga-Rankuwa and Soshanguve townships in Pretoria, medical staff attend to approximately 400 children with asthma per year. “Those are large numbers when you consider the size of the population we are covering,” she says. Her vitamin D research will examine 100 children between the ages of six and 12 with persistent asthma who are on inhaled therapy and who will be enrolled from the paediatric department at Dr George Mukhari Hospital. The children will be followed up on a monthly basis.

Professor Siyazi Mda, Dr Duma’s supervisor and the principal paediatrician at Dr George Mukhari, says her research has the potential to be published in international journals. For Dr Duma, it’s the first step in a future career in respiratory care and allergology. She intends studying for a diploma in these specialties once she has completed her specialty in paediatrics.

As a mother of two, she confesses that the hardest part of her job is telling a mother that her child has died or cannot be made well. “Losing the battle is the toughest part, especially when you have children yourself. You understand, you feel.” However, working with children is also her greatest reward. “These are patients that really need your help and when you see them getting better, that is a wonderful feeling.” She hopes that her research reveals the kind of breakthrough that could change the face of asthma in a country where it is sorely needed.

DR JOANNA SKELTON

UNDER THE MICROSCOPE

Endocrinologist Dr Joanna Skelton (36) says the research she is conducting into diabetes has been such a heartwarming process that despite the huge amount of work and time and moments of doubt, she is desperately keen to continue. A mom of three (she gave birth to twins in June 2014), Dr Skelton knew from childhood that she wanted to be a doctor. She graduated from the University of Cape Town in 2002. As a Shawco member, she was a joint founder of the Joe Slovo Clinic in Milnerton in Cape Town and worked with Air Mercy Service at the Bethesda Hospital outreach in KwaZulu-Natal from 2005 to 2006. When not caring for patients or her family, she runs and swims for exercise. She lives in Newlands, Cape Town.

The textbook on African diabetes may need to be rewritten, says Dr Jo Skelton, whose early research has uncovered 23 true type 2 diabetics from a group of 46 presenting in first time diabetic ketoacidosis (DKA).

Increasing numbers of black Africans are presenting with DKA, the hallmark of type 1 diabetes but, who over time, demonstrate a lack of dependency on insulin to live. This type of diabetes is known as ketosis prone type 2 diabetes and endocrinologist Dr Jo Skelton suspects that if properly diagnosed, some patients with true type 2 diabetes will be able to discontinue insulin therapy and be managed on oral treatment.

This has significant cost saving implications for an already overburdened health system. “Type 2 diabetes is largely preventable and all forms of diabetes are treatable. The better the treatment, the lower the risk of complications,” Dr Skelton says.

She is particularly interested in the size of the impact that can be made by good motivation and education and appropriate treatment.

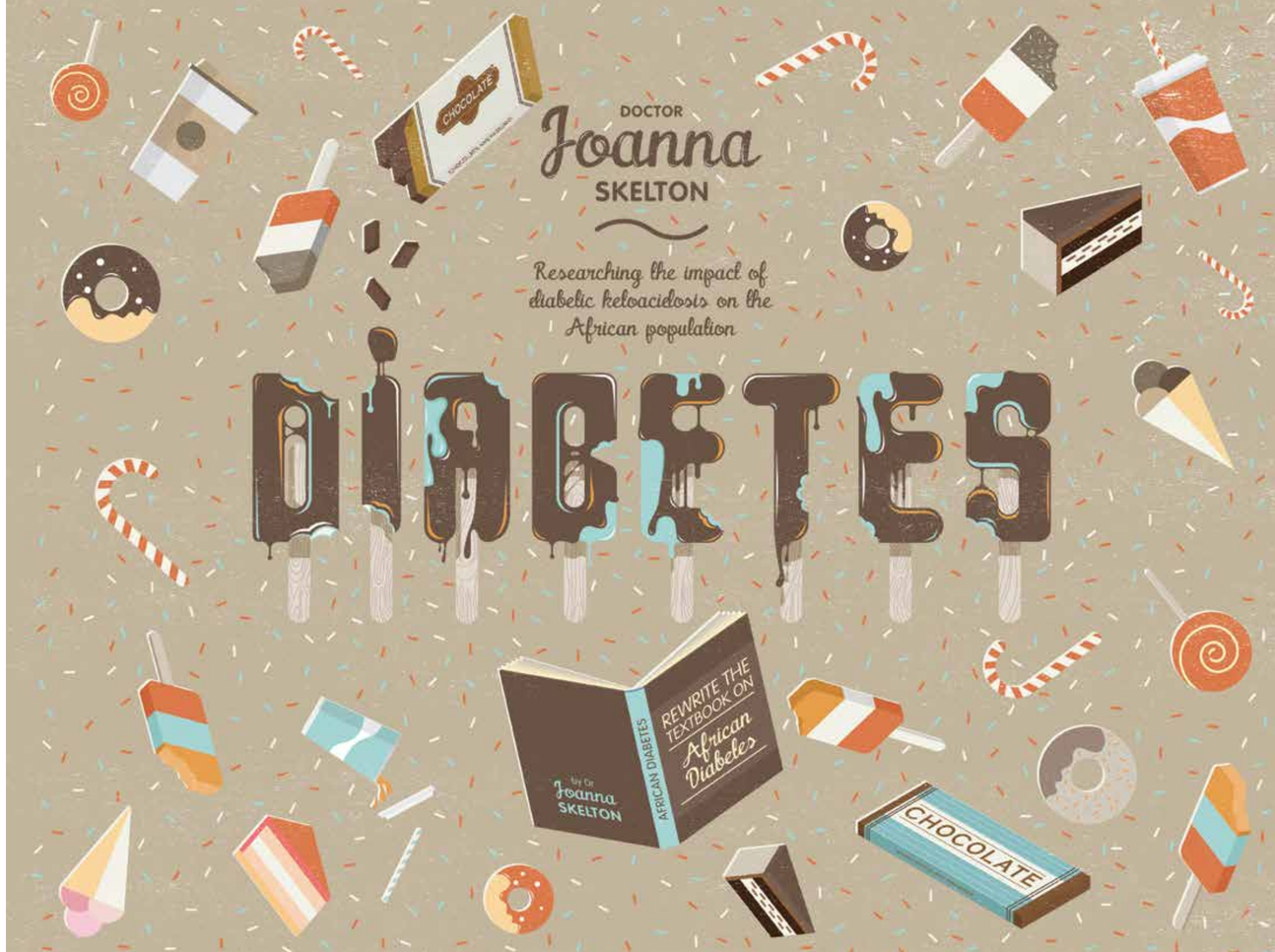
Research that she began last year with some funding from the Discovery Foundation has already uncovered exciting results, she says. “Simply so exciting that I am desperate to complete this research. Of the 46 patients presented in first time DKA, 23 are true type 2 diabetics. And of those with type 2 diabetes, I have managed to get 12 patients off insulin completely and onto oral hypoglycemic agents.”

“This has profound implications for quality of life for the patient, not to mention implications for the cost of healthcare. I am confident the results of this research will make an impact on African diabetes care,” she says.

“Preliminary results of Dr Skelton’s research are very interesting with potential for multiple publications,” says Dr Peter Raubenheimer, head of general internal medicine at Groote Schuur Hospital. “This study is of significant local importance and its findings will likely influence future practice guidelines across the country. In addition, this well-characterised cohort lends itself well to detailed genetic analysis.” Dr Skelton intends developing laboratory skills by spending time in the Molecular Genetics Laboratory of the Chemical Pathology Department at UCT to learn about gene sequencing while performing the first South African analysis of mitochondrial DNA mutations in patients with diabetes.

“Dr Skelton’s research will contribute substantially to the body of knowledge in the area of diabetes, provide her with important research skills, enable her to interface with colleagues in the country and beyond, and potentially impact on future care for an inadequately understood subtype of patients with diabetes,” says Professor Naomi Levitt, head of diabetic medicine and endocrinology at the University of Cape Town.

Senior Registrar in Endocrinology | Groote Schuur Hospital | Cape Town | MMed by dissertation: Phenotype of patients with diabetic ketoacidosis in Cape Town



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DISCOVERY FOUNDATION

SUB-SPECIALIST AWARDS

Support for the training of
South Africa's specialists

UNDER THE MICROSCOPE

A fascination with biology and curiosity about pathology and disease drew Dr Timothy Forgan (35) to medicine. When he's not in surgery you'll find him on his mountain bike or flyfishing beside a Cape stream. He also loves 4x4 driving. Dr Forgan is married to dermatology registrar, Bianca. "This Foundation Award is a huge opportunity to gain some highly specialised and sought after techniques that I can hopefully share with others in the future. I have also been afforded the opportunity to interact with not only national but also international leaders in the field that I would otherwise not have had access to."

Colorectal cancer is the fifth most common non-skin malignancy in South African men and women – and there is a strong genetic and environmental component to the disease – yet there are no screening programmes in resource-limited areas. Early referral and detection could save lives.

The incidence of colorectal cancers is on the rise in South Africa. The SA Health Review estimated there were approximately 6 000 new colorectal cancer diagnoses made in 2013 and that by 2025 this number will have risen to almost 8 000. Though the risk factors associated with colorectal cancer are largely diet and age related, in South Africa there are definite genetic syndromes that have been identified to increase our local cancer risk. People with these genetic syndromes develop their cancers at a much younger age, and it is thus imperative to identify and treat them before they develop a life threatening malignancy.

There is a great need for public and professional education of the warning signs of colorectal cancer, Dr Tim Forgan believes, particularly in resource-constrained countries like South Africa. Early referral can lead to early detection and potential cure. Genetic screening of at-risk families will also decrease the risk and aid in the management of patients with the relevant mutations – be it risk-reduction surgery or regular colonoscopy.

Dr Forgan, who grew up in Gauteng and graduated from the University of the Witwatersrand, says it was during his first clinical rotation as a student at a colorectal firm in Johannesburg that his fascination with this field of surgery began. "I find surgical oncology both challenging and rewarding. Colorectal cancers do very well with surgical resection and chemotherapy or chemoradiotherapy. Some colorectal operations can be performed using advanced laparoscopic surgery, a field that I am very interested in. Another aspect to the discipline is advanced colonoscopy, where malignancies can be detected, and polyps or early cancers can be removed, thus saving the patient from an operation," he says.

Colorectal surgery is a team game, where multi-disciplinary teams give their input on management of patients, resulting in better decision-making and better outcomes for the patient. "The most rewarding part of my job is a successful operation," says Dr Forgan. "The types of diseases that colorectal surgeons deal with are either potentially life-threatening or affect people's standard of living dramatically. To be able to help someone in this situation is always a great feeling. The teamwork that is integral to colorectal surgery is also a draw card. "The fact that this specialty is also multi-faceted means that one has to gain advanced endoscopic and surgical (both open and laparoscopic surgery) techniques."

Dr Forgan says he hopes to be able to take his newly acquired knowledge to Tygerberg Hospital which has experienced a marked increase in patients with colorectal cancer and inflammatory bowel disease. "A combined, sub-specialised approach is vital in the successful management of these often complicated patients," he says.

Beyond surgical interventions, Tygerberg also has the need for a colorectal surgeon in diagnostic and minimal access interventions.

Dr Forgan says that Tygerberg Hospital is in the process of sub-specialising the gastrointestinal surgery firms into hepatobiliary, colorectal, upper gastrointestinal and endocrine surgery; where each unit would practise focused medicine, training registrars, and surgeons in the various aspects of these disciplines. These plans depend on the presence of sub-specialists in the various branches of GI surgery.

"The number of colorectal sub-specialists in South Africa is very limited, yet the impact of the sub-specialty on the outcomes after colorectal cancer surgery, including patient survival, has been clearly demonstrated," he says.

Dr Forgan's long-term goals include a PhD and the training of surgical trainees in the public sector. "A further goal is to be involved in the expansion of sub-specialist colorectal services across the country with the help of the South African colorectal society".

DR TIMOTHY FORGAN

DR ANNARI VAN RENSBURG

Registrar in Internal Medicine | Department of Medicine | Stellenbosch University and Tygerberg Hospital | Cape Town | Sub-specialty: Cardiology

Greater numbers of female cardiologists would amplify the importance of prevention and rehabilitation in treating heart disease.

The amount of training posts available nationwide for cardiologists are inadequate to address the country's disease burden and many institutions depend on external funding to fulfill their training obligations. The Division of Cardiology at Stellenbosch University and Tygerberg Hospital currently has four training posts, but only two are funded.

"Currently the most effective mechanism to address this discrepancy is to train self-funded supernumerary registrars from other African countries," says divisional head, Professor Anton Doubell. "While we do accommodate supernumerary cardiology trainees we realise that this cannot happen at the expense of South African trainees and we therefore urgently need to increase the number of funded posts to accommodate the excellent applications we receive from South African candidates."

Prof Doubell says his division envisages being the premier cardiology training and research centre on the continent but efforts are hampered by the lack of training posts.

The Discovery Foundation's funding of Dr Annari van Rensburg's training fulfills an important need not only in terms of numbers but also in terms of gender equality. "I believe the male preponderance in cardiology is a contributory factor towards the tendency that most cardiologists in this country ply their trade in the private sector as interventionists with less emphasis on non-invasive diagnostic cardiology, preventive care or rehabilitation," says Prof Doubell. Dr van Rensburg concurs: "As a female cardiologist in the state sector, I will be well-positioned to improve the balance in patient care by promoting preventive measures and rehabilitation. I will also continue to strive for gender equality in the workplace."

For Dr van Rensburg, cardiology is the 'crown of medicine'. "Not only do you require clinical skills to diagnose complex valvular or congenital heart lesions, you also have to develop skills in echocardiography and the ability to intervene therapeutically in the cath lab. The variety of challenges posed by this discipline makes every day fascinating."

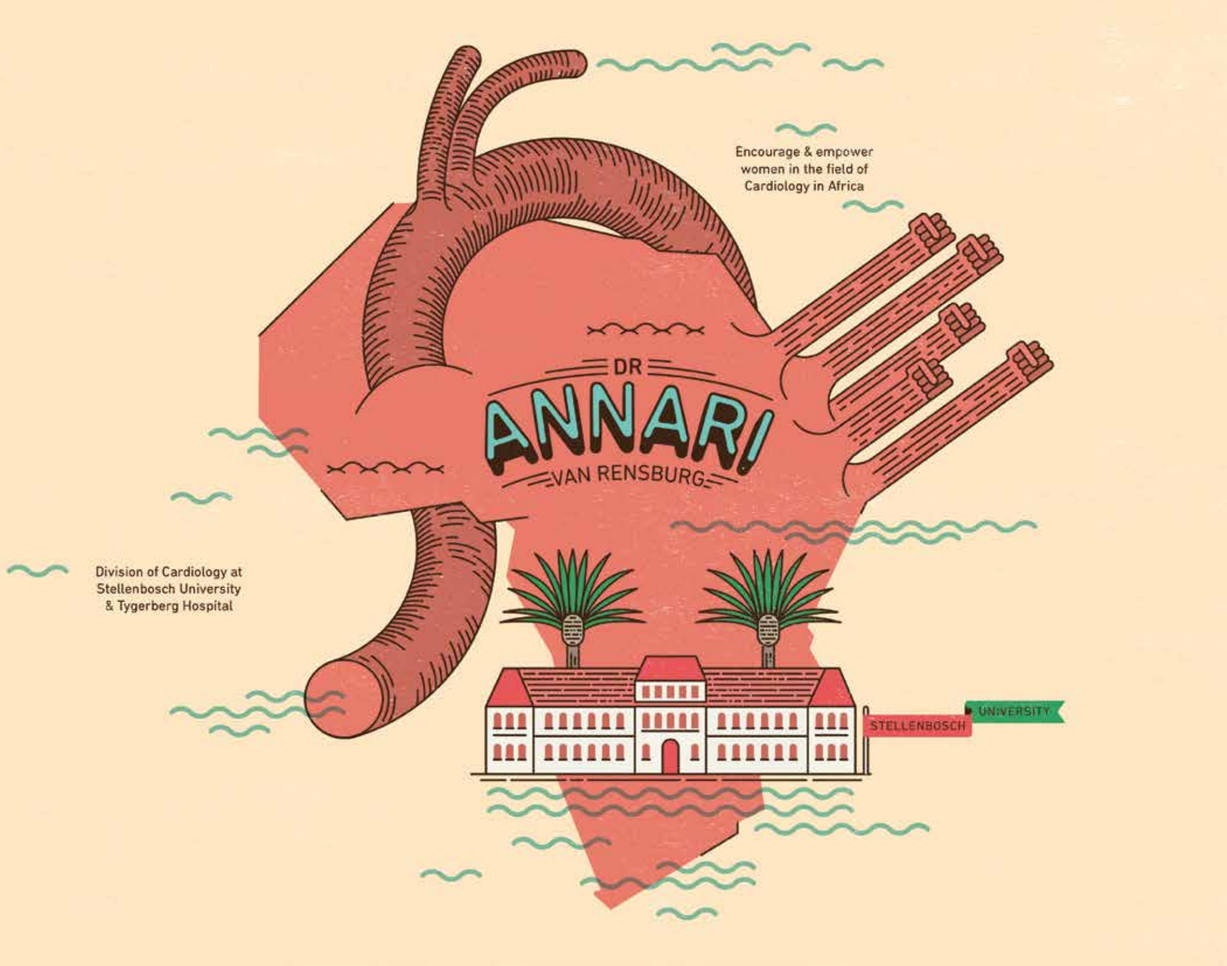
UNDER THE MICROSCOPE

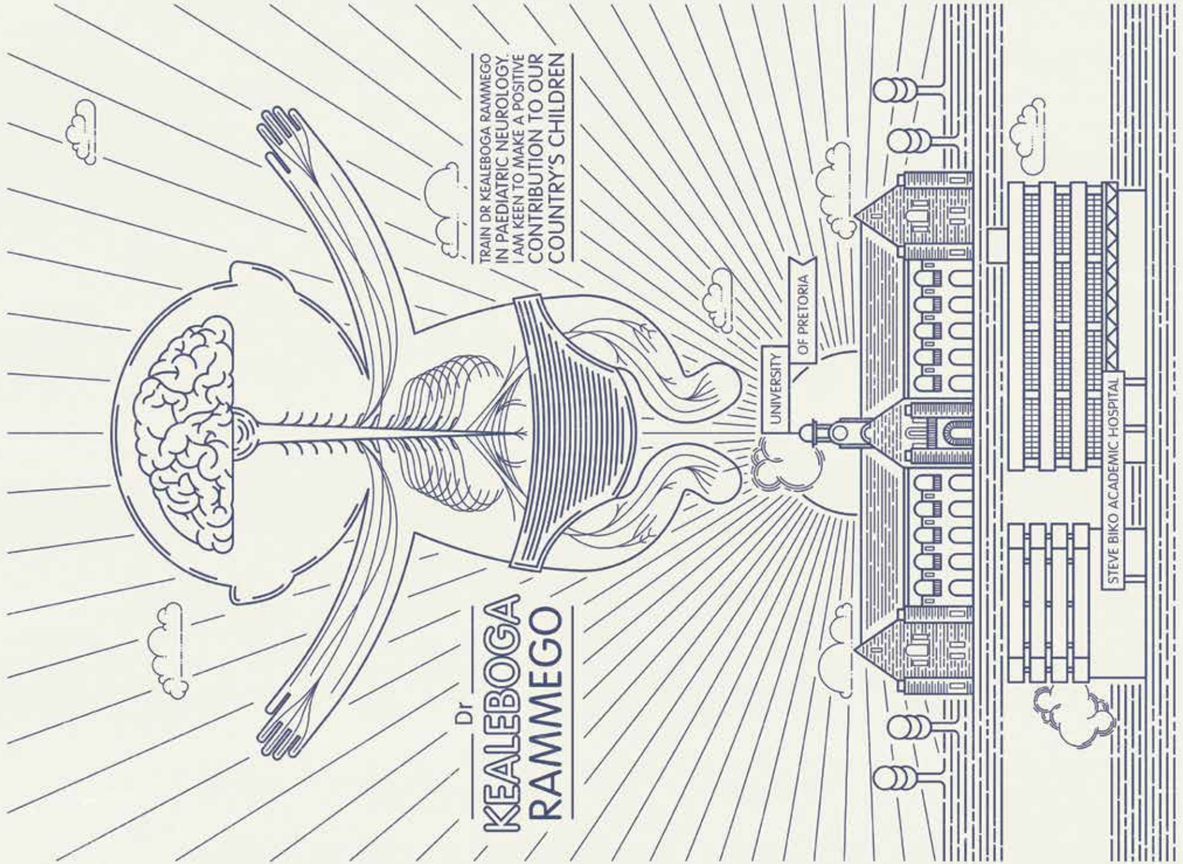
Dr Annari van Rensburg (31) believes that in order to achieve her goals she needs to strive for excellence in everything that she does. She completed her MBChB cum laude, her MMed with distinction and was the top candidate in clinical examination in last year's FCP exams. When not studying, teaching, or taking care of patients she plays music, travels, and tries out new recipes. She and her husband are currently learning to be amateur wine makers.

As a first year medical student she was more interested in trauma surgery but as a third year student working in trauma she realised that if she could see a knife sticking out of the patient, the diagnostic challenge disappeared. "Rotating through medicine for the first time, I loved the detective work involved in making a diagnosis from the history and clinical examination alone." And passion, she says, must rule your choice of career – particularly in healthcare. "Without passion, you will find it difficult to put in the extra hours needed to develop the necessary skills to provide a high level of care."

Though she grew up in a home filled with classical music – her mother is a music teacher and Dr van Rensburg is a multi-award winning pianist and violinist – medicine was always her first love. "It was at an orchestra rehearsal that this was underlined for me. Our much-loved conductor was in a serious motorcycle accident on his way to rehearsal and almost lost his hand. I realised then that I wanted to acquire the skill to give someone admitted to hospital – whether for a medical or surgical problem – the best possible chance to be able to return to a normal life."

Time management is her greatest challenge in cardiology. "It is a busy discipline with a lot of skills that you have to develop in a short time. Balancing work and life can be hard when second best is not good enough," she says. Her patients are her inspiration: "For the way they deal with difficult circumstances and diseases that make my own problems seem insignificant. The trust they place in me as their medical care provider inspires me to strive to do better every day."





Paediatrician | Steve Biko Academic Hospital | Pretoria | Sub-specialty: Paediatric neurology

DR KEALEBOGA RAMMEGO

UNDER THE MICROSCOPE

"When I was growing up in Limpopo, I used to get good grades and at the time in rural villages the best career for a top achiever was medicine. There was just one doctor serving our entire village so I decided there and then, with the support and approval of my family, that I was going to pursue a career in medicine," says Dr Kealeboga Rammego, (36), a graduate of the University of Limpopo (Medunsa). She lives in Pretoria with her husband and two sons and when not focusing on her medical studies has a keen interest in the hospitality business.

Diagnostic and treatment modalities within the field of paediatric neurology have developed rapidly in the past decade and have become extremely specialised but there is a shortage of expertise among doctors.

The central nervous system is the least mature system at birth and therefore extremely vulnerable to any derangements of normal physiology. Many childhood diseases present with neurological symptoms as a result and there is a huge demand in both the private and public sectors for paediatric neurological services.

"Parents have an urgent need to understand the reason for their child's condition and why the child is so seriously affected and in many cases disabled," says Professor Izelle Smuts, head of the paediatric neurology unit at Steve Biko Academic Hospital in Pretoria. "This information affects the family in terms of future family planning and adaptations the family must make as a unit."

Unfortunately parents must wait up to three months in some instances for their children to be seen due to full clinics and while the concentration of paediatric neurologists is primarily in academic settings, there is a huge demand for access to these facilities among private patients.

"There are so many disabling conditions that can be prevented and some – if prevention is too late – can be managed better to ensure better quality of life," says Dr Rammego. "Therefore it is important to train paediatric neurologists to be able to provide a more accessible service."

The paediatric neurology unit at Steve Biko manages an average 6 000 patients per year, acting as a referral centre for specific problems. "The entire spectrum of paediatric neurology patients is seen and this provides an excellent source of unique pathology to be studied. It also provides distinctive opportunities for research," Prof Smuts says. The dynamism of the discipline is what attracts Dr Rammego. "The brain is still growing and maturing and a lot happens in the brain. It is a battlefield; the war has to be won during this growth process, hence the importance of catching disease processes early to prevent disabling complications."

Dr Rammego, who took time away from medicine to focus on her family, says she eventually felt she had to come back. "Because of my love for neurology and also because of the scarcity of this sub-specialty and the huge burden of disease." Her patients and their parents motivate her. "Most of the parents with children with special needs are so full of hope. Despite the severity of the condition they still hope for a better tomorrow and this alone makes it possible to strive for the best that these children can achieve."

Though medicine is rewarding, it is also demanding, says Dr Rammego, and you must have the heart for it, the will to work long hours, patience, and to know that learning new things is the norm. "We need committed doctors in this country. We need to treat our healthcare system as a zero tolerance zone. We are dealing with people's lives and we truly need people who have the heart for dealing with sick people. We need responsible and accountable healthcare personnel, and we need a government that will support us with what is required in order for us to do our best at all times. Life is very precious but it can be brief in incapable hands."

DR PIETER ZWANEPOEL

UNDER THE MICROSCOPE

It was while work shadowing a paediatrician at Kalafong Hospital that Dr Pieter Zwanepoel (36) considered a career in medicine. "If I were to think back now, I don't think I would be able to do any other profession. I truly enjoy medicine and what I do," he says. Dr Zwanepoel has a year-old son and when not devoting precious time to his family, he tries to get outdoors as much as possible. "I have done a lot of rock climbing and white-water kayaking in South Africa, Africa, Europe, and Canada. My favourite kayaking destination is the White Nile in Uganda and the Zambezi in Zambia." In 2011 he climbed Mont Blanc, the highest peak in Europe, but could not summit due to bad weather. "I'm hoping to go back one day. My time is limited now, but in my spare time I enjoy trail running." He lives in Cape Town.

It's approximated that there are fewer than 40 registered specialist vascular surgeons in active practice in South Africa for a population of more than 51 million, making fully trained specialist vascular surgeons a precious resource.

Out of sheer necessity a great deal of vascular care and many vascular procedures are being performed by general surgeons in South Africa but, given the increasing level of sophistication of vascular and endovascular surgery and the increasing demands and expectations of patients, this is not ideal, says Dr Pieter Zwanepoel. "The demands are even higher if we start considering our ageing population as well as the high incidence of HIV and HIV vasculopathy, which comes with its own unique problems – especially the longevity of these patients on ARVs. Sub-specialist training in vascular surgery is beneficial to optimise patient care and to improve patient quality of life."

Groote Schuur Hospital in Cape Town, where Dr Zwanepoel is a fellow, offers sub-specialist training in a tertiary setting, including daily vascular surgery ward rounds and three clinics per week, one of which is a dedicated venous clinic. There are two surgery lists per week and a half day list for endovascular surgery. The sub-specialist is responsible for cover of junior consultants after hours as well as participation in student teaching and examinations.

Though it's a tough specialisation – hard work, demanding cases and long hours – Dr Zwanepoel enjoys every aspect, from the patient's pathology to the diverse disease processes. "These patients usually have multiple co-morbidities and if you let your guard down for a moment, things can go terribly wrong in a very short period of time. The heart keeps pumping and the blood keeps flowing and you have to sort things out quickly," he says.

"But the part of vascular surgery I find the most interesting is the surgery. What truly fascinates me is the way we literally re-route blood flow to overcome disease in the vascular system."

Over the past 10 years there have also been significant advances in endovascular surgery, a type of keyhole surgery via the blood vessels. "Placing stents and balloon-dilating arteries to treat blockages and other vessels' abnormalities is fascinating," Dr Zwanepoel says. With vascular surgery you need to be a clinician and a surgeon. There is a lot of excitement, sometimes good, sometimes bad. "As vascular surgeons we treat all diseases related to the blood vessels, whether arteries or veins. Patients present to us with blocked arteries, usually due to smoking, uncontrolled blood pressure, diabetes, or high cholesterol, or they may present with abnormal dilation of their blood vessels."

"One of the most common problems we manage is varicose veins. We also treat all trauma patients who might have had a vessel injury."

Dr Zwanepoel was born in Germiston on Gauteng's East Rand and spent seven years at the Drakensberg Boys Choir School in KwaZulu-Natal. "I enjoyed singing a lot but never pursued it as a career even though I sang at high school and university. Unfortunately I seldom sing now, there's just no time in a busy day." When not working he devotes much of his time to his wife, a qualified gynaecologist, and their year-old son who at the age of 10 months had to have a bone marrow transplant for a rare immune deficiency illness. "Now he is awesome and healthy. He has stolen our hearts," says the proud dad.

Consultant in General Surgery | Groote Schuur Hospital | Cape Town | Sub-specialty: Vascular surgery

"Research is an integral part of medicine today and it offers me the opportunity to question the way we practise and how we can improve this."
– Dr Charles Kyriakakis

The prevalence of lung diseases among South African miners and the growing number of respiratory complications, particularly in the immunocompromised, motivated Dr Kefilwe Dire's desire to specialise in pulmonology.

Growing up in the North West Province – where a quarter of the workforce is employed on gold, platinum, uranium, and diamond mines – Dr Dire became acutely aware of the effects of occupational lung disease from an early age. Add to that her mother's asthma and subsequent death from pulmonary embolism, Dr Dire seemed almost destined to devote her career to diseases of the lung. "Respiratory infections remain the most common infections in our country yet we don't have nearly enough pulmonologists," Dr Dire says. "Those we do have, have an enormous workload." Particularly rare are black female pulmonologists.

As a child in the poverty-stricken rural town of Welbedacht, she witnessed the daily struggle of primary healthcare nurses and a handful of doctors trying to assist the hundreds of people attending the town's single clinic. "Only later as a medical student did I realise that we had lots of cases of rheumatic fever in our community too and those nurses did a wonderful job of trying to prevent rheumatic heart disease. There were just four doctors and I can't imagine how hard they worked to cover 24-hour calls and still serve all disciplines the next day." Sadly, she says, not much has changed in outlying areas where medical personnel are still scarce and medication runs out.

DR KEFILWE DIRE

Specialising in pulmonology, she says, will also qualify her to practise critical care and to teach. Dr Dire's training at Charlotte Maxeke is exposing her to a wide range of lung diseases including cystic fibrosis, lung cancer, tuberculosis, and multi-causal pneumonias. She believes her qualification will benefit not just her university and the surrounding community but also the mining industries that border it, undergraduates, post-graduates, nurses and allied health professionals. "I wish I could do more, offer more help, and I wish there was a cure for a lot of diseases but hopefully with more research we will get there. Seeing my patients understand their illness, getting better, and seeing my students become better doctors – wow, that blows my mind."

Losing a patient remains the toughest part of her job. "It is the most difficult thing any doctor has to deal with. Breaking bad news to a patient and his or her relatives is never easy."

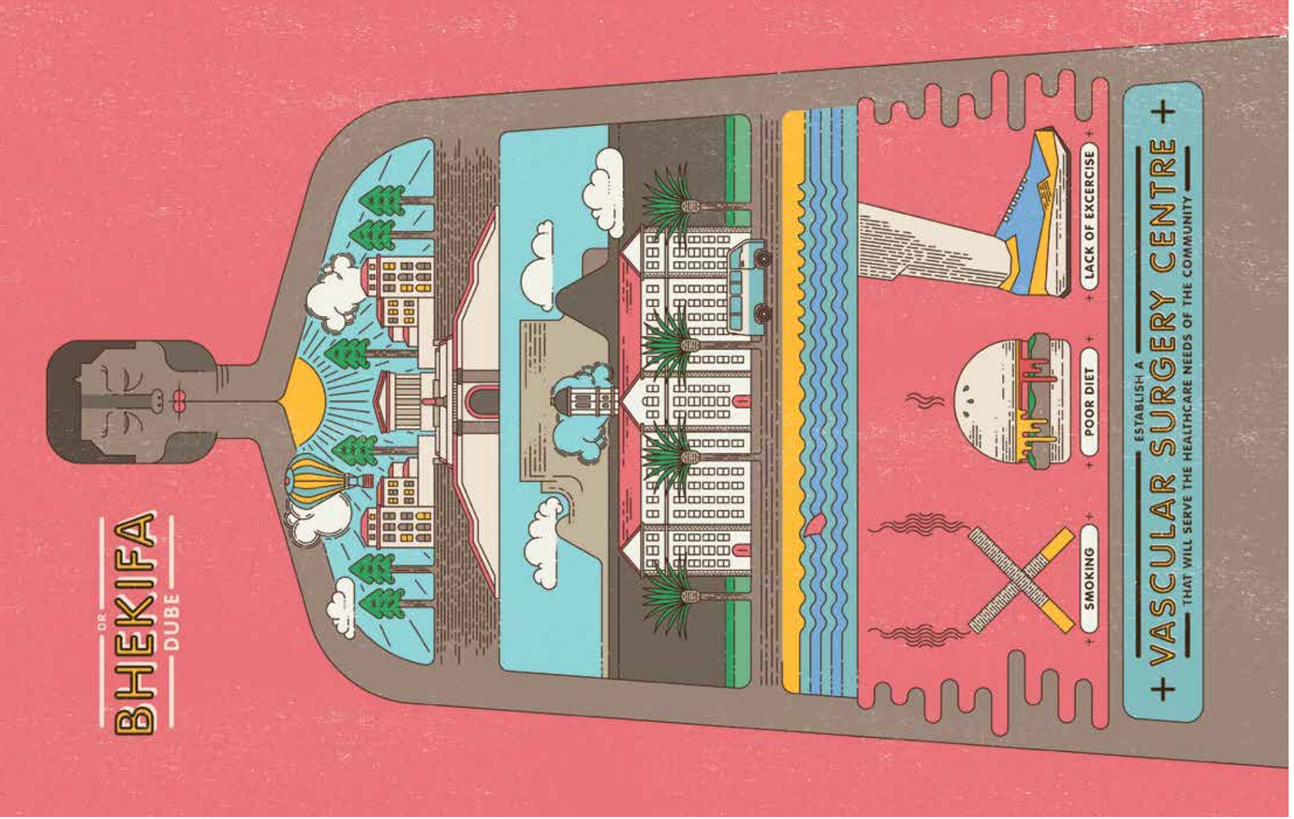
While doing community service at Thusong Hospital in 2000, she delivered a baby with intussusception who was then immediately transferred to Chris Hani Baragwanath Hospital for surgery. "After surgery, the baby was transferred back to our small primary hospital. I noticed that the child had lost a lot of blood and needed blood transfusion but when I asked the parents' permission but they refused on religious grounds. The baby died and I believe the blood transfusion could have saved its life. I realised then that children are very vulnerable and need more than love to survive into adulthood." This motivated, determined, and assertive woman has a PhD in her sights.

"What keeps me motivated? Knowing that no matter how many times you fail if you don't try again you will never succeed."

UNDER THE MICROSCOPE

Dr Kefilwe Dire (39) is a mother of two living in Midrand, Gauteng. She's fascinated by South Africa's legal system with hobbies that include enjoying weekends away with her partner and children.

Her message to young South Africans is to never let their family backgrounds deter them from achieving their goals. "Strive to be the best and reach for your dreams. All things are possible even when they don't seem so from the beginning."



Junior Consultant in Vascular and Endovascular Surgery | Livingstone Hospital | Port Elizabeth | Sub-specialty: Vascular surgery

DR BHEKIFA DUBE

UNDER THE MICROSCOPE

Dr Bhekifa Dube (34) was exposed to medicine through his parents and was intrigued by the many diverse challenges the profession held. Though the hours are long, he gets enormous satisfaction from meeting the expectations of his patients. Dr Dube's interests outside of medicine include computer programming, basketball, and soccer. He is married and has a son.

Although the sub-specialty of vascular surgery is well established in South Africa, there remains a critical shortage of vascular surgeons, a problem compounded by the fact that most of them work in the private sector. The shortage is particularly acute in the Eastern Cape.

The burden of vascular disease in South Africa is enormous and continues to grow. In addition to smoking, diabetes, and diet there is also the recently recognised burden of HIV-related vascular disease, all of which impact patient numbers. Yet there is a critical shortage of vascular surgeons in South Africa, especially in the public sector. While the field of vascular surgery has expanded significantly in recent years with the advent of endovascular surgery and improved vascular imaging, training in endovascular surgery requires special expertise and resources which are not necessarily available in all state facilities.

For Eastern Cape-based Dr Bhekifa Dube, being assimilated to the prestigious Vascular Unit at Groote Schuur Hospital in Cape Town, holds enormous promise not just for his own career but also for his patients at Livingstone Hospital and the wider Eastern Cape community. Dr Dube, who grew up in Bulawayo, Zimbabwe, says his interest in vascular surgery developed early in his medical training. "The vascular sub-specialty curriculum is well laid out. The practice is challenging but the rewards are instant if all is planned and goes well," he says. He looks forward to teaching and advising colleagues in patient care related to his field.

The Vascular Unit at Groote Schuur was established almost 40 years ago, long before vascular surgery was recognised as a sub-specialty. Its founder, Professor Edward Immelman, was a vascular surgery pioneer and a driving force behind its establishment as a sub-specialty. The unit resides within the Division of General Surgery at Groote Schuur and is staffed by three consultants, two vascular fellows, and three registrars. It also receives input from several part-time vascular surgeons from private practice. There is a dedicated physical space for the unit where consultations, non-invasive vascular imaging, and minor procedures are conducted. There is also a dedicated surgical ward shared with Hepato-Pancreato-Biliary (HPB) surgery and the unit has access to theatre for open vascular procedures and to the radiology suite for endovascular surgery. Trainees are exposed to all aspects of vascular surgery, including open and endovascular.

In recent years the unit, which is headed by Dr Naidoo, has produced one vascular sub-specialist every year. Dr Dube credits his mentor Professor Sats Pillay, a general surgeon with an interest in vascular surgery, for inspiring him to follow this career path. "He introduced me to the field of surgery and has always encouraged me and offered advice."

"Living and working in the Eastern Cape has its challenges," says Dr Dube, not least of which is its limited resources, yet this inspires him to make a difference to public sector patients. He dreams of health policies for primary and secondary cardiovascular disease prevention that utilise homegrown ideas and experience. "The scarcity of vascular surgeons in the country and particularly in the Eastern Cape cannot be overemphasised," says Professor Sokhela, acting executive dean of the Faculty of Health Sciences at Walter Sisulu University. "Dr Dube has shown to be a good clinical leader in this discipline."

UNDER THE MICROSCOPE

As a child in a rural village in the Eastern Cape, Dr Mfundo Feketshane (41) was painfully aware of the lack of health services in his community. A single clinic staffed by an assistant nurse served a population of some 300 000, he says, with the nearest primary level hospital 90km away. His own exposure to medicine was thanks to a neighbour – a general practitioner who ran his practice from home. "After school I would work for him as a personal assistant. Seeing patients leave his surgery healthy and happy again persuaded me to pursue a career in medicine." When he isn't seeing to his patients, Dr Feketshane likes to go to the gym and jog in the Cape Town suburb of Tyger Valley where he currently lives. He is also an avid sports fan.

Cervical cancer remains the leading cause of cancer-related deaths in women in South Africa and our country sorely needs scientists and researchers in this field.

DR MFUNDO FEKETSHANE

Registrar in Obstetrics and Gynaecology | Tygerberg Hospital | Cape Town | Sub-specialty: Gynaecological oncology

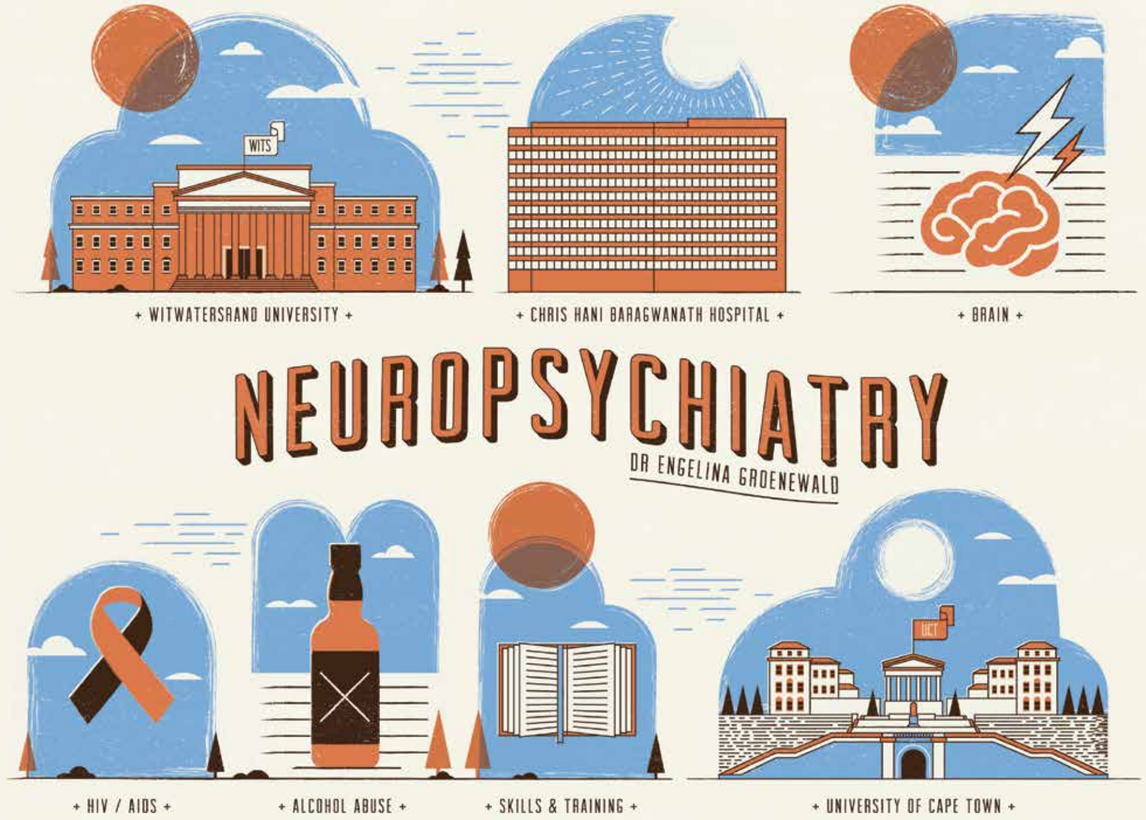
Developing countries carry the biggest burden of cervical cancer, with more than eight out of 10 (86%) cases occurring here, reveals the World Health Organization. In South Africa, more than 3 600 women die of cervical cancer every year – a 60% mortality rate – according to the National Cancer Registry (2001) with approximately one in every 41 women developing cervical cancer in their lifetime. Yet cervical cancer is a preventable disease if detected and treated in its early stages.

Prevention strategies have been partly successful to reduce the incidence and mortality of this disease in more developed economies, but South Africa needs more scientists and researchers in the field of cancer prevention and epidemiology and trained sub-specialists who are able to perform specialised surgery. Other commonly diagnosed gynaecological malignancies which occur in South Africa and which require specialist gynaecological oncologists include ovarian, vulvar and endometrial cancers. "Treatment of these patients requires complex surgery and further adjuvant therapy by a multi-disciplinary team. Last year there were fewer than 20 registered sub-specialists in gynaecological oncology in South Africa, of whom only a minority worked in a research and academic environment," says Professor Hennie Botha, head of the gynaecological oncology unit at the University of Stellenbosch. In the Eastern Cape there are no sub-specialists at gynaecological oncology level. "Creating capacity would go a long way to improving patient care," Prof Botha says. Dr Feketshane intends returning to the Eastern Cape to practise as a gynaecological oncologist once he has completed his training. He will train at Stellenbosch University, which has an active eight-year-old sub-specialty training programme.

"Candidates in this programme become skilled in the clinical management of both common as well as the less common, complex gynaecological oncology disorders," Prof Botha says. "They develop advanced scientific and intellectual capacity to solve important clinical problems, and through their research projects, contribute to the development of a healthier community." Dr Feketshane sees his role holistically; not simply someone who dispenses pills and injections but as a physician caring for the body, mind, and soul of the patient.

"This is the core of our mandate as doctors. Sometimes we are very biological in our approach, forgetting the psycho-social component in dealing with sick people but if you take time to sit with your patients and explain to them what will happen and help them to improve their quality of life, that is being a true doctor," he says.

He dreams of a South Africa where healthcare resources are equitably distributed, and of hospitals and clinics in rural areas with the kind of infrastructure that will attract and retain the best healthcare personnel.



UNDER THE MICROSCOPE

Dr Engelina Groenewald (34) was an 'idealist' as a child who believed that being a doctor was the best way to help people. "I have since realised that there are many other factors that have a bigger impact on people's health and happiness and that there are endless ways a doctor can help patients – so much more than merely through medicine." She lives in Cape Town and enjoys travelling, reading, learning new languages and playing the flute.

South Africa has a high prevalence of neurologic disorders which commonly lead to neuropsychiatric conditions yet there are very few registered neuropsychiatrists in the country.

Neuropsychiatry is the study of psychiatric disorders consequent to neurologic disease of which there is a high incidence in South Africa. We have a high number of head injuries and are among those countries with the greatest incidence of HIV: these two conditions are among the many that contribute to neuropsychiatric disorders. The high frequency of these disorders makes research and training on the subject a priority.

Disorders that could lead to neuropsychiatric symptoms also include epilepsy, stroke, and brain tumours but inadequate healthcare, especially in rural areas, contributes to neuropsychiatric conditions too, opines Dr Lina Groenewald. "Patients often do not get optimal medication for hypertension or diabetes, either because these conditions were not diagnosed or monitored adequately, or because the required medication is not available. This could lead to strokes or vascular dementia, which commonly result in neuropsychiatric problems," she says. Good treatment is often delayed because patients have to travel long distances to hospital or adequate management is not available at the hospital they go to. "Another important factor is screening. For neuropsychiatric conditions to be treated, they have to be diagnosed first. Most psychiatric disorders could be treated by primary healthcare practitioners if they had the time and knowledge," Dr Groenewald says.

DR ENGELINA GROENEWALD

Consultant Psychiatrist | Chris Hani Baragwanath Hospital | Johannesburg | Sub-specialty: Neuropsychiatry

She chose neuropsychiatry as a specialisation after working as a registrar in neurology. "There are many patients with neuropsychiatric disorders who are not optimally diagnosed or treated and I wanted to find innovative ways in which we could identify and manage them. Doing a fellowship at an established unit is definitely helping me to do that," she says. Dr Groenewald would like to see more trained staff at local clinics who are able to identify and help the mentally ill; community workshops and family support groups; employment for the mentally ill; respite care; education; and more psychiatric beds in hospitals.

"However, none of these initiatives could take away the need for more psychiatrists. Psychiatrists can, and should, teach other practitioners and develop innovative policies which can provide optimal care for the mentally ill," she says.

Dr Groenewald says she's constantly inspired by her patients and their families. "There is nothing more rewarding than seeing patients getting better, but if they don't get better or their management is more 'challenging', that is also inspiring – it motivates me to try harder. As a psychiatrist, people give you a glimpse into their souls, a 'sacred trust' that I appreciate and value." Despite the many challenges, Dr Groenewald says her job is 'the best in the whole wide world'! She adds that it is extremely rewarding because she gets to discover the intricacies and secrets of the human brain and have the privilege of hearing people's stories every day. "But you have to be certain that it is what you want to do before you make the commitment. It requires a lot of time, studying, and emotional resources. If you do decide to specialise in psychiatry, it is a never-ending adventure that will make the sacrifices worthwhile," she says.

Dr Groenewald is doing her specialisation in neuropsychiatry at Groote Schuur Hospital. It is one of the few units in SA offering a HPCSA-accredited fellowship in neuropsychiatry. She wishes to take back what she learns to a hospital where there are no neuropsychiatrists, such as Chris Hani Baragwanath Hospital in Soweto, where she has worked for the last three years, and was actively involved in establishing a neuropsychiatry clinic.

DISCOVERY FOUNDATION

RURAL FELLOWSHIP AWARDS

A series of grants aimed at developing and retaining specialist medical skills in rural areas

DR JOLEEN CAIRNCROSS

UNDER THE MICROSCOPE

Cape Town-born Dr Joleen Cairncross chose a career in medicine after being injured in a car accident. "I saw the difference healthcare workers make in the lives of patients and I wanted to be part of that team." Mom to a 10-year-old boy, she's also a keen social dancer (including Latin American and ballroom) and is trying to improve her culinary skills. She lives in Bloemfontein where she has worked as a registrar in family medicine since 2011.

Uncontrolled diabetes can have a devastating impact on vision yet early screening at primary healthcare level could prevent blindness.

Globally, more than 366 million people have diabetes, according to the International Diabetes Federation, a number that is expected to rise to 552 million by 2030 with the greatest increase predicted for Africa. In South Africa, more than 3.5 million people currently suffer from the disease with many still undiagnosed. Blindness is a complication of diabetes yet through early diagnosis and treatment it can be prevented.

Dr Joleen Cairncross believes that early management of diabetes at primary healthcare institutions will protect patients against unnecessary vision loss or impairment and it will also help reduce huge caseloads at secondary and tertiary hospitals. "This is an area that is under-managed at primary healthcare level," she says. "While many diabetics are seen at primary level, very few are referred for annual diabetic retinopathy screening. From my work experience, I have seen how uncontrolled diabetes can advance eye disease."

It was while working as a medical officer in the Department of Ophthalmology at Tygerberg Hospital in Cape Town that Dr Cairncross' interest in this field of medicine developed. "I learned so much and improved my skills and knowledge at general practitioner level and it excited me that finally I understood and knew how to manage basic eye conditions. I became passionate about ophthalmology and wanted to share that knowledge and experience."

Dr Cairncross believes that eye screening at primary care level and the ongoing training of healthcare staff is essential to managing the potential complications of diabetes. "Training courses should be offered in computer laboratories where images of case studies can be saved on computers and used for mock exams for trainees. This must be combined with clinical experience at government primary healthcare clinics with ophthalmology registrars assisting. "Improving the quality of eye screening at primary care level will reduce late referrals to ophthalmology."

She hopes that her research will prove the need for more diabetic patients having regular diabetic eye screening at primary healthcare level and shorten referral times by improving multi-disciplinary team work. "Every day I go to work with the motto' 'I want to make a difference today in my patients' care". Amidst the challenges and frustrations I still give my best to each patient. I enjoy working as a registrar and really enjoy teaching undergraduate students. I also enjoy the improved relationships I have formed with doctors from other departments, who I can always call them for advice." Coping with the lack of resources in healthcare is very frustrating, she says, and for her that's the toughest part of the job. "Also the desire and motivation to try and make a difference in how things are done and to be met by a firm wall, because people are not keen to change their ways."

Nonetheless, she would encourage all medical students to gain experience in ophthalmology. "It is precious knowledge you can only really learn if you work in the department. Eye care is a big challenge and most doctors at GP level are not confident in this field and miss serious eye diseases, which results in poor outcomes for patients. "I say to any younger doctor, 'If an opportunity arises to challenge and improve your knowledge, you must take it."

DR JIMMY MOHALE

UNDER THE MICROSCOPE

Inspired by the need to escape poverty, Dr Jimmy Mohale says medicine has changed his life and the lives of the people around him. This 31-year-old father of one is the first health worker in the family. When not focused on medicine, he's a keen movie watcher and dreams of shaking the hand of Denzel Washington. He enjoys watching live rugby matches and would love to watch more.

When Dr Jimmy Mohale was growing up there were no clinics near his rural village home near Hammanskraal, north of Pretoria. "The only clinic then, Mathibestad CHC, was about an hour's walking distance. Jubilee District Hospital was about 20km away. We finally got Lefatlheng clinic in 2000."

"During his matric year career guidance teachers encouraged students to apply for different courses at several universities to increase their chances of being accepted," he says. As a Grade 11 pupil he attended Medunsa's career day and that, coupled with the day he was handed his Medunsa student card, cemented a career in medicine that he has grown to love.

While working at the Accident and Emergency Department of the Jubilee District Hospital, Dr Mohale noted that a significant number of non-emergency patients were brought in by Emergency Medical Services (EMS). This led to the overuse of the EMS system and overcrowding in the A&E Department and patients who were in genuine need of emergency treatment were potentially compromised. This situation is not unique to Jubilee or to South Africa: reports from the US, Canada, and the UK show significant increases in the amount of unnecessary EMS transport use.

This prompted Dr Mohale to undertake an audit of the clinical conditions of patients utilising the EMS system in the Jubilee District Hospital's catchment area to determine which of these were real emergencies.

Dr Mohale says he enjoys emergency medicine partly because he loves the lack of routine and because he is good with anaesthesia, a skill that is needed in emergency units. "I also find that with most emergency cases what you see is what you get. There are fewer differentials to exclude."

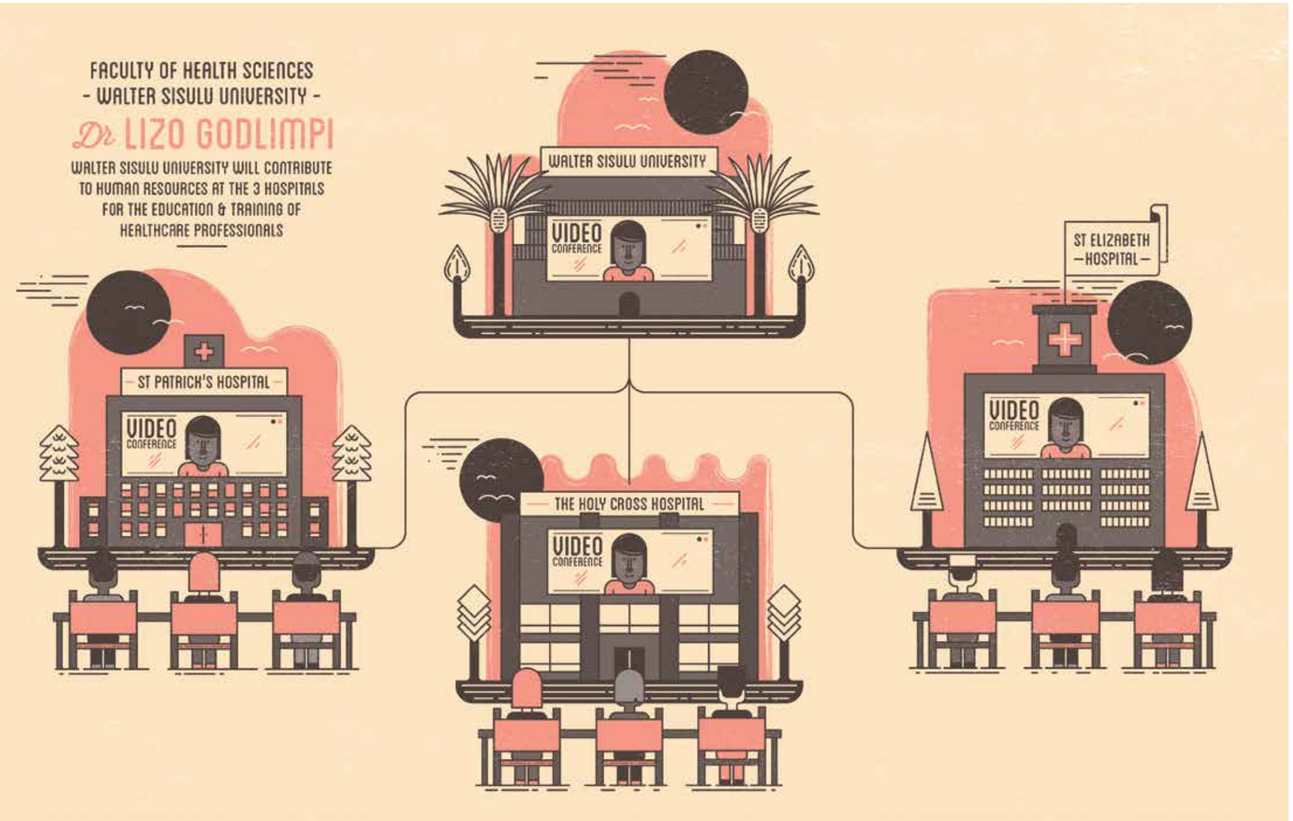
"The toughest part of any doctor's job," he says, "is the committed overtime especially on weekends. It is also difficult performing your duties to the best of your abilities when there is a shortage of consumables and instruments. Working in a district hospital is particularly strenuous, especially when you have to call an academic hospital to try to get your patient referred. Often there is no bed for the patient so you have to keep them, yet you don't have enough resources."

"Nonetheless," he says, "medicine is my life. I love that we improve the quality of life, though I wish we had more health professionals."

Dr Mohale did his internship at Themba District Hospital in Nelspruit, Mpumalanga and completed his community service at Jubilee District Hospital in Hammanskraal. He has also worked in Community Health Centres (CHC) at Tshwane-Motsweding North and this year he's rotating through paediatrics, surgical, obstetrics and gynaecology, and anaesthetics at Dr George Mukhari Hospital. His committed overtime is performed at Odi District Hospital which has about 300 beds.

"If I had to inspire a young person to follow a career in medicine I would tell them that it is difficult but it is not impossible, provided you are ready to commit your whole life to this vocation. You really need to love people to be a doctor, to have a heart. But write your own story, don't be me."

Registrar in Family Medicine | Dr George Mukhari Hospital | Gauteng | Rural Individual Fellowship Award



UNDER THE MICROSCOPE

Holy Cross Hospital *is one of the oldest mission hospitals in the Eastern Cape, situated about 22km from Flagstaff in the economically-deprived OR Tambo District. It has nine doctors and two sessional doctors and from June this year, fifth year medical students will spend five months here as part of their longitudinal clinical clerkship. One doctor has been appointed as a clinical manager to coordinate teaching.*

St Patrick's Hospital *in Bizana in the Alfred Nzo District provides clinical care for 275 000 people. This rural district is ranked 49th worst out of 52 on the Deprivation Index and has one of the highest maternal mortality rates in the country.*

St Elizabeth's Hospital *in Lusikisiki in the OR Tambo District provides clinical care for 268 000 people. It is ranked 50th worst out of 52 on the Deprivation Index with an exceptionally high maternal mortality rate. The OR Tambo District has the third highest infant mortality rate in the country.*

Providing continuing professional education and training at rural hospitals will improve service delivery and motivate doctors.

District hospitals in economically-deprived regions of the Eastern Cape have high patient loads, inadequate facilities, and a high turnover of doctors who are either working out their community service or are junior doctors from the UK on one year contracts. These doctors are also expected to teach medical students from Walter Sisulu University.

"At rural district hospitals, doctors provide clinical care that is normally provided by specialists," says district hospitals co-ordinator for the region, Dr Lizo Godlimpi. "Skills and knowledge are required to undertake obstetrics, surgery, anaesthetics, medical conditions, and orthopaedic procedures yet there is no organised continuing professional education and training available at these three hospitals. Services offered at these rural hospitals include social work, dentistry, physio and occupational therapy, outreach programmes and radiology. "It is essential that rural doctors have access to resources and training," says Dr Godlimpi.

The nearest education centre for these district hospitals is hundreds of kilometres away making it too expensive and time consuming for doctors to reach. A solution is the provision of video-conferencing equipment for interactive training with weekly educational and training meetings at the Nelson Mandela Academic Hospital Complex in Mthatha, offered by specialists based at Nelson Mandela Academic Hospital and Family Medicine Specialists at Mthatha General Hospital. There are also several other regular educational meetings run by the South African Medical Association and HIV/Aids updates organised by Harvard Medical School.

The Department of Health will afford doctors time for onsite training, while Walter Sisulu University will contribute the human resources for education.

HOLY CROSS HOSPITAL, ST ELIZABETH'S HOSPITAL, AND ST PATRICK'S HOSPITAL

PORT ELIZABETH METROPOLITAN ANAESTHETIST SERVICE

UNDER THE MICROSCOPE

The PE Metropolitan Anaesthetic Service trains an average of 30 rural doctors a year. It has seven full-time anaesthetic consultants and has produced 10 homegrown anaesthetic specialists. The team, consisting of three consultants, registrars, and training coordinator Professor Lionel Smith, also do outreach follow-ups. The team has visited more than 30 rural hospitals and provided motivations that have led to upgrades in equipment, staffing and training of doctors and nurses at these hospitals.

A training programme aimed at doctors in rural hospitals has impacted anaesthetic maternal death rates in the Eastern Cape, believes Professor Lionel Smith.

There are 30 rural hospitals in the Eastern Cape, some falling within districts ranked among the worst on South Africa's Deprivation Index. This region also has among the highest maternal mortality rates in the country and doctors here have substantial caseloads, with some hospitals serving 200 000 or more residents.

While the latest SA National Committee for Confidential Enquiries into Maternal Deaths (NCCEMD, 2008 to 2010) report showed a reduction in anaesthetic procedure-related maternal deaths, there remains a substantial need for training in obstetric anaesthesia.

Professor Lionel Smith believes the current declines in maternal mortality in this region may be related to the training being done by the Port Elizabeth Metropolitan Anaesthetic Service for expatriate doctors and to the fact that South African doctors now spend two months learning anaesthesia as part of their internships. "We would like every doctor administering anaesthesia in a rural hospital to be trained," says Professor Smith, training coordinator for the programme. He initiated and runs the programme for rural doctors in the region. More than 130 doctors have already rotated through his programme's theatres at Dora Nginza, a level 3 referral hospital in Zwide, South of Port Elizabeth. Dora Nginza serves the Western part of the Eastern Cape including Graaff-Reinet, Cradock, Somerset East, Grahamstown, Port Alfred, Uitenhage, Humansdorp, and Kareedouw hospitals and their clinics. "Our government in the Eastern Cape has a vast area to cover, and has difficulty staffing remote hospitals dealing with a huge workload. Some hospitals have just one doctor," Professor Smith explains.

Rural doctors on this training programme can spend two 10-day periods at Dora Nginza and Livingstone hospitals for hands on in-theatre training, along with airway and Essential Steps to Manage Obstetrics Emergencies (ESMOE) modules. Accommodation is provided in a hospital flat. This in-reach training is sponsored by the Eastern Cape Department of Health.

Funding had, however, temporarily fallen away for weekend refresher courses, but the Discovery Foundation Award will now pay for these. "To date five doctors from Uitenhage, one from Graaff-Reinet, one from Burgersdorp and three from Grahamstown have passed the Diploma in Anaesthesia and two rural candidates are currently being supported. We are also used as consultants by the Eastern Cape Health Department with regard to anaesthetic machine requests," says Professor Smith.

The Service has also provided a theatre checklist, which has been circulated to rural hospitals along with guidelines on obstetric anaesthesia, authored by Professor Smith who is an academic coordinator tutoring at Walter Sisulu University School of Health Sciences. Professor Smith says since the Service's inception, the servicing of equipment has improved through support, but staff training is still needed.

JOB SHIMANKANA TABANE HOSPITAL

UNDER THE MICROSCOPE

Job Shimankana Tabane Hospital in central Rustenburg serves a population of more than 1.5 million people including many rural communities of the North West Province. It is the only regional hospital in this platinum-rich Bojanala District. The disease profiles in this district largely reflects its migrant worker population and poverty stricken farmworkers whose children suffer malnutrition. The level 2 hospital has 329 beds – some of them borrowed from mine hospitals in the area – but is desperately in need of more and of additional tertiary care which is currently limited to ophthalmology and urology, says Dr John Tumbo, district family physician and clinical programmes coordinator for the district.

Undergoing surgery in a hospital that is close to family puts patients at ease, says Dr Wezi Maphenduka.

Job Shimankana Tabane Hospital is a modest two-storey building in the fast growing city of Rustenburg in the North West Province. The region is rich with mines and the hospital serves large numbers of tuberculosis and HIV patients and many others showing multi-drug resistance.

The almost 100-year-old building is undergoing renovations to expand its services but essentially it needs specialists like Dr Wezi Maphenduka to serve not only the growing patient numbers but also to teach its medical students and doctors.

Dr Maphenduka focuses on patients with cataracts, glaucoma, diabetes-related eye complications and those suffering trauma to their eyes. The head of Ophthalmology at Mamelodi Hospital in Pretoria, Dr Maphenduka, has been visiting Job Shimankana Tabane Hospital since December 2012 in response to a plea for help from the then CEO Rose Mokoto. "The hospital's ophthalmologist died in May 2010 following a very short illness. A committed team of ophthalmic nurses and an optometrist held the fort but surgery came to a halt and ophthalmic services eventually went into decline. No replacement ophthalmic surgeon was found," Dr Maphenduka says. Patients requiring surgery were referred to a hospital in Klerksdorp, which added on that region's health services burden and was a strain – physically and financially – for patients.

"When I started at Job Shimankana we were seeing 25 to 30 patients per outpatient visit. By the end of last year the numbers had swelled to between 45 and 50 patients, most with cataracts," says Dr Maphenduka. Between eight and 12 surgical procedures are performed per theatre list and other conditions frequently attended to here are glaucoma, pterygiums, diabetes-related ophthalmic complications, and optic neuropathy.

"Participating in this project has been very rewarding for me and I believe for the rest of the team. Patients are relieved to know that their surgery can be performed at their local hospital where they are close to their families. The majority of bilateral cataracts have had both eyes done during this time. This in itself has been a very humbling but satisfying experience," she says. "Just to see one more smile on the face of one whose vision has been restored through such routine surgery makes any effort worthwhile!"

Dr Maphenduka provides critical specialist support, says Dr Tumbo, adding clinical value and assisting with the development of standardised treatment guidelines. She is contributing to capacity building and skills enhancement and improving the quality of life of her patients.

Dr Maphenduka will continue to visit Job Shimankana Tabane Hospital twice a month where she will conduct post-operative ward rounds on all surgical patients, conduct formal teaching sessions of multi-disciplinary healthcare teams, and be available for teleconferences and telephonic consultation.

Dr Maphenduka credits Dr Govindappa Venkataswamy, an Indian ophthalmologist and founder of Aravind Eye Hospitals – one of the biggest networks of ophthalmology hospitals in the world – as her greatest inspiration. "His mission to eliminate needless blindness and the system he has set up in order to accomplish this challenges me and drives me to do my part no matter how insignificant that effort appears," Dr Maphenduka says.

Malawi-born Dr Maphenduka (54) knew from an early age that she wanted to work in a hospital, not necessarily as a doctor but it was the hospital environment that intrigued her. "I believe I would have been just as happy being a nurse or a physiotherapist, in fact I almost became one when no scholarship was in sight for medicine." It was a teacher in her matric year who encouraged her to become a doctor and at the age of 23 she won a British Council Scholarship to study medicine at the University of Zimbabwe. It was there that she specialised in ophthalmology.

"To be a true doctor, you must care for the body, mind and soul of the patient. We as doctors cannot forget the psycho-social component in dealing with our patients."
– Dr Mfundo Feketshane

MOSES KOTANE HOSPITAL AND BRITS HOSPITAL

North West | Distinguished Visitor Award

UNDER THE MICROSCOPE

Bojanala district is the most populated district in the north of North West province. Its five sub-districts are home to around 1.3 million people and it is 70% rural. There is high perinatal mortality and morbidity.

The lack of skills and experience among healthcare personnel at district hospitals in areas of the North West Province are severely hampering service delivery, particularly in neonatal care.

The Bojanala district is served predominantly by four district hospitals and it is here, and at primary healthcare facilities, that prematurity and birth asphyxia are major causes of the high perinatal mortality and morbidity rates in the region.

Moses Kotane Hospital is one of the four district hospitals. It has a 40-bed paediatric unit and a six-bed neonatal high care unit managed by medical officers and professional nurses, but the staff lack the skills and experience necessary to ensure specialist neonatal care. The newly-built 217-bed Brits hospital has a 35-bed paediatric unit and a 15-bed neonatal high care unit but for six years while the hospital was under construction, no maternity, paediatric, or neonatal care services were provided.

Earlier this year (2014) the maternity and neonatal units were opened but personnel scheduled to staff these units had been deployed to general medical units during construction and were out of active specialised service for more than six years. “There is, therefore, a critical need for skills transfer and ongoing support from a paediatrician/neonatologist in both hospitals,” says Dr John Tumbo, principal family physician at Bojanala District and a senior lecturer at the University of Limpopo’s Medunsa campus. “A distinguished specialist in paediatrics with emphasis on neonatology, who would serve as a critical resource in terms of the establishment and provision of neonatal care services, as well as teaching and training healthcare professionals in paediatrics and neonatology is urgently needed.” Paediatrics Professor Siyazi Mda, supported by the Discovery Foundation’s Distinguished Visitor Award, will fulfill this need.

Professor Mda has extensive clinical and academic experience and currently serves as adjunct professor at the Department of Paediatrics and Child Health at Medunsa. He conceived and initiated a multi-disciplinary malnutrition teaching ward round in the paediatric wards at Dr George Mukhari Hospital involving medical interns, medical officers, medical registrars, nurses, dietitians, and social workers.

He will visit Moses Kotane and Brits hospitals four times a month and conduct teleconferences with medical personnel in between those visits. He will assist in the establishment and maintenance of clinical guidelines and standard operating procedures for the paediatric units, conduct clinical ward rounds with the medical offers in the paediatric and neonatal units, and conduct formal teaching sessions at both hospitals.

Specialised paediatric services, particularly neonatal care, are currently provided at the only regional hospital in the district, which itself is faced with severe staffing and space issues. “Moses Kotane and Brits hospitals also form part of the Bojanala district training platform for the University of Limpopo and have undergraduate medical students and registrars rotating through the various clinical units. These clinical units need to maintain standards for high quality guidance and training,” Dr Tumbo says.

Professor Mda will add value clinically as a consultant for difficult clinical paediatric and neonatal problems, be a mentor and assist with the supervision of medical officers and registrars, and aid skills development. It is hoped that the skills of a paediatrician of Professor Mda’s stature will improve the outcomes of neonates born at these hospitals and reduce mortality rates among newborns and children, thus contributing to the achievement of one of the Millennium Development Goals.

BETHESDA HOSPITAL

Northern KwaZulu-Natal | Distinguished Visitor Award

Game lodges and sugarcane plantations abound in this spectacularly scenic part of KwaZulu-Natal, but so too does the scourge of poverty with malnutrition as the leading cause of death in children under the age of five years.

"It is hard to believe we are living in the 21st century," says family physician Dr Gloria Mfeka, "with so many South African children still suffering from malnutrition." Diseases like HIV/Aids, tuberculosis, malaria, lower respiratory tract infections, and gastroenteritis are endemic although PMTCT levels are down, thanks to an effective ARV rollout programme.

Of huge concern to medical staff like Dr Mfeka are the paediatric cases that flood Ubombo's Bethesda Hospital. Last year the hospital admitted a total of 880 paediatric cases; with malnutrition as the dominant cause of morbidity and mortality among children under 5 years. There is also an alarming number of children who present to the hospital dead on arrival. Hospitals like Bethesda are often forced to manage their own pre-term infants and very sick paediatric cases as there are a limited number of paediatric and neonatal ICU and high care facilities in the province. "There is currently no paediatric outreach to Bethesda Hospital, which needs neonatal and paediatric support in order to improve the quality of the care it offers its patients. Having a specialist of Professor Miriam Adhikari's stature at our hospital will raise the rigour of academia and knowledge in our institution," Dr Mfeka says.

Prof Adhikari, who retired in 2010 as the head of the Department of Paediatrics at the University of KwaZulu-Natal and has extensive paediatric outreach experience, has already visited Bethesda Hospital three times in the past year during which she was part of the hospital's perinatal morbidity and mortality meeting, child health forum, and has helped to organise a CME evening for local general practitioners. With funding from the Discovery Foundation she will continue to conduct outreach visits to Bethesda Hospital where she will assess the strengths and weaknesses of the hospital and its clinics' paediatric services; build a team of doctors and nurses to achieve improved patient care; improve paediatric clinical outcomes; establish intersectoral links for community engagement; and improve the skills of primary care workers. "We would like to implement preventive programmes under her guidance that will help strengthen our paediatric services and improve the nutritional status of young children in the community," Dr Mfeka says.

"We have a good team of doctors here who are keen to learn and serve the community. Raising the level of academia through Prof Adhikari's visits is both stimulating and assists us in retaining medical officers who would otherwise quickly return to the city after a year of community service," Dr Mfeka points out. Bethesda's nurses have also benefitted from Prof Adhikari's visits as she has conducted training programmes for them and is keen to offer more.

"Her visits add great value to our institution. The funding from Discovery has been well invested," Dr Mfeka says.

UNDER THE MICROSCOPE

Bethesda is a rural district hospital deep in mountainous North Eastern KwaZulu-Natal. Founded in 1937 by the Methodist Church it has 220 beds serving a population of around 110 000 people over an area of 1 500 square kilometres and offers both primary and secondary level care. Bethesda also oversees seven outlying primary healthcare clinics that medical personnel visit on a weekly basis. The area that Bethesda serves is one of the poorest in the country with low levels of education and employment.

MOSES KOTANE HOSPITAL AND BRITS HOSPITAL

North West | Distinguished Visitor Award

UNDER THE MICROSCOPE

With the addition this year of the new Brits hospital to the Bojanala district in the North West Province, residents of this predominantly rural region now have access to almost 500 district hospital beds and specialist services like theatres, neonatal high care, maternity, and laboratory services but there remains a critical shortage of specialist skills among staff.

The lack of specialist anaesthetic skills among medical officers in district hospitals is a major cause of anaesthetic complications. These contribute significantly to patient morbidity and mortality in the region.

For six years residents of the Bojanala District have waited for a replacement for the old Brits Hospital and in April this year (2014), the new R419-million facility was officially opened by Health Minister, Dr Aaron Motsoaledi. However, for the past six years there were no surgical services here so the opening of the hospital's new theatre presents a major challenge: upskilling members of staff who have not been active in this field for so long. "There is a dire need to improve the clinical outcomes of patients who need anaesthesia in this district," says Dr John Tumbo, principal family physician at Bojanala District and a senior lecturer at the University of Limpopo's Medunsa campus. "Due to a lack of specialist anaesthetists in district hospitals, anaesthesia is currently administered by medical officers who have not undergone any formal training in anaesthesia. Lack of skills and experience among the medical officers is a major cause of complications and also limits patient access to this important intervention."

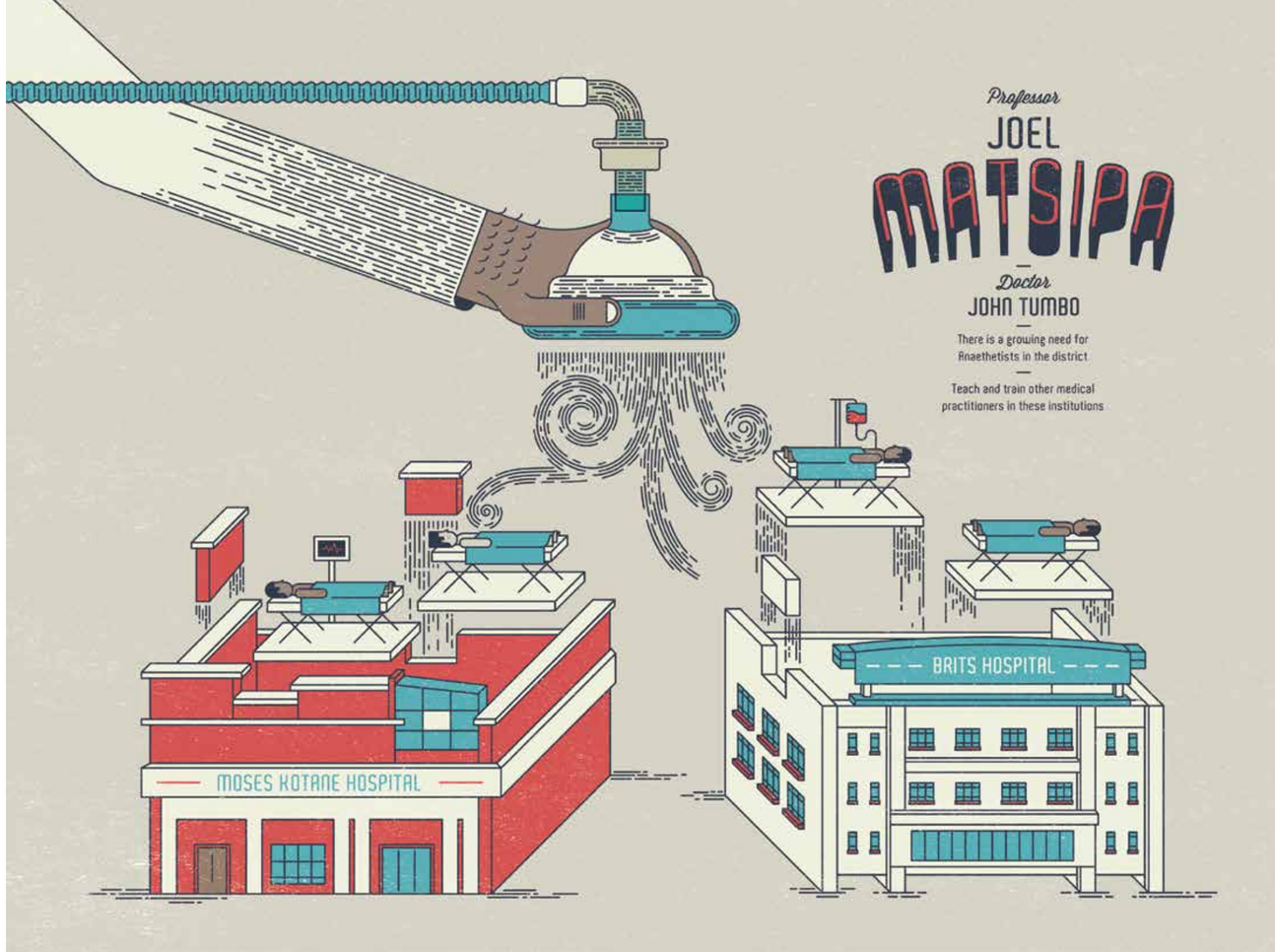
There is just one anaesthetist in this district based at Job Shimankana Tabane Hospital in Rustenburg. "Moses Kotane and Brits hospitals also form part of the Bojanala district training platform for the University of the Limpopo and have undergraduate medical students and registrars rotating through the various clinical units. These clinical units need to maintain standards for high quality guidance and training," Dr Tumbo says.

For the past year retired anaesthetist Professor Joel Matsipa has been supporting Moses Kotane Hospital, helping to train medical officers, conducting post-operative ward rounds, and administering anaesthesia together with medical officers. With the support of the Discovery Foundation he will continue these services at Moses Kotane and extend them to Brits Hospital.

Prof Matsipa who retired as head of anaesthesia at Medunsa and Dr George Mukhari Hospital in 2011 is retained by both this university and the Gauteng Department of Health as a man with extensive clinical and academic experience.

He will visit Moses Kotane Hospital and Brits Hospital once every two weeks and will also be available for teleconferences and telephonic consultation to doctors at the facilities.

"Prof Matsipa will be a mentor and assist with the supervision of medical officers and registrars in family medicine. He will help with capacity building and skill enhancement and he will add value clinically as a consultant for anaesthetic complications," Dr Tumbo says. It is hoped that his regular visits and training of hospital staff will improve the safety of patients undergoing anaesthesia and reduce maternal mortality in the region.



TONGA HOSPITAL

UNDER THE MICROSCOPE

Tonga Hospital in the Nkomazi District of Mpumalanga is in a rural region bordered by the Kruger National Park, Mozambique, and Swaziland. It opened its doors officially in 1999 but some wards and units remain closed due to staff shortages. The 14 full time doctors and three clinical associates at Tonga serve a population of around 230 000 people, supported by six community service doctor posts and five posts for clinical associates.

Doctors at the 152-bed Tonga Hospital struggle to improve their surgical skills due to the high turnover of medical officers in rural areas and the lack of surgical outreach from its nearest referral hospital.

South Africa has a high rate of burns, with as many as 1 300 children dying every year from these injuries and with many others hospitalised. According to the Medical Research Council, most burn injuries occur among children living in lower income settings. In Mpumalanga, with its large concentration of rural villages and settlements, there is no dedicated burns unit or ward. This, says Tonga Hospital's acting medical manager Dr Patrick Rogers, poses a major problem as often these injuries are neglected until they heal with badly keloided scarring.

At Tonga Hospital, which is situated in Tonga Village, in Nkomazi East, burn victims requiring large skin grafts went without surgery with their wounds staying dressed for months until they heal with keloided scars or some with contractures. This is because medical officers here have no experience in the art of plastic surgery.

With funding from the Discovery Foundation, Dr John Read, a skilled plastic surgeon with more than 40 years' experience and a specialist obstetrician, will spend time at Tonga Hospital training junior doctors in caesarean section techniques, skin grafts, and laparotomies for ectopic pregnancy.

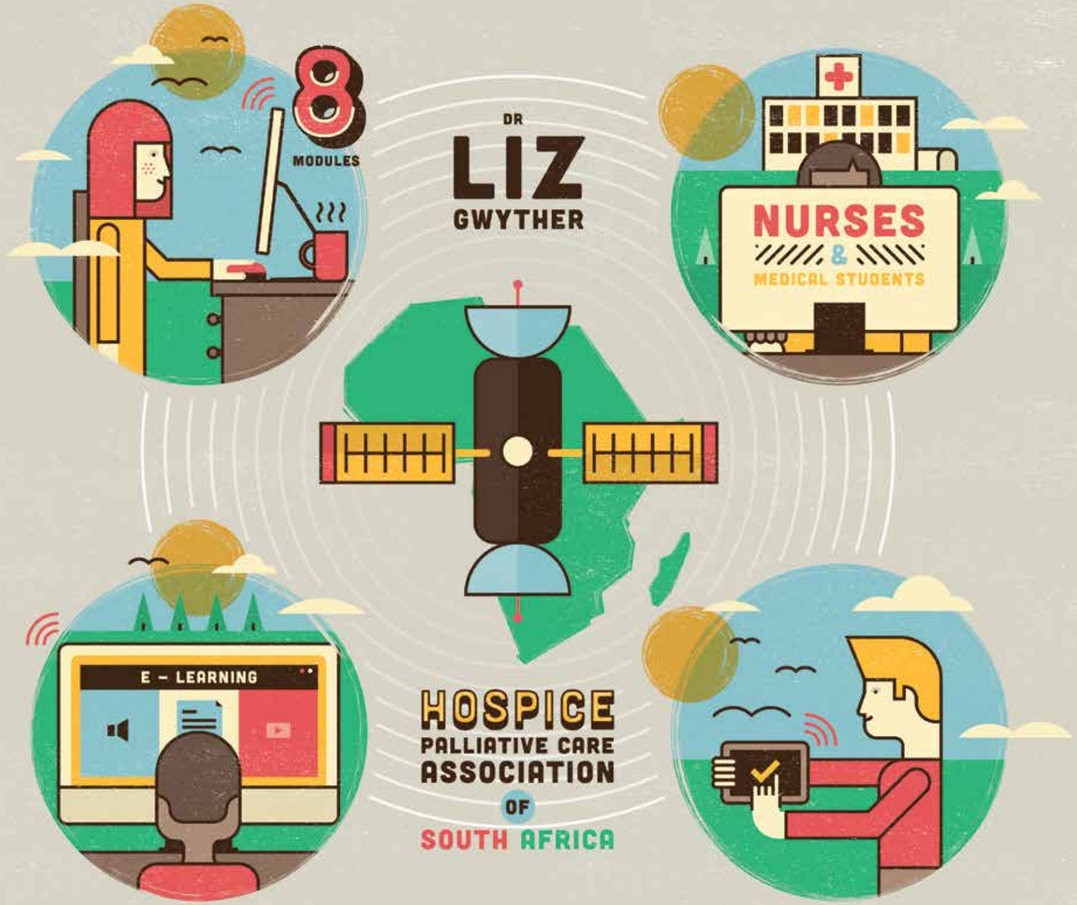
He will fly in from Port Elizabeth, where he has retired, for 10 visits of five days each. "The medical officers at Tonga Hospital will gain confidence and skill in surgery which we hope to retain and improve on, beyond the one year outreach programme by Dr Read," says Dr Rogers, "though the biggest impact will be in the lives of our burn victims." Tonga Hospital and the Mpumalanga provincial government have little budget for further skills training for healthcare personnel. Dr Read's visits should help boost morale among medical officers, Dr Rogers believes.

Dr Read, who graduated from the University of the Witwatersrand, was a registrar in the Department of Plastic and Reconstructive Surgery at the University of Natal and later ran a private plastic and reconstructive surgery practice in the Vaal Triangle where he became involved in outreach at three provincial hospitals. "Here, the usual congenital and acquired plastic surgery problems were dealt with, particularly burn wounds, major orthopaedic problems, and soft tissue loss. I was the only plastic surgeon doing this work," he says. He worked at these hospitals for almost 20 years. Dr Read retired to Port Elizabeth. He is an enthusiastic traveller and camper and a member of the Port Elizabeth Camera Club.

DISCOVERY FOUNDATION

EXCELLENCE AWARD

Funding aimed at building centres of excellence in healthcare



HOSPICE PALLIATIVE CARE ASSOCIATION OF SOUTH AFRICA

UNDER THE MICROSCOPE

The Hospice Palliative Care Association of South Africa (HPCA) is a non profit company founded in 1987. The association serves as the membership organisation for South African based hospices. The HPCA's vision is to promote quality palliative care for all, integrating palliative care into all healthcare settings and maximising the reach of palliative care training. Its mission is to promote quality in life, dignity in death and support in bereavement to all persons living with or affected by a life-threatening illness.

The growing number of South Africans requiring palliative care and support because of tuberculosis, HIV/Aids, and cancer increases the need for palliative care training among healthcare personnel.

The association is focused on meeting the medical, nursing, physical, psychological, social, emotional, and spiritual needs that might arise in the family unit due to the illness. Given South Africa's increasing disease burden, healthcare professionals should be trained in palliative care so that they can apply the principles of holistic patient and family centred care. Palliative care helps patients manage their pain, depression and anxiety, and it helps them to get the most out of each day. In this way their quality of life is improved without shortening their lifespan.

The HPCA is committed to improving the level of expertise of palliative medicine nursing teachers and developing a well-structured, multi-disciplinary, and professional approach to palliative care and support online. The Discovery Foundation Excellence Award will enable the Association to convert eight modules on palliative medicine developed for nurses and eight modules developed for medical students into an online training programme. "The primary objective of the project is to maximise knowledge of palliative medicine and empower nursing training institutions and doctors with the latest technology and systems in palliative medicine," says HPCA CEO Dr Liz Gwyther.

This programme will enable nursing and medical lecturers and their students at various nursing training colleges to study anywhere at any time with instructions provided via an e-learning platform. This course will also be made available to healthcare practitioners in the field to learn about palliative care and to integrate it into their practices as appropriate. "This will reach a wider audience at a relatively small price and will also bolster the knowledge of palliative medicine in the rural and peripheral communities," says Dr Gwyther.

This online programme, which the HPCA is undertaking in collaboration with the University of Cape Town's School of Public Health and Family Medicine, will be delivered using a combination of static methods, learning portals, hyperlinks, and on-screen camera tutorials. Streaming video and audio links will enable the students to have discussion platforms, chats, and exchange notes on the latest in palliative medicine. With this e-learning initiative, nurse tutors and family medicine lecturers at health training institutions can comfortably integrate palliative training principles into the undergraduate curriculum.

The project will take 12 months to pilot with an initial 20 learners recruited from nursing and medical schools countrywide. These will be teachers from institutions that are currently training nurses and doctors. The outcome of this initiative will highlight challenges encountered by various institutions, the plight of rural communities, and the existing needs for training healthcare professionals in palliative medicine. "Through this, the HPCA will more easily be able to promote quality palliative care for all, integrate palliative care principles into all aspects of the healthcare system, and further improve and increase awareness and recognition of the important role palliative care plays in society," Dr Gwyther says.

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