TRANSACTIONS

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Admission Ceremony October 2010

TRANSACTIONS

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Contents

In support of contemporary Zulu telephone wire baskets

Artist: Dudu Cele, Port Shepstone, Kwazulu-Natal

Photographer: William Raats

Dudu's work is well described as being full of riotous colors and oozing individual expression. She had a passion for celebrating life and occasion in her work, and her baskets showcase images of soccer championships and other such events. Her artwork is available from the BAT Shop, Durban, Tel: (031) 332 9951, E-mail: batcraft@mweb.co.za

Fees and Charges

(Applicable 1 June 2011 to 31 May 2012)

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Local:	
Associate Founders, Associates, Fellows, Members and Certificants	R 670.00
Diplomates (local)	R 390.00
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Retired members	R 75.00
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Registration Fee : Associates	R 650.00
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(The registration fee for F, M C and D forms part of the examination fee)	

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08 – 10 hours	R 460	31 – 35 hours	R 1 260.00
11 – 15 hours	R 660	36 – 40 hours	R 1 400.00
16 – 20 hours	R 860	41 – 45 hours	R1 500.00
21 – 25 hours	R 1 000	46 – 50 hours	R1 580.00

There is a ceiling of R1 580 as persons providing secretarial assistance to the CMSA at examination time already receive a full-time salary. Claims in respect of secretarial assistance rendered have to be supported by a special recommendation for payment signed by the examination Convener.

Remuneration (hourly) to Laboratory Technologists/Technicians/ nurses and interpreters
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Laboratory technologists/technicians	R 115.00
Enrolled nurses (off duty)	R 115.00
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Claims for reimbursement of laboratory technologists/technicians who assist during CMSA examinations also have to be supported by a special recommendation for payment signed by the examination Convenor.

Travel Reimbursement Rondebosch
(prescribed by the Minister of Finance) R 3.05/km

Editorial

Dear colleagues,

The current senate of the Colleges of Medicine of South Africa (CMSA) will end its term during the October 2011 senate meeting, while a new senate will be elected to take over the running of the CMSA for the next triennium (2011 to 2014). Nominations forms have been sent to colleagues who are in good standing with the CMSA to exercise their democratic rights by nominating colleagues for the 28 constituent college councils and senate representatives. It is imperative to make ourselves available to serve the CMSA either within our constituent college councils or in the senate. The other important news is that the CMSA is eagerly waiting for its appointment letter from the Health Professions Council of South Africa to run the National Professional Examinations for medical specialists in due course.

This edition of the Transactions has the Presidential newsletter in which Prof Anil Madaree highlights some of the catastrophic natural and political global events to date in 2011. He stresses that despite these catastrophes; people can either be negative or positive to their circumstances. He is of the opinion that in the face of natural disasters and political turmoil, medical practitioners can help those in medical need. The latter is illustrated in his personal experiences of having been in medical missions to various countries putting "smiles" on the faces of those with craniofacial deformities, cleft lips and palates. He makes a special appeal that we should donate some of our time to change people's lives as there is more reward in not being remunerated for helping people who cannot afford basic medical costs.

Dr. Brigid Strachan presents a detailed report of the CMSA policy forum which took place on 26/27 November 2010 in Cape Town. The forum focused on the challenges and possible solutions to strengthen academic medicine, specialist training and to improve the governance of academic medicine. The forum was organised to share information on progress made on the CMSA project which was initiated in late 2007, arising from concerns about academic medicine and specialist training in South Africa and the loss of expertise through emigration and retirement. The report provides insight on the presentations of various speakers about the challenges, and possible solutions that the national department of health should seriously consider and adopt to address these concerns. It is heartening to note that the Minister of Finance in his 2011/12 budget speech ring-fenced specific funds for registrar training, which if properly channelled, should translate to production of more medical and dental specialists and sub-specialists for the country.

Two review articles have been included in this edition of the Transactions. The first one is on *The changing epidemic of chronic kidney disease (CKD)* by S Naicker, which is a good summary of the 2010 Arthur Landau lecture delivered under the auspices of the College of Physicians of South Africa. In the author's review of available literature on CKD, a shocking revelation was the severe shortage of qualified nephrologists in sub-Saharan Africa to manage CKD, which affects mainly young adults aged 20-50 years and primarily due to hypertension and glomerular diseases, although HIV is assuming increasing prominence as a possible cause. The retention of health care workers is definitely a challenge for many African countries. The author concludes that preventive strategies to reduce the prevalence of hypertension, diabetes and HIV will be the obvious logical process to follow but there must be political will and funding for health, coupled with public and medical education in order to reduce the CKD epidemic. The second review article on *Management of diabetic ketoacidosis (DKA)* by D Jivan has been printed with permission from JEMDSA. It is a well-written article which presents this common medical emergency using a logical approach to its management. It discusses the use of colloid versus crystalloid solution, isotonic versus hypotonic fluid, normal saline versus Ringer's lactate, insulin therapy, potassium replacement, bicarbonate therapy and phosphate replacement in DKA. I recommend this article as the information presented is evidence-based and current.

Prof Gboyega A Ogunbanjo
Editor: Transactions
Email: gao@intekom.co.za

Instructions to Authors

1. Manuscripts

1.1 All copies should be typewritten using double spacing with wide margins.

1.2 In addition to the hard copy, material should also, if possible, be sent on disk (in text only format) to facilitate and expedite the setting of the manuscript.

1.3 Abbreviations should be spelt out when first used in the text. Scientific measurements should be expressed in SI units throughout, with two exceptions; blood pressure should be given in mmHg and haemoglobin as g/dl.

1.4 All numerals should be written as such (i.e. not spelt out) except at the beginning of a sentence.

1.5 Tables, references and legends for illustrations should be typed on separate sheets and should be clearly identified. Tables should carry Roman numerals, thus: I, II, III, etc. and illustrations should have Arabic numerals, thus 1,2,3, etc.

1.6 The author's contact details should be given on the title page, i.e. telephone, cellphone, fax numbers and e-mail address.

2. Figures

2.1 Figures consist of all material which cannot be set in type, such as photographs, line drawings, etc.
(Tables are not included in this classification and should not be submitted as photographs).
Photographs should be glossy prints, not mounted, untrimmed and unmarked. Where possible, all illustrations should be of the same size, using the same scale.

2.2 Figures' numbers should be clearly marked with a sticker on the back and the top of the illustration should be indicated.

2.3 Where identification of a patient is possible from a photograph the author must submit consent to publication signed by the patient, or the parent or guardian in the case of a minor.

3. References

3.1 References should be inserted in the text as superior numbers and should be listed at the end of the article in numerical order.

3.2 References should be set out in the Vancouver style and the abbreviations of journals should conform to those used in Index Medicus. Names and initials of all authors should be given unless there are more than six, in which case the first three names should be given followed by
'et al'. First and last page num¬bers should be given.

3.3 'Unpublished observations' and 'personal communica¬tions' may be cited in the text, but not as references.

Article references:

- Price NC. Importance of asking about glaucoma. BMJ 1983; 286: 349-350.

Book references:

- Jeffcoate N. Principles of Gynaecology. 4th ed. London: Butterworths, 1975: 96.
- Weinstein L, Swartz MN. Pathogenic properties of inva-ding micro-organisms. In: Sodeman WA jun, Sodeman WA, eds. Pathologic Physiology: Mechanisms of Disease. Philadelphia: WB Saunders, 1974: 457-472.

Lost Members

The CMSA office in Rondebosch is eager to establish the whereabouts of the following "lost members", some of whom may be deceased. Any information that can be of assistance must please be e-mailed to Mrs Naomi Adams at members@colmedsa.co.za

Bennett, Margaret Betty (College of Radiologists)

Block, Sidney (College of Family Physicians)

Breen, James Langhorne (College of Obstetricians and Gynaecologists)

Bresler, Pieter Benjamin (College of Public Health Medicine)

Gibson, John Hartley (College of Obstetricians and Gynaecologists)

Kok, Hendrik Willem Lindley (College of Neurologists)

Ndimande, Benjamin Gregory Paschalis (College of Anaesthetists)

Phillips, Grant David (College of Surgeons)

Phillips, Kenneth David (College of Family Physicians)

Raubenheimer, Arthur Arnold (College of Obstetricians and Gynaecologists)

Richmond, George (College of Physicians)

Van Coller, Beulah Mariè (College of Paediatricians)

Van Greunen, Johannes Petrus (College of Obstetricians and Gynaecologists)

Van Schalkwyk, Leoni (College of Forensic Pathologists)

Wilson, William Edmond (College of Anaesthetists)

Information as at 8 December 2010

Presidential Newsletter

Dear Colleagues,

It is a great pleasure and honour for me to write this. At the risk of sounding philosophical, I would like to refer to world events in this report. Last year will be remembered in South Africa as the year of the 2010 FIFA World Cup. This was hosted in a superb, resplendent and sublime manner, exceeded our expectations, and made us extremely proud of our country. It was an exercise in meticulous planning, delegation, and execution with panache. The 2010 FIFA World Cup also contributed to nation building. There was a sense of excitement, pride, sparkle, generosity, safety and fulfilment. It made the world stand up and take notice of South Africa. Post this event, there is no reason for us to not to continue and maintain the atmosphere, and palpably feel the good mind set that existed in 2010. The quest for this depends on the commitment of every individual in South Africa, rather than the government. As well as hoping that this happens, we can also take the lead in realising this objective.

There have been some catastrophic natural and political world events in 2011. The 8.9 earthquake in Japan, and the 6.3 one in New Zealand, have left those countries devastated, with the aftermath still to come. Events like these help bring the affected countries together as a nation. It will take a long time to get back to where they were. Events such as these underscore the enormous forces of nature. Events in North Africa and the Middle East have underlined the fact that the majority will eventually prevail. It is saddening and despairing that so many lives were lost, and so much destruction caused, before this was realised. Turmoil and turbulence will prevail for some time, and it will take decades for the reconstruction to gather momentum and hopefully restore these countries, but this is not a given. There may be clear reasons as to why some countries are unable to achieve restoration, while for others, the process is indeterminate. While the resilience of human nature is remarkable, there are times when people give up too early, and too easily.

So it appears that nation building can occur in times of jubilant celebration, natural disasters, and in political misadventure. Is this just a circle of life, or can this be influenced by sage decisions and timely interventions? I would favour the latter.

People can be placed in positive and negative groups. Even while speaking to a stranger for a few minutes, this call can be intuitively made. Positive individuals exude an energy that is contagious. This makes them attractive, and people want to be associated with them; even the negative individuals! What makes people positive or negative? Is it innate, learnt from past experience, or influenced by the people with whom they associate? While constant euphoria may be pathological, a positive outlook and attitude can only be beneficial to all concerned. The obvious challenge is how to guide the negative group to the positive way of thinking. This would ultimately create a better and more harmonious world.

I would like to briefly dwell on how we, as medical practitioners, can help those in medical need. Every one of you can do this, if you have a positive mind set. This can be achieved in South Africa, Africa and the rest of the world. As a practising plastic surgeon, with a special interest in craniofacial deformities and cleft lips and palates, I have embarked on numerous missions to treat the children and adults afflicted by these deformities. These cases have been in South Africa, the Philippines, Bolivia, Mauritius and other parts of Africa. My focus at present is sub-Saharan Africa, and I have led missions to Madagascar, Rwanda, the Democratic Republic of Congo and Namibia.

Some countries have a tremendous need. For example, we will undertake our sixth mission to Madagascar in September this year. I have just returned, in March, from a second mission to

Rwanda, during which we performed surgery on 262 patients. I promise to write a full article on these missions for *Transactions,* as repeatedly requested by the Editor. We embark on these missions as a complete team, and as a plastic surgeon, it has been one of the most rewarding experiences for me.

People's lives can be changed by the donation of some of your time. I am sure that you, as a doctor, can offer your services at a local hospital, clinic, academic department, NGO, or other institution. All it takes is a few hours a week, or a few days a year. We do not have to be paid for everything we do. There is probably more of a reward in not being remunerated for helping people who cannot afford basic medical costs. These missions are an immensely educational experience, and not just from a medical point of view. In Rwanda, the country has completely transformed, following the genocide. It's extremely clean, the homes have manicured gardens, litter is rare, plastic bags are banned, and it's safe to live there. It's a model for the rest of Africa, as so much has been achieved in such a short period after the holocaust. Take up this challenge to improve the lives of others, in the process, your own.

The Colleges of Medicine of South Africa (CMSA) continue to take on projects, engage in fora to improve the country's medical and dental education, and also health standards. The College Project, under the leadership of Prof Zephne van der Spuy, and coordinated by Prof Tuviah Zabow, continues to make significant progress. It appears that we are on the cusp of obtaining funding for vacant designated registrar and subspecialist posts. In the short term, this will be the single most strategic item to improve our specialist:population ratio.

I am pleased to report that we have achieved the goal of achieving the national qualifying examination. One of our other goals was increasing interactions with the other sister Colleges. I wrote to them, and received an overall positive response. We need to translate these responses into action with definite outcomes. Many of the sister Colleges are discipline-specific speciality Colleges. For this reason, and having initiated this dialogue, I may have to devolve specific negotiations to individual Colleges of the CMSA.

I wish to thank the following people for their support, hard work and advice in ensuring that the CMSA continues to function in an impeccable manner, and also grows in all dimensions:

- Bernise Bothma (CEO), and the Cape Town office staff;
- Ann Vorster (Academic Registrar), and the Johannesburg office staff;
- Anita Walker and the Durban office staff;
- Prof Del Kahn (Chairman), Prof Dhiren Govender (Registrar) and members of the Finance and General Purposes Committee;
- Prof Arthur Rantloane (Chairman), Prof Mike Sathekge (Registrar) and members of the Examinations and Credentials Committee;
- Prof Anu Reddi (Chairman), Prof Jamila Aboobaker (Registrar) and members of the Education Committee;
- Prof Tuviah Zabow (Treasurer);
- Members of the Executive Committee;
- My Vice Presidents, Prof Gboyega Ogunbanjo and Prof Jeanine Vellema;
- Dr Warren Clewlow (Chairman), and the Board of Trustees of the CMSA.

Prof Anil Madaree
President

Admission Ceremony
14 October 2010

The admission ceremony was held in the Joosub Hall, Westville Campus of the University of KwaZulu Natal in pouring rain.

At the opening of the ceremony the President, Professor Anil Madaree asked the audience to observe a moment's silence for prayer and meditation.

Dr Devi Rajab, former Dean of Student Development at UKZN and award winning columnist for the Mercury and the Confluence Newspaper in London, delivered the oration. Her speech was most thought provoking and hard hitting.

An Honorary Fellowship was awarded by the College of Public Health Medicine to Professor Alan Maryon-Davis. The citation was written and read by Professor Shan Naidoo.

A Fellowship ad Eundem was awarded by the College of Obstetricians and Gynaecologists to Professor Jack Moodley. The citation was written and read by Professor Jay Bagratee.

One Fellowship by Peer Review was conferred by the College of Emergency Medicine to Dr Walter Kloeck.

Seven medallists were congratulated by the President on their outstanding performance in the CMSA examinations. Medals were awarded in the following fellowship disciplines: Anaesthetics, Dermatology, Ophthalmology, Paediatrics and Radiology. Medals were also awarded in the following diploma discipline: Emergency Medicine.

The President announced that he would proceed with the admission to the CMSA of the new certificants, fellows and diplomates.

The new Certificants were announced and congratulated.

The Honorary Registrar - Examinations and Credentials, Professor Mike Sathekge announced the candidates, in order, to be congratulated by the President. The Honorary Registrar – Education, Professor Jamila Aboobaker individually hooded the new Fellows. The Honorary Registrar – Finance and General Purposes, Professor Dhiren Govender handed each graduate a scroll containing the Credo of the CMSA.

The new Diplomates were announced and congratulated.

All in all the President admitted 53 Certificants, 219 Fellows and 262 Diplomates.

The UKZN choir performed before the ceremony started and then again at the end when the National Anthem was sung, where after the President led the recent graduates out of the hall. Refreshments were served to the graduates and their families.

Address by Dr Devi Rajab at the CMSA Admission Ceremony, 14 October 2010

Prof Madaree, President of The Colleges of Medicine of South Africa, respected Senate Members, Fellows and Diplomates, ladies and gentlemen:

When I was first approached by Prof Anil Madaree to address you all here this evening, I had recollections of the brilliant work that he had done in transforming the lives of rural patients through his dramatic surgical interventions and thus bringing hope to so many poor patients. Medicine is indeed the noblest of professions.

The work that you do in medicine within the confines of the theatre or laboratories often goes unrecognised and unacknowledged. Today, I would like to pay tribute to the medical science profession, in general, and, in particular, to all of you as medical practitioners. You are truly the angels that save lives, making a real difference to humanity. Without your professional intervention, many lives would be lost and the quality and length of other lives would surely be curtailed, and society would be the poorer for it. Your lot is not an easy one, because of the long hours of your professional work (yours is the only unregulated profession in terms of the number of working hours in a day, with stipulated lunch and tea breaks) and, without adequate governmental and poor health infrastructure, you struggle to manage your difficult portfolios. In the hospitals, morale is low and poverty is more than a social issue. Your world view is not a pretty one. In fact, it can be depressing, bleak, overwhelming, and unsafe. In light of this, your frustrations are understandable, as your interventions are sometimes seen as a band-aid for a haemorrhage. With little political clout your impact is minimised in full view of those whom you are expected to help and support. As you lend your ears and witness with your eyes the sordid and debilitating stories of each patient statistic, who cares for you and counsels you when you struggle with post-traumatic stress or your own personal health? "Patience and persistence" is your motto and the small spark of wholesome light is the only pot of gold you seek at the end of the rainbow. Many on the outside think that all doctors are rich and happy, live in mansions, drive sport cars and send their children to private schools, but this is not necessarily so. Balancing family life with the demands of a hard job is not easy. It is little wonder that some of you wish to change careers midway. An oncologist once came to me for career counselling, as he wanted to follow his love and become a chef and travel the world, which he incidentally did do.

Ladies and gentlemen, I feel deeply honoured to be asked to be guest speaker on this important occasion. The closest that I can ever come to greatness, is in sharing emotions with a famous personality. As I stand before you this evening, I have the same doubts and fears as JK Rowling of Harry Potter fame, when she was once asked to give the commencement address at Harvard University. Like me, she knew her limitations, although, in her case, it was uncalled for, since her imagination and talent for spinning a good yarn have captured the attention of young and old.

Like her, my agonising search for a profound message for an erudite hall full of cerebral personalities is no mean task (especially since one is acutely aware of the possibility that one could never have succeeded in gaining admission into the medical field on the basis of school grades even if one had the interest to do so) . Somehow, intellectual elitism is more frightening than social elitism.

To add to this, Prof Anil Madaree, whom I have always admired for his outstanding work, flippantly threw me a line: "Speak on any topic of your choice". Well, it takes you half a week thinking of a topic and another half wondering how you are going to pitch it. In any event, nobody ever remembers the words of the speaker at a graduation ceremony, unless it is very bad and excruciatingly boring, or provocative, and so I have decided to talk on a touchy subject: "The Exodus" (not of the epic kind), or the lure of the lemming run.

As I stand proudly in front of you all this evening, I am wary of the fact that at least half of you will be tempted to leave our shores for greener pastures, if not immediately, then within the next decade of your lives. Well-documented research supports this view. The reasons may be personal, social, economic or political, or even academic, but, in any event, they will make a serious dent on our national health care services.

The loss of ordinary citizens is not comparable to the loss of highly skilled technicians and medical specialists, in whom a country has invested considerable capital in training. The training of a single medical student costs a country a substantial amount of money, and it behoves a government to seriously begin to address the realities of this grave loss by making incentives attractive and valuing professionals for their expertise in building a nation.

I was embroiled in a somewhat heated discussion recently, concerning the future of our country. The young professionals were mouthing the usual platitudes about security and vocational opportunities for "pinks and browns". South Africa is going down, they said. Should we stay or should we go now? We all have to be a part of the solution, I said lamely to people who feel excluded on the basis of their race and who have little connection with the past struggles. There is nothing wrong in wanting to resettle in another part of the world for any number of reasons. After all, South Africa is a good example of settler colonialism. On the Indian sub-continent, every second Indian out of a population of one billion either has a relative abroad or has ambitions of wanting to make a break to greener pastures. The Indian community in South Africa is a living example of a mass exodus into Africa as a result of indenture. So, the movement of peoples all around the world is not new or novel one. Neither is it wrong for people to want to improve their social and financial positions and to offer their offspring a better life chance.

However, what is disturbing about South Africans wanting to emigrate is the vehemence with which they find it necessary to denigrate their country of birth. Mother Africa, from whose breasts they suckled, is being violated in the most callous ways. Yet, under apartheid, the groundswell of opposition was never quite like this. Now we see the effects of open and raw racism. There is anger and stereotyping and racial slurs and general intolerance for any other view different from the old ways. People cite affirmative action and crime as a reason to leave. There is no hope for our children, they say. But, while this may be true in some cases, it is not necessarily so in others. While not every black person is thriving in the new South Africa, there are many non-blacks who are doing exceptionally well under the new government. In fact, I recall that, when I had returned from America with advanced qualifications, I just could not find a job and I could only sell my labour at ethnic institutions, whereas the mobility and access for white South Africa was unlimited. Blacks didn't cry foul and knuckle under. They bit their lips and suffered one frustration after another.

In the new South Africa, there is growing corruption at the highest level of political leadership. No matter how beautiful a country and its people may be, when corruption enters the core of government, it affects the entire nation. After all, doesn't an apple start rotting at the core? When judge presidents, deputy presidents, ministers, kings and princes start behaving in excessive ways, will not the commoner worry about his future? When race and ethnicity become "rallying" factors and loyalty to one's own kind supersedes objective truths, when the colour of criticism is more important than the content of the message, is this not worrying?

Ironically South Africans are now beginning to ask the very old question, which was asked in the apartheid regime: What do you think is going to happen to South Africa? Will there be a blood bath after a revolution? People were apprehensive. They knew that the nationalists' policy of separate development could not last indefinitely. They knew that the government could not hold on to power forever. International pressure from the outside and internal pressure from within, car bombs and sabotage cost many lives, but finally we achieved our freedom. After a peaceful changing of the guards, the rainbow nation was born. Now, barely 16 years later, we have made one full circle and South Africans are now beginning to ask the same question they did before: Do our children have a future here? Is it safe for us to stay? Will South Africa become another Zimbabwe?

The state of a nation, just like its people, can be gauged by its moodiness, and South Africa is somewhat crotchety right now. It is frustrated by its leadership and annoyed by the constant excesses of its politicians. It is fed up with non-delivery of public services and its rapidly dwindling health facilities. It is jittery about standards in higher education and the inadequate state of public schooling. It is concerned about the lack of jobs for its own people and about the influx of immigrants from the north. It is uneasy about the widening gap between the haves

and the have-nots, and between the various racial groups. It is worried about the social stability of families, education, health services and service delivery. It is anxious about harnessing and channelling its youth along socially acceptable avenues. The irresponsible behaviour of the ANC youth leader is a case in point. But, most of all, it is in a state of paralysis over the unbearable weight of crime and corruption that is viciously spreading like a cancer, with no real ameliorative intervention. In the years following the transition to democracy in 1994, South Africa's soaring crime rate earned itself the reputation of being the most dangerous country in the world outside of a war zone. Despite what the AK45 ex-MK cadres may want us to believe, crime is not about Robin Hood-type dispossession of material wealth to offset the imbalance of apartheid. It is about law and order and the stability of a nation that would ultimately translate into the greater good of its entire people. It is about the malaise of social degradation and morality. It is about growing a sound economy. It is about a quality of life that would allow South Africans to live, work, play and sleep safely. To walk in any veldt or forest, to fling doors and windows open and allow our children to run around safely in neighbourhoods. Yet, the reality is that the acquisition of mass wealth is the cherry that motivates South Africans to continue to steal from each other. In view of all of this, do we wonder why young people, the wealth of our nation, our very assets in human potential, are leaving our shores in a slow bleed?

The migration of doctors from their home countries is not a new phenomenon. Medical professionals, mainly from sub-Saharan Africa, are actively recruited by developed countries. Doctors in South Africa are esteemed for their high standard of training which they receive locally, a quality which renders them prime candidates for employment. Various factors are involved in the high push –pull theory of migration. It has been reported that push factors usually play a greater role in doctor's decision to leave their countries of origin, than do pull factors in the host or recipient countries. And this is where the blame should squarely fall on the shoulders of our government and not entirely on foreign First World countries, although the benefits to these nations are comparable to Africa's losses. Push factors motivating migration most frequently include dissatisfaction with remuneration packages and working conditions, high levels of crime and political instability, lack of future prospects, HIV/AIDS, and a decline in educational systems.

But, psychological research points to other factors that influence migration such as the personality of the individual. The results, reported in the September issue of *Psychological Science,* a journal of the Association for Psychological Science, suggest that personality traits determine not only where people relocate, but also how often they move and how far away they move. In a recent study, it was noted that more than 23% of America's 771 491 physicians received their medical training outside the USA, the majority (64%) in low-income or lower middle-income countries. Nearly 86% of Africans practising in the USA originate from only three countries: Nigeria, South Africa and Ghana. Furthermore, 79% were trained at only 10 medical schools.

While it is invariably the decision of an individual to migrate to any country of choice, physician migration from poor countries to rich ones contributes to worldwide health workforce imbalances that may be detrimental to the health systems of source countries. The migration of over 5 000 doctors from sub-Saharan Africa to the USA has had a significantly negative effect on the doctor-to-population ratio of Africa. In South Africa, it is estimated that only 35% of our doctors cater for 35 million people who use public sector health care, and 65% of our doctors cater for the 7 million who belong to medical aid schemes. Access to specialist clinicians is even more slanted. A report from the Wits Donald Gordon Medical Centre states that the poor have very little chance of being treated by a specialist.

The finding that the bulk of migration occurs from only a few countries and medical schools suggests that policy interventions in only a few locations could be effective in stemming the brain drain. The South African government now needs to awaken to this real threat to our national health as a country. While loyalty and love are not enough to sustain a workforce in the present climate of material imperatives, the altruistic nature of this noble profession will always rise to the fore. And so, in the words of Albert Schweitzer: "Let true service always be your guiding motto. Ethics is nothing else than reverence for life". So, before you are tempted to move just think on the Germanic saying by Kelly in 1859: "East and west, at home the best" (In German: "Ost und West, da heim das Best".)

CITATION: Prof Alan Maryon-Davis
The College of Public Health Medicine

Prof Alan Maryon-Davis is the current President of the UK Faculty of Public Health, the equivalent of our College of Public Health Medicine. The UK Faculty of Public Health is one of the largest of its kind and probably the oldest in the world.

Prof Maryon-Davis has had an illustrious career in public health, and has contributed enormously to the discipline of public health in the United Kingdom. He is the immediate Past Chair of the Royal Society for Public Health, Vice-Chair of the National Heart Forum, and Chair of the National institute of Health and Clinical Excellence (NICE) Public Health Topic Selection Committee.

Prof Maryon-Davis is also a Board Member of the Health Protection Agency, Member of the Court of the London School of Hygiene and Tropical Medicine and an Honorary Professor of Public Health at Kings College London, as well as an accomplished writer and broadcaster on health matters in the UK. He has held numerous other national positions and is regarded as a world-renowned expert on the training of specialists in public health.

He has been credited with numerous public health publications, particularly in the areas of health promotion, climate change, lifestyle and nutrition. He has been a writer and broadcaster on health matters for over 35 years and his has work published in many national newspapers and magazines. He presented several series on, amongst others, BBC Radio 4 and BBC TV. He is the author of 10 health and medical books for the general reader, has the ability to translate complex public health issues into understandable language for the general public, and is a true health promotion advocate in this regard. We wish to acknowledge his huge contribution in public health in the UK.

Prof Maryon-Davis was awarded the Wilfrid Harding Medal for excellence in Public Health training by the Faculty of Public Health in 2003. He has committed himself to assist in fostering relationships between our Colleges, and will advise us on areas such as curriculum change and career pathing, as well as other matters of urgency that are facing our specialty in the immediate future.

It is therefore a great honour to present Prof Alan Maryon-Davis for admission to Honorary Fellowship of the College of Public Health Medicine of the Colleges of Medicine of South Africa.

Prof S Naidoo

CITATION: Prof Jack Moodley
The College of Obstetricians and Gynaecologists

Prof Jagidesa "Jack" Moodley graduated with an MBChB from the University of Natal in 1968, and then served his internship at King Edward VIII Hospital, Durban. In 1971, he commenced postgraduate training in Obstetrics and Gynaecology under Prof Crichton and subsequently Prof Philpott. He obtained the FCOG(SA) in 1975 and the MRCOG in 1976. He became a Fellow of the Royal College of Obstetricians and Gynaecologists in 1989, and a Fellow of the University of Natal in 1994.

Prof Moodley's career path followed a progressive one: of Lecturer, Senior Lecturer, Professor *Ad Hominem*, and then Chair and Head of Department of Obstetrics and Gynaecology, University of KwaZulu-Natal from 1996-2005. The University of Natal awarded Prof Moodley the MD in 1989 based on his thesis, *Aspects of the pathophysiology of pre-eclampsia in African women*. He has been recognised as an international leader in his field, and this has led to him being awarded the directorship of a Medical Research Council (SA) unit on hypertensive scholarship, and the British Council Scholarship that enabled him to spend research sabbaticals at the University of Nottingham in 1984, and in the Nuffield Department of Obstetrics and Gynaecology, University of Oxford, in 1989.

He is a prolific researcher, having published over 300 peer-reviewed articles. He has presented original research, in addition to giving talks at plenary sessions of several international congresses. He has been on the editorial board of six scientific journals, including serving as an International Federation of Gynecology and Obstetrics (FIGO) advisory panel peer review for the *International Journal of Gynaecology and Obstetrics*. Prof Moodley was the South African coordinator of the Magpie trial, a multicentre, randomised controlled trial on the use of magnesium sulphate in the treatment of pre-eclampsia. He also spearheaded research on HIV in pregnancy, and was the principal investigator of the PETRA trial, a multicentre, randomised, double-blind, placebo-controlled trial that evaluated the efficacy of certain antiretrovirals in the prevention of mother-to-child transmission. His research endeavours in women's health have been recognised by FIGO, who awarded him the Distinguished Service Award in 2006. His standing in the UKZN has contributed to his involvement in continuing medical education, as well as various administrative duties. These include that of being the Deputy Dean, Acting Dean and Chair of the postgraduate and the bioethics research committees at various times during his career at UKZN. The National Research Foundation (NRF) appointed Prof Jack Moodley as an evaluator of research outputs, and as a member of the Assessment Panel for Health Sciences between 2003-2007.

In addition to helping many young researchers to develop, he has played a prominent role in the academic and clinical training of every registrar at the Department of Obstetrics and Gynaecology in Durban over the past 30 years. Presently, he continues to supervise students who are taking higher degrees, and to prepare postgraduate registrars for their final examinations.

Prof Moodley is currently Emeritus Prof in the Department of Obstetrics and Gynaecology at the University of KwaZulu-Natal, and continues his research of hypertensive disorders of pregnancy, maternal mortality, and HIV infection in pregnancy. He chairs the National Committee on Confidential Enquiries into Maternal Deaths (NCCEMD), is a member of the National Essential Drug List committee (NEDL) and is instrumental in driving a training programme on emergency obstetric skills (ESMOE) for all health professionals. His contribution towards research is at a consistent level, and initiatives in promoting training for all health professionals, nurses and doctors in women's health, place Prof Moodley at the highest level in his field.

His work has been of immense significance to women's health, and it is therefore a great honour and pleasure to ask you, Mr President, to confer the Fellowship *ad eundem* of the College of Obstetricians and Gynaecologists of South Africa on Prof Jagidesa Moodley.

Prof JS Bagratee

Fellowship of the European Resuscitation Council awarded to Dr Walter Kloeck

The European Resuscitation Council, the international Interdisciplinary Council for Resuscitation Medicine and Emergency Medical Care, is composed of 30 National Resuscitation Councils throughout Europe, representing world leaders in pre- and in-hospital emergency care.

As co-founder of the Resuscitation Council of Southern Africa and Chairman for the past 20 years, co-founder of the International Liaison Committee on Resuscitation (ILCOR), which represents all major Resuscitation Councils worldwide, co-founder of the Emergency Medicine Society of South Africa, and co-founder and President of the College of Emergency Medicine of South Africa, Dr Walter Kloeck was awarded Honorary Life Membership of the European Resuscitation Council in 2008.

Dr Kloeck has been a Reviewer and Editorial Board Member of Resuscitation, the official journal of the European Resuscitation Council over the past 12 years, and has attended and participated in every European Resuscitation Council Congress since its inception. In addition, having co-authored 72 international peer-reviewed publications and over 1,000 citations relating to resuscitation and emergency cardiovascular care, Dr Kloeck was nominated for the European Resuscitation Council's new international award Fellow of the European Resuscitation Council (FERC), which was presented for the first time, since the inception of the European Resuscitation Council in 1990, at a gala ceremony during the "Resuscitation 2010 Congress" in Porto, Portugal on 4 December 2010.

The Fellowship of the European Resuscitation Council award was introduced "*to recognize its most prominent members who have demonstrated evidence of sustained leadership and contributions to resuscitation medicine through practice, research, education or care of patients".* Dr Kloeck is the first person in the southern hemisphere to have achieved both Honorary Life Membership and Fellowship of the European Resuscitation Council.

Dr Kloeck being awarded "Fellow of the European Resuscitation Council" by the President of the ERC, Prof Bernd Boettiger, at the Resuscitation 2010 Congress in Porto, Portugal.

List of Medallists: 2010

FCA(SA) Part I - Janssen Research Foundation Medal
Dr Leah Dunn REID – October 2010

FCA(SA) Part I - Abbott Medal
Dr Leah Dunn REID – October 2010

FCA(SA) Part I - Hymie Samson Medal
Dr Tracy Anne JACKSON – May 2010

FCA(SA) Part I - Glaxosmithkline Medal
Dr Tracy Anne JACKSON – May 2010

FCA(SA) Part II - Jack Abelsohn Medal & Book Prize
Dr Gabriel Johannes LE ROUX – May 2010

FC Derm(SA) Part II - Peter Gordon-Smith Award
Dr Yashmita LALLOO – May 2010
Dr Vanessa LAPINER – October 2010

FCEM(SA) Part I - Campbell MacFarlane Memorial Medal
Dr Ian Robert SYMONS – October 2010

FCMFOS(SA) Final - SA Society of Maxillo-Facial & Oral Surgery Medal
Dr Jacques BEUKES – October 2010

FC Neurol(SA) Part I - Sigo Nielsen Memorial Prize
Dr Rudi RENISON – October 2010

FCOG(SA) Part II - Daubenton Medal
Dr Johanna Elizabeth VILJOEN – October 2010

FC Ophth(SA) Part I - Neville Welsh Medal
Dr Lara SANDRI – October 2010

FC Orth(SA) Final - JM Edelstein Medal
Dr Benjamin Rupert GARRETT – October 2010

FC Paed(SA) Part I - Leslie Rabinowitz Medal
Dr Amelia Janetha BRINK – October 2010

FC Paed(SA) Part II - Robert McDonald Medal
Dr Prashini GOVENDER – May 2010

FC Path(SA) - Coulter Medal
Dr Nivesh Ashok CHOTEY – October 2010

FCP(SA) Part I - AM Meyers Medal
Dr Vishal Lutchman JAIRAM – October 2010

FCP(SA) Part II - Asher Dubb Medal (Best clinical candidate)
Dr Alfonso Jan Kemp PECORARO – May 2010
Dr Nina Elisabeth DIANA – October 2010

FC Psych(SA) Part II - Novartis Medal
Dr Catherine Muringi KARIUKI – October 2010

FCPHM(SA) Part II - Henry Gluckman Medal
Dr Mary-Ann DAVIES – October 2010

FC Rad Diag(SA) Part I - Rhône-Poulenc Rorer Medal
Dr Christopher Temba SIKWILA – May 2010

FC Rad Diag(SA) Part II - Josse Kaye Medal
Dr Karel Frederik BUITENDAG – October 2010

FCS(SA) Primary - Anatomy - Frederich Luvuno Medal
Dr David Martin NORTH – May 2010

FCS(SA) Primary - Trubshaw Medal
Dr David Martin NORTH – May 2010

FCS(SA) Final - Douglas Award
Dr Stefan HOFMEYR – October 2010

FC Urol(SA) Final - Lionel B Goldschmidt Medal
Dr Bradley Ryan WOOD – May 2010

Dip Allerg(SA) - Eugene Weinberg Medal
Dr Debbie Ann WHITE – May 2010

DA(SA) - SASA John Couper Medal
Dr Annamarie STEYN – May 2010

Dip HIV Man(SA) - The HIV Clinicians Society
Dr Mishal PANDIE – May 2010

Dip Ophth(SA) - Geoff Howes Medal
Dr Schalk Hugo DU TOIT – May 2010

Dip PEC(SA) - Walter G Kloeck Medal
Dr Anna Margaretha CARSTENS – May 2010

Dip PEC(SA) - Campbell Macfarlane Medal
Dr Bianca Marie VISSER – May 2010

List of Successful Candidates: September 2010

Fellowships

Fellowship of the College of Anaesthetists of South Africa: FCA(SA)

ABASS Kashif	UCT
ALLOPI Githesh	UKZN
DE VASCONCELLOS Kim	UKZN
DIYELELA Pumza Kunjulwa	UCT
EMMANUEL Anne Alexandra	UCT
EVANS Charlotte Ann Mary	UKZN
FIRFIRAY Latifa	US
GEYSER Marlizé	UP
NEVIN Daniel Gavin	WITS
OKAISABOR Olusegun Aideloje	UCT
PILLAY Lutchmi	UKZN
REDDY Justin	UKZN
REDDY Syndrini	UKZN
REDHI Linesh	WITS
ROUX Anne-Marie	UP
SPIES Rozali	UCT
VAN NIEKERK Hugo Johann	UCT
VENTER Magdalena Dorothea	UP

Fellowship of the College of Cardiothoracic Surgeons of South Africa: FC Cardio(SA)

JONKER Izak de Villiers	UFS
SCHÜRMANN Erich Casper	UP

Fellowship of the College of Dentistry of South Africa – Orthodontics: FCD(SA) Orthod

MORAR Ajay	WITS

Fellowship of the College of Dermatologists of South Africa: FC Derm(SA)

JAIKARUN Sarvesh	UKZN
LAPINER Vanessa	UCT
MATHEKGA Keneiloe Elsa	UL
NEWAJ Rakesh	UL
NKOSI Lehlogonolo	UKZN

Fellowship of the College of Emergency Medicine of South Africa: FCEM(SA)

LAHER Abdullah Ebrahim	WITS
LAHRI Sa'ad	US
MALAN Jacques Johannes	US
VALLABH Kamil Ishwarlal	UCT

Fellowship of the College of Forensic Pathologists of South Africa: FC For Path(SA)

MAMASHELA Thakadu Arnold	UL
MOLEFE Itumeleng Jacobeth	UCT
NGOBESE Lungile	WITS
SELATOLE Moshibudi Juliet	UL
TIEMENSMA Marianne	US

Fellowship of the College of Maxillofacial & Oral Surgeons of South Africa: FCMFOS(SA)

BEUKES Jacques	WITS
SEHUME Mosidi Gillian	WITS

Fellowship of the College of Neurologists of South Africa: FC Neurol(SA)

NAIDOO Ansuya Kasavelu	UKZN

Fellowship of the College of Neurosurgeons of South Africa: FC Neurosurg(SA)

ENICKER Basil Claude	UKZN
KAMALO Patrick Dongosolo	UKZN
RUGNATH Avin Kissopersad	UKZN

Fellowship of the College of Obstetricians & Gynaecologists of South Africa: FCOG(SA)

AKPAN Usen James	UKZN
CHIDAKWA Claitos	UCT
CLOETE Marinus	UCT
DALLA Sangita	US
MAGAN Nitasha	UKZN
MANKUPANE Stephen	WITS
VAN DEN BERG Julie	UCT
VILJOEN Johanna Elizabeth	US
WIPPLINGER Petronella	US
WISE Amy Juliet	WITS

Fellowship of the College of Ophthalmologists of South Africa: FC Ophth(SA)

BAWA Sachin	UL
BOTHA Andre Frederik	WITS
DU BRUYN Magritha	UKZN
GOUWS Cornelis Ignatius	UL
JOUBERT Christa	US
JUGADOE Bhavna	WITS
KRAUKAMP Philip	WITS
READ Olivia Charlotte	US
VAN HELSDINGEN Nicolaas Tjaart	UFS

Fellowship of the College of Orthopaedic Surgeons of South Africa: FC Orth(SA)

ACCONE Quinton	WITS
BOND Ryan Phillip	UP
CHETTY Rinesh	UKZN
DICKASON Graham Nelson	UP
FERREIRA Nando	UKZN
GARRETT Benjamin Rupert	UCT
JONCK Jacques Heinrich	US
KANE Peter-John Karle	US
MUNGULU Bodiko-Esio	UL
PATEL Neetesh Nagin	UKZN
REID Cecil	UCT
SIMMONS Dina Yaeli	WITS
SMIT Rian Wifred	UKZN
SOLOMON Craig Trevor	US
VIVIERS Willem Hermanus	UP

Fellowship of the College of Otorhinolaryngologists of South Africa: FCORL(SA)

EDKINS Oskar	UCT
NAIDU Tesuven Krishna	UKZN
SMITH Murray James	UKZN
VAN WYK Senast	UKZN

Fellowship of the College of Paediatricians of South Africa: FC Paed(SA)

BADAL Voshika	UKZN
BRINK Philippus Albertus Myburgh	US
BRUCE Deborah Lee	WITS
BUDREE Shrish	UCT
CAMANOR Sia Wata	WITS
DANGOR Ziyaad	WITS
EDEANI Christian Chidozie	US
FOURIE Barend	WITS
HASSAN Haseena	US
KERBELKER Tamara Charmian	UCT
LUBISI Khensane Victoria	WITS
MAYER Maria Madeleine Martha	WSU
MBADI Carol Noxolo	UKZN
MBILINI Nandipa	UKZN
MOODLEY Keshnie	UKZN
MOODLEY Praven Morgan	UKZN
MUNIAN Leann Prabashnee	UKZN
O'CONNELL Natasha Lynne	US
POOLE Graham Adrian	US
RAMDIN Tanusha Devi	WITS
ROSE Penelope Cathryn	US
SINGH Swaran Sunker	UKZN

Fellowship of the College of Paediatric Surgeons of South Africa: FC Paed Surg(SA)

WESTGARTH-TAYLOR Christopher James	UCT
WOOD Richard John	UCT

Fellowship of the College of Pathologists of South Africa – Anatomical: FC Path(SA) Anat

CHOTEY Nivesh Ashok	UKZN
DEONARAIN Julian	UKZN
MAHLAKWANE Mabitsela Simon	UKZN
MEYIWA Phumlani Siphumelele	UKZN

Fellowship of the College of Pathologists of South Africa – Chemical: FC Path(SA) Chem

NAGEL Susanna Elizabeth	UP
NAIDOO Prisha	UKZN
RENSBURG Megan Amelia	US

Fellowship of the College of Pathologists of South Africa – Haematology: FC Path(SA) Haem

SINGH Reshmi	UKZN
VAUGHAN Jenifer Leigh	WITS

Fellowship of the College of Pathologists of South Africa – Microbiology: FC Path(SA) Micro

HOWELL Victoria Grace	UKZN

Fellowship of the College of Pathologists of South Africa - Virology: FC Path(SA) Viro

ERASMUS Marcelle	UP

Fellowship of the College of Physicians of South Africa: FCP(SA)

ARBEE Mohamed	WITS
BADREE Rohaan	UKZN
BISRAM Rakesh Devanand	UKZN
CHINNIAH Keith Jordan	UKZN
COKA Cedrick Sithembiso	UKZN
DE ANDRADE Roger John	UCT
DIANA Nina Elisabeth	WITS
GANI Raazik Suliman	WITS
GOVENDER Kavashree	UKZN
GRAHAM Anita Kathryn	WITS
HENDRICKSE Muhammad Chevaan	UCT
KHAN Nazier Ahmed	UCT
LAMBIOTTE Marc Elmy Jacques	US
MGWEDLI Fezekile	UCT
MOOLA Ismail	WITS
MUDALY Terrence	US
MUJWAHUZI Leodegard	WITS
MULLA Javid	UKZN
NAIDOO Leon	UKZN
NARAINSAMY Jayalakshmi	UKZN
NDLOVU Kwazi Celani Zwakele	UKZN
NIKAKHTAR Nadia	WITS
PARSOO Nashtar	UKZN
PURAN Rishen	UKZN
RAMBALI Ishan	UKZN
SKELTON Joanna Jane	UCT

Fellowship of the College of Plastic Surgeons of South Africa FC Plast Surg(SA)

BARNES Neil Justin	UKZN
ERASMUS Willem	WITS
HAYES Philip Michael	UCT
KAIRINOS Nicolas	UCT
MAKAKOLE Manti Martin-Lutner	UKZN
VAN HEERDEN Johan	UL

Fellowship of the College of Psychiatrists of South Africa: FC Psych(SA)

ARBEE Feroza	WITS
CHIBA Gaveeta	WITS
DU TOIT Elizabeth	US
GOVENDER Ravichandra Chinsamy	US
JOB Gavin Kenneth	UKZN
KARIUKI Catherine Muringi	UCT
KEWANA Matshele Makhadzi	UL
LEPUTU Sepalo Rose	UL
LUGONGOLO Bongiwe Teresa Tantaswa	UKZN
MATJILA Khomotjo Meriam	WITS
MATROSS Nyameka	UCT
MOODLEY Viashini	UKZN
MOODLIAR Kumarie	US
NAIDOO Samantha	UKZN
RAKOSA Sharon Ntshusi	WITS
ROBERTSON Lesley Jane	WITS
SEPENG Goitsemang Gomolemo	UL
SINGH Ryola Rangi	WITS
STRUWIG Wilmarie	UFS
SUKOOL Alishia Monica	WITS

Fellowship of the College of Public Health Medicine of South Africa: FCPHM(SA)

CHAUKE Bafedile Evah	
CHETTY Terusha	UKZN
DAVIES Mary-Ann	UCT
DE LA QUERRA Anna Sophia	UFS
SINGH Nirvadha	UKZN

Fellowship of the College of Diagnostic Radiologists of South Africa: FC Rad Diag(SA)

BAM Donovan Anthony	UP
BUITENDAG Karel Frederik	UKZN
DU PLESSIS Anne-Marie	US
DU PLESSIS Vicci	UKZN
GOVENDER Keshnee	WITS
HARTLEY Tharbit	UCT
ISMAIL Yasmeen	WITS
MBATHA Wonder-boy Eumane	UKZN
MTHEMBU Mamokete Nontuthuko Ruth	
MULLER Craig	UP
PETKAR Faiz	WITS
PILLAY Kesanderan	UKZN
PILLAY Tanyia	WITS
SABRI Ali	UKZN
SMALL Ewert	UP
TAYLER Rory Patrick	WITS
VAN HEERDEN Jolandi	UP
VARIAWA Farhana	UKZN
VILJOEN Hofmeyr	US

Fellowship of the College of Radiation Oncologists of South Africa: FC Rad Onc(SA)

SOARES Marlene da Silva	UP

Fellowship of the College of Surgeons of South Africa: FCS(SA)

AHMED Nadiya	US
ASBURY Sarah Louise	WITS
BANDERKER Mohammed Asif	UCT
BASSON Gerhard	UP
BHULA Chetan G	UKZN
BLIGNAUT Stephanus Johannes	UKZN
COETZEE Emile du Toit	UCT
DAVID Bradley Andrew	UCT
DU TOIT Russel Roland	WITS
EBRAHIM Sumayyah	UKZN
HARTLEY Robert Joseph	UP
HOFMEYR Stefan	US
KADWA Bilaal	UKZN
KEINEETSE Jeremiah	WITS
MAHARAJ Reshma	UP
MBATHA Sikhumbuzo Zuke	UKZN
MEWA KINOO Suman	UKZN
MOSIA Thembisa Avariel Tony	
NAIR Vimal Manmohan	UKZN
SKINNER David Lee	UKZN
THIEBAUT Wilna	UKZN
VAN MOLENDORFF Vincent	WITS
ZWANEPOEL Pieter	US

Fellowship of the College of Urologists of South Africa: FC Urol(SA)

ALSHAREF Mohamed Mansor	UKZN
BHAGALOO Delon	UKZN
CHOONARA Salim	WITS
LUSAWANA Ntuthuzelo	UL

Certificates

Certificate in Cardiology of the College of Paediatricians of South Africa: Cert Cardiology(SA) Paed

BUYS Daniel Gerhard	UFS

Certificate in Cardiology of the College of Physicians of South Africa: Cert Cardiology(SA) Phys

ADEYEMO Adekunle Olugbenga	UP
HENDRICKS Neil	UCT
HITZEROTH Jens	UCT
KHAN Rahim	UKZN
LESTER Norman Marcus	WITS

Certificate in Child Psychiatry of the College of Psychiatrists of South Africa: Cert Child Psychiatry(SA)

ALISON Heather Clare	UP
HURRISSA Birke Anbesse	UCT

Certificate in Clinical Haematology of the College of Pathologists of South Africa: Cert Clinical Haematology(SA) Path

KARODIA Mohammed WITS

Certificate in Clinical Haematology of the College of Physicians of South Africa: Cert Clinical Haematology(SA) Phys

LAKHA Atul Baldev WITS

Certificate in Critical Care of the College of Anaesthetists of South Africa: Cert Critical Care(SA) Anaes

KALAN Mohinee Gulab WITS
MAZIBUKO Kenneth Manqoba UKZN

Certificate in Critical Care of the College of Emergency Medicine of South Africa: Cert Critical Care(SA) Emer Med

DICKERSON Roger WITS

Certificate in Critical Care of the College of Obstetricians and Gynaecologists of South Africa: Cert Critical Care(SA) O & G

IBRAHIM Tasnim UKZN

Certificate in Critical Care of the College of Paediatricians of South Africa: Cert Critical Care(SA) Paed

BANOO Zohra Bibi UKZN
KGANANE Wandile Noxabiso WITS

Certificate in Critical Care of the College of Physicians of South Africa: Cert Critical Care(SA) Phys

SHADDOCK Erica Jeanie WITS

Certificate in Developmental Paediatrics of the College of Paediatricians of South Africa: Cert Dev Paed(SA)

PETERSEN Reneva UCT

Certificate in Endocrinology & Metabolism of the College of Paediatricians of South Africa: Cert Endocrinology & Metabolism(SA) Paed

MARRAN Kerry Joan WITS
MOOSA Fatima Yakoub WITS

Certificate in Endocrinology & Metabolism of the College of Physicians of South Africa: Cert Endocrinology & Metabolism(SA) Phys

ADEGITE Adedayo David UCT
WEINREICH Carsten Joachim Bernd UCT

Certificate in Gastroenterology of the College of Paediatricians of South Africa: Cert Gastroenterology(SA) Paed

TERBLANCHE Albertha Jacomina UP

Certificate in Gastroenterology of the College of Physicians of South Africa: Cert Gastroenterology(SA) Phys

POTGIETER Fritz McDermott UP

Certificate in Gastroenterology of the College of Surgeons of South Africa: Cert Gastroenterology(SA) Surg

BURMEISTER Sean UCT

Certificate in Infectious Diseases of the College of Physicians of South Africa: Cert ID(SA) Phys

BURTON Rosemary Carol UCT
CUPIDO Gordon Carl US

Certificate in Medical Oncology of the College of Physicians of South Africa: Cert Medical Oncology(SA) Phys

CHAN Sze Wai WITS
LOMBARD Bianca WITS

Certificate in Neonatology of the College of Paediatricians of South Africa: Cert Neonatology(SA)

JOOLAY Yaseen UCT
TOOKE Lloyd John UCT
VAN WYK Lizelle US

Certificate in Nephrology of the College of Physicians of South Africa: Cert Nephrology(SA) Phys

BOIMA Vincent Worlali US
BRÖNN Karen US
CHATHURY Vironica Bhojnath WITS
CHOTHIA Mogamat-Yazied US
MAHALA Bonginkosi UCT
NQEBELELE Nolubabalo Unati WITS

Certificate in Paediatric Neurology of the College of Paediatricians of South Africa: Cert Paediatric Neurology(SA)

PRETORIUS Inet UP

Certificate in Pulmonology of the College of Paediatricians of South Africa: Cert Pulmonology(SA) Paed

ELS Carla UP
MAMATHUBA Rendani Clarence UCT
RHODE Delano US
VANKER Aneesa US
VERWEY Charl UCT
WHITE Debbie Ann WITS

Certificate in Pulmonology of the College of Physicians of South Africa: Cert Pulmonology(SA) Phys

KAYE-EDDIE Grace Helga WITS
SYMONS Gregory John UCT

Certificate in Reproductive Medicine of the College of Obstetricians and Gynaecologists of South Africa: Cert Reproductive Medicine(SA)

MATSASENG Thabo US

Certificate in Rheumatology of the College of Paediatricians of South Africa: Cert Rheumatology(SA) Paed

MISTRY Bhadrish Jayantkumar WITS

Certificate in Rheumatology of the College of Physicians of South Africa: Cert Rheumatology(SA) Phys

BALTON Charlene Chandrika WITS
NEL Christoffel Benjamin UFS
WADEE Ayesha WITS

Certificate in Vascular Surgery of the College of Surgeons of South Africa: Cert Vascular Surgery(SA)

ELOFF Edmund Phillipus UCT

Part I, Primary and Intermediate Examinations

Part I of the Fellowship of the College of Anaesthetists of South Africa: FCA(SA) Part I

AUBIN Anthony James UCT
BERGH Kobus UCT
BOOYSEN Sean Carl UKZN
DESAI Anil UP
DUNPATH Ashveer UKZN
ELLIS Jacobus Charles WSU
GILLILAND Lizil WITS
JITHOO Sandhya UKZN
JONES Ingrid Elizabeth UCT
KAMBARAMI Timothy Chamunorwa UCT
KUSEL Belinda Senta UKZN
LAIGHT Nicola Susan
MORFORD Victoria WITS
MZONELI Youley Laetetia Thembeka UKZN
NAIDOO Selvin Ramlingum Kisten UKZN
PASSMOOR Duncan William WITS
REID Leah Dunn UCT
ROBERTS Stephen Michael UKZN
RYAN Lisa UKZN
STUBBS Melissa Kim WITS
TROSKIE Adri UCT
VAN DER WESTHUIZEN Christo
VAN RENSBURG Gerhardus Petrus WSU
VEEREN Suresh WITS
VLOK Johannes Edward WITS

Part I of the Fellowship of the College of Dermatologists of South Africa: FC Derm(SA) Part I

DHLAMINI Petunia UL
GANTSHO Nomphelo UCT
MONYEMANGENE Mantlekoane Francinah UL
NGOBENI Claudia Khensani UL

Part I of the Fellowship of the College of Emergency Medicine of South Africa: FCEM(SA) Part I

KALLA Moosa UCT

Part I for the Fellowship of the College of Emergency Medicine of South Africa: FCEM(SA) Part I New Regulations

FLETCHER Geoffrey George WITS
KILINDIMO Said US
KING Clinton Percival Marcel

KIRCHNER Launel Simoné	WITS
KOEKEMOER Marsha	US
LATEGAN Hendrik Jaco	UCT
LE ROUX Susan Catherine	
MABASA Tiyiselani Elloy	UCT
MAHARAJ Suvarna	UCT
MEYER Clinton	UP
MOILOA Dineo Ntesang	US
MOODLEY Pravani	WITS
SMITH Anne Beth	US
SYMONS Ian Robert	UKZN
TITUS Ricardo Juan	

Part I of the Fellowship of the College of Family Physicians of South Africa: FCFP(SA) Part I

KRÜGER Herman	UFS

Part I of the Fellowship of the College of Forensic Pathologists of South Africa: FC For Path(SA) Part I

BRIJMOHUN Yasheen	UKZN
MAISTRY Sairita	UCT
MORULE Mosou Paul	WITS

Primary Examination of the Fellowship of the College of Maxillofacial & Oral Surgeons of South: FCMFOS(SA) Primary

BHAMJEE Feheem	

Part I of the College of Medical Geneticists of South Africa: FCMG(SA) Part I

FEBEN Candice Leigh Ann	WITS
LOCHAN Anneline	WITS
MOOSA Shahida	WITS

Part I of the Fellowship of the College of Neurologists of South Africa: FC Neurol(SA) Part I

BHOLA Sudika	
MAKASI Zanele	WITS
RENISON Rudi	UCT

Part I of the Fellowship of the College of Nuclear Physicians of South Africa: FCNP(SA) Part I

SONDAY Zarina	UCT

Part I of the Fellowship of the College of Obstetricians & Gynaecologists of South Africa: FCOG(SA) Part I

BHOORA Shastra Avendra	WITS
BISHI Reuben	ZIM
BOTHA Marlene	
BOWMAN Lucille Joy	UCT
CHINULA Lameck	UCT
DE WAARD Liesl	
DENA Mary Migulo	WITS
FEKETSHANE Anthony Mfundo	US
GOODING Matthew Simon	US
GUBU Constance Nontsikelelo	WSU
ISRAEL Priya	UKZN
IWUH Ibezimako Augustus	
IZUNWA Remigius Dozie	
JERE Khumbo Ted	
KIIZA Joseph Kyalimpa Amooti	WSU
MAKUNYANE Lefate Lazarus	UKZN
MBABANE Victor Paulus Sonwabile	UKZN
MUKHUDWANI Khathutshelo Roy	WITS
MUNATSI Edmano Majaha	
MUTANGIRI Wonderful	ZIM
NAIDOO Anusha	WSU
NAIKER Manasri	UCT
NCUBE Nkosinathi	
NDJAPA-NDAMKOU Constant	UKZN
NGAYO Zukile	UKZN
NIEUWOUDT Marina	US
NONGAUZA-MDA Lusanda	WSU
OBERHOLZER Leana	US
POTGIETER Johannes Frederik Andries	WITS
RABIE Marike	UP
RAMOBA Mashika Abel	WITS
SCHROEDER Amaal	UCT
SEFANYETSO Lesego Blessing	WITS
SIJADU Tandiswa	UKZN
SONNTAG Kim Renate	
SWART Hester Alida	UFS
UDUOJIE Ebenezer Ikuo	UFS
UNTERSLAK Yosef Yitchok	
VALASHIYA Nthabiseng	UKZN
VAN SCHALKWYK Ockert Johannes	UFS
VAN ZYL Gideon	US
YINGWANI Hlayiseka Christopher	WSU
ZIMBWA Innocent	ZAMBIA
ZIRUMA Asaph	ZIM

Part I of the Fellowship of the College of Ophthalmologists of South Africa: FC Ophth(SA) Part I

DAVEY Nicholas John Burnaford	WITS
DAYARAM Raakesh	UP
DU TOIT Linett	WSU
FISCHER Gratia Marie	WITS
GREENE Rana Agatha	UP
LOCHNER Jasper van Schalkwyk Schreuder	
MAILANE Dimakatso Lorraine	WITS
MUHIRE Karama	UP
RAMOLODI Bonolo	WSU
SANDRI Lara	WITS
SHARIF Asher	WSU
SRIKEWAL Jyothi	UKZN
SURAJBALLI Sharisha	UKZN
ZONDI Junaid	UCT

Primary Examination of the Fellowship of the College of Otorhinolaryngologists of South Africa: FCORL(SA) Primary

BORSTLAP Cornelius Wilhelmus Rehuel Zelotes	UFS
MOLYNEAUX Michael Andrew	WSU
RADWAN Mohammed Hosein Mohammed	UKZN

Part I of the Fellowship of the College of Paediatricians of South Africa: FC Paed(SA) Part I

ALABI Olubunmi Onome	WITS
ANDRADE Anabela de Sousa	WITS
BANDA Francis Msume	MALAWI
BRINK Amelia Janetha	UKZN
FERREIRA-VAN DER WATT Talita Aletta	US
GAPU Paradzai	ZIM
GUMEDE Nhlanhla Marco	UKZN
HENDRICKS Candice Laverne	UKZN
HENDRICKS Lesley Jill	
KALIMBA Mutebwa Edgar	WITS
KHAN Fharnisa	UKZN
MAFONGOSI Nandipa	WSU
MARTIN Trudy Ann	UKZN
MASHIANE Morongwa Jacqueline	UKZN
MOODLEY Prinetha	UKZN
MOODLEY Samantha	UKZN
MOONSAMY Preoshni	WITS
NAIR Loshnee Meryl	WITS
NUPEN Tracey Lee	UCT
OLAOSEBIKAN Adelola Abiodun	UKZN
PADAYACHEE Samantha	
PILLAY Ashendri	UKZN
QUVILE Tandokazi	WSU
ROYAL Candice	
SWART Philippus Daniël Riekert	US

Part I of the Fellowship of the College of Pathologists of South Africa – Anatomical: FC Path(SA) Anat Part I

NGWENYA Sharol Phillile	WITS
ROBERTS Riyaadh	UCT

Part I of the Fellowship of the College of Pathologists of South Africa – Haematology: FC Path(SA) Haem(SA) Part I

NAIDOO Suraya	UKZN

Part I of the Fellowship of the College of Physicians of South Africa: FCP(SA) Part I

ANTEL Katherine Rae	
AUCAMP Pieter Frederick	UFS
BANDA Ndaziona Peter Kwanjo	UCT
BOUWER Francois	US
BRUWER Johannes Willem	US
CHAKA Lehlohonolo	UCT
CHISHALA Chishala	UCT
CHIWEZA Kalovoto Boniface	UCT
COURT Richard Gray	UCT
DEETLEFS Maria Elizabeth Catharina	UCT
DU TOIT Justin Rudolph	UCT
DUBE Farai	WITS
ELMEZUGHI Khaled Khalifa	UKZN
GABRIEL Mogamad Shiraaz	UCT
HARMSE Sean	UKZN
HURI Nirupa	WITS
ISAACS Earle Rodericques	
JAIRAM Vishal Lutchman	UKZN
KALONDA Mwabila Roger	UKZN
KANYAMA Cecilia	UCT
KASIPERSAD Sherlina	UKZN
KHAN Mohamed Ali	UFS
LAHER Zaheer	WITS
LAURENCE Graham	UKZN
MACHABA Mmololo Bella	WITS

MADANI Waheeba Mohammed Hussein	UKZN
MADUNA Ephenia Rinky	WITS
MAHARAJ Anusha Priya	WITS
MAHLANGENI Gcina Magdalene	UKZN
MAJOVA Nompilontle	UCT
MALEKA Mokgadi Nobantu	
MARAIS Johannes Andries	UKZN
MARTIN Dorothy Nomvuyo	UCT
MASON Carolyn Ruth	WSU
MATHENJWA Mfundo Falethu	
MATHOLE Garrison Phutiana	
MAUGHAN Deborah Frances	UCT
MOEKETSI Khulile	UCT
MOETHILALH Sachin	UKZN
MOOLLA Yusuf	UKZN
MOTHILAL Shikar	
MTHIYANE Sizwe Derrick	UKZN
MVAMBO Nanhla Cwengile Anele	
NAIDOO Jashira	UCT
NGOMA Jonathan Watson Wayikhanda	UCT
NKWANYANA Sicelo Emmanuel	UCT
NXUMALO Msawenkosi Meshack	WITS
NYAHODA Tarisai Sharon	WITS
NYAWAYI Porika	
ODUMOSU Oluwaseun Ayodeji	US
OLISAKA Nkiruka Bernardine	UCT
ORJIAKO Livinus Obiora	UL
PARAG Bhavisha	UKZN
PARKER Arifa	US
RAMACHANDRAN Deya	UKZN
REDDY Marilyn	WITS
SAUKILA Nasinuku Titus Jones	WITS
SHWENI John Khayalamadoda	UKZN
VAN STADEN Susanna Maryna	US
VAN WYK Gavin	UCT
WASSERMAN Sean Adam	UCT
XANA Andile	WITS
ZIMASE Nonhlanhla	UKZN

Part I of the Fellowship of the College of Psychiatrists of South Africa: FC Psych(SA) Part I

PADAYACHEY Uschenka	UKZN

Part I of the Fellowship of the College of Diagnostic Radiologists of South Africa: FC Rad Diag(SA) Part I

BLIGNAUT Gerrit	UFS
BOSHOFF Pieter Ernst	WITS
BROWN Taryn	WITS
CLARK Lizelle Mary	UCT
CORBETT John-Henry	UFS
GAMIELDIEN Rufkah	UCT
HO-TUN Kerri Ann	WITS
KAHAM Christian	UKZN
KOLLAPEN Kumeshnie	UL
MABESA Tumelo Patrick	UKZN
MAKAULA CHIMUSORO Nomhle	
Nombedesho Faith	UCT
MOOSA Hanief	WITS
NAUDE Yvette	UP
PANICKER Alex	UL
POTGIETER Liezel	WITS
ROSE Andrew Gordon Fraser	UKZN
SITHOLE Nhlanhla Vincent	WITS
VAN SCHOUWENBURG Francois Johan	UKZN

Part I of the Fellowship of the College of Radiation Oncologists of South Africa - Old Rules: FC Rad Onc(SA) Part I Old Rules

MAHARAJ Nirven	

Part I of the Fellowship of the College of Radiation Oncologists of South Africa: FC Rad Onc(SA) Part I

ELHASSAN Moawia Mohammed Ali	UCT
IBRAHIM Sumayyah	UCT
KOMEN Ahmed Abdi	WITS
MBANDAZAYO Petronette Nolwazi	UCT
MOHAMMED Khadiga Elfadil Ahmed	UCT
NAIDOO Thilomi	WITS
SINGH Gurpinder Jit	WITS
VAWDA Nafeesa	UCT

Primary Examination of the Fellowship of the College of Surgeons of South Africa: FCS(SA) Primary

ABDELATIF Asila	WITS
ALLY Zain	UFS
ARNDT Jan Daniel	UFS
BENAMRO Faraj Abobaker Belhassan	UKZN
BHANA Renee Louise	UKZN
BITHREY Jason William	UFS
BUTHELEZI Thamsanqa Petros	UL
CHULA Nakedi Duncan	
CORREIA Raúl José	UFS
DOOKIE Sudhir	UKZN
ELABIB Ali Zein Elbidin	UKZN
ELSAKET Ali Elshibani Ali	
ERASMUS Elaine	
FRANCIS Rory-John	WSU
GDEH Daou Abulkasem	
HLONGWANE David Thulani Bonginkosi	UKZN
HOWLETT Justin Brian	
IQBAL Muhammad Nasir	
JUGMOHAN Ben	
KADER Shakeel	UKZN
KALANE Thabiso Patrick	UL
KASEKE Kelvin	
KEETSE Mmakgabe Matthews	
KRUGER Francois Pieter	UFS
LAWRENCE Bryan Garath	WITS
LE ROUX Hugo Alexander	WITS
LIVANOS Rona	WITS
MAFORO Shepard	
MAHOMED Shenaaz	WITS
MENTOR Keno Neil	
MOKGALAKA Thako Heris	
MOODIE Quintin Keith	UCT
MOODLEY Neil Brendon	UKZN
MUTYABA Denis Kitavujja	
MZAYIYA Nkosiphendule Lidani	
NAICKER Santuri	UKZN
NAIDOO Dhesigan	
NAIDOO Sharmlin Narainsamy	UKZN
NONDELA Babalwa Bukeka	UP
PHIRI Sibusiso Edgar	WITS
PILLAY Yogesh	UCT
PUTTERGILL Brooke	WITS
RAMOORTHY Vishnu	
ROOI Adelaide Lilian	WITS
SALOOJEE Ahmed	
SERON Shashi	UKZN
SLUIS CREMER Timothy Richard	WSU
SPRUYT Gerard Max Frederik	WSU
STEYN Corlize	UFS
THOMSON John-Edwin	WITS
TUCKER Damien Michael	
VILJOEN Jeremi Triegaardt	US
WAGENAAR Riegardt	US
WAHAB Abudalla Ali	
WELSH John	WITS

Primary Examination incl Neuroanatomy of the Fellowship of the College of Surgeons of South Africa: FCS(SA) Primary - Neuroanatomy

KALANE Thabiso Patrick	UL
MOFOKENG Peelo Theophilus	WITS
NTIMBANI Jimmy Amos	UL
STEYN Corlize	UFS

Intermediate Examination of the Fellowship of the College of Maxillofacial & Oral Surgeons of South: FCMFOS(SA) Intermediate

ENGELBRECHT Hanlie	WITS

Intermediate Examination of the College of Orthopaedic Surgeons of South Africa: FC Orth(SA) Intermediate

ADEWUSI Olaolu Olufemi	UKZN
BHATTA Aabash Dev	UKZN
BONGOBI Monde	WITS
BUKARA Emmanuel	WITS
CHIVERS David Andrew	UCT
DEHAL Vivesh	UKZN
HORN Anria	UCT
KANYEMBA Stanley Ndakoro	WITS
KARERA Mwalimu	WITS
KHOZA Maria Ramaesela	WITS
MABASO Nkosinathi Lucas	UKZN
MOHIDEEN Moosa Ahmed Farouk	UKZN
MSHUDULU Lumkile Wilfred	UKZN
NAIDU Preyen	UKZN
SEKERAMAYI Floyd	
SERFONTEIN Charles Jacobus	UKZN
STREET Matthew	WITS

Intermediate Examination of the Fellowship of the College of Surgeons of South Africa: FCS(SA) Intermediate

BAIRAGI Anjana	UKZN
BANERJEE Deepanjali	UCT
BENNEH Albert Yeboah	WITS

CONRADIE Wilhelmina	US
DALWAI Ebrahim Khan	UCT
DASRATH Ashish	UKZN
DEL VALLE Andres Francisco	UKZN
DIFELA Kagelelo	UCT
DOUGLAS Arnold	US
ENSLIN Johannes Marthinus Nicolaas	UCT
GANCHI Feroz Abubaker	UKZN
GOOL Ferhana	UCT
GOVENDER Kugeshen	UKZN
HARIPARSAD Sanjeev Dhuneshwar	UKZN
IBEBUIKE Kaunda Emeka	WITS
JOSEPH Judith Kamala	WITS
KHAN Aslam	WITS
KOLIA Mohammed Ehmed	UCT
MAHARAJ Kapil	UKZN
MALAN Barend Johan	UCT
MANSOOR Ebrahim	UKZN
MAYET Mohamed Cassim	UKZN
MOGERE Edwin Kamaiga	UCT
NADIMPALLI Ramesh Raju	WITS
NAIDOO Veneshree	WITS
NAIDOO Vimal	UKZN
PANDEY Sarita	WSU
RAUTENBACH Petrus Salomon	UKZN
SCOTT Devan	WITS
SIBIYA Lindokuhle Andile	UP
SIVSANKAR Preena Sastra	WITS
STEINBERG Isabelle	US
TOBIKO Oidamae	WITS
VAN DER MERWE Gert Frederik	UP
VAN ZYL Hendrik Petrus	US
WOLDETSADICK Nebiat Teferi	UCT

Intermediate Examination of the Fellowship of the College of Urologists of South Africa: FC Urol(SA) Intermediate

PANACKAL Arun	UCT
QUBU Daniel	UP

Higher Diplomas

Higher Diploma in Internal Medicine of the College of Physicians of South Africa: H Dip Int Med(SA)

MURRAY Giuseppe Jacobus	US

Higher Diploma in Orthopaedics of the College of Orthopaedic Surgeons of South Africa: H Dip Orth(SA)

DE WET Jacques Bertram	UKZN
JORDAAN Jacobus Daniel	UKZN
KISTNASAMI Prenolin	UKZN
MAGAN Avesh Jugadish	UKZN
MARITZ Mark Frans	UKZN
MOODLEY Leon Paul	UKZN
MULUNDA Bakatuasa Freddy	UP
REDDY Luren	UKZN
RYAN Paul Vincent	UKZN

Higher Diploma in Surgery of the College of Surgeons of South Africa: H Dip Surg(SA)

KALENGA Nkomba Christophe	UKZN
VASTERS Frank Gerhard	UKZN

Diplomas

Diploma in Allergology of the College of Family Physicians of South Africa: Dip Allerg(SA)

AANYU Hellen Tukamuhebwa	UCT
KWOFIE-MENSAH Marian	UP

Diploma in Anaesthetics of the College of Anaesthetists of South Africa: DA(SA)

ADEBOLU Folafolu Adeniran	UKZN
AFNAN-HOLMES Hoviyeh	
AGBANU Patrick Elochukwu	UP
ALLOPI Kashvir	UKZN
ARAIE Farzana	UCT
BAARD Johannes Andries	UFS
BABKIS Andrey Yakubovich	UKZN
BAIRAGI Ranjana	UFS
BARNARD Annelize	UFS
BEN-ISRAEL Karin-Ann	WITS
BOTHA Noreen Mari	
BOTMAN Karl Peter Maurice	US
BRITS Judith	UP
BUCKLE Paul Johannes	US
CALLEEMALAY Daren	WITS
CASSIDY Esmond Nolan	WSU
CHELLAN Chantal Liza	UKZN
COETZER Nicholas George	UKZN
COMBRINCK Erdee	WSU
DAFFUE Jacques	WSU
DAVE S'ruti Mahendra	WSU
DE BEER Johann	UFS
DLAMINI Percival Fannie	UKZN
DLEPU Lungile Precious	WITS
FILLIS Melissa Rae	WSU
FREEMAN Yvonne Brenda Mary	US
GOKAL Nishen	UKZN
GOUWS Juan	WSU
GRIFFITHS Bradley Paul	UCT
HAMILTON Simon	UKZN
HAUSER Neil David	
HOSKING Catherine Ann	WITS
JAYRAJH Shakthi Anand	UKZN
KADENGE Tinei	US
KARJIKER Parveen	US
KAYEMBE Myanda	UCT
LE ROUX Simon Pieter du Pre	WSU
LIEBENBERG Andrew Richard	US
LOTZ Theresia	WSU
LOURENS Tarina	
MAGANYANE Tebogo Cypreme	UL
MAHLOGO William Phuti	UP
MAJANGARA Munyaradzi Blessing Mhini	UKZN
MALLIAROS Alexandros Panayiotis	UKZN
MARAIS Albert Dawid	UP
MATSOSO Lerato Eugenia Nokhaya	
MCLUCKIE Duncan Andrew	UKZN
MHLARI Tsakani McCreath	UL
MKHIZE Siyabonga	UL
MODUPI Seisa Andries	UFS
MOGODI Morongoa Hazel	WITS
MOORUTH Vivek	UKZN
NAIDOO Jacqueline	WSU
NAIDOO Kathryn	UP
NAIDOO Verushka	UKZN
NGAKA Tshebeletso Christian	WSU
NKOMENTABA Lulama	
NKOSI Zanele Rowena	UKZN
NURSE Christian Robert	UKZN
PERRY Althea	WSU
PHUNGULA Thabisile Nozuko	UKZN
PILLAY Thivian Kandasamy	UKZN
REDDY Paveshini	UKZN
ROBERTSON Caroline Helen	UKZN
ROSSUM Nicole	UFS
SIMMERS Dale	UKZN
SINGH Elisha	UKZN
SLABBER Petrus Jacobus	UKZN
SMIT Nelis	
SMITH Jeanri	
SOLOMON Leigh	UKZN
SPIES Anri	
STUTTERHEIM James	WSU
VAN DEN HEEVER Zacharias Andreas Neethling	WITS
VAN DER WALT Adéle	
VAN NIEKERK Debbie	
VAN ROOYEN Ruan	WITS
VAN ROOYEN Renske	
VAN ZUYDAM Jarrad	WITS
VARIAWA Muhammed Luqmaan	WITS
VENTER Jacoline	WITS
VON STEIGER Ilonka	
WHITEHEAD Rory Katherine	UKZN

Diploma in Child Health of the College of Paediatricians of South Africa: DCH(SA)

ALEXANDER Deepa Christina	WSU
APPALSAMY Pranesha	UKZN
BIBBY Jodi Donna	WSU
BROWDE Kate Rebecca	UCT
BRUCKMANN Eduard Keith	WITS
CARR Amy Elizabeth	UKZN
CARR Kathryn	UKZN
CHABILALL Joshna Amrith	
COETZEE Melantha	UP
COPELYN Julie	UCT
DALMEYER Lisa	WSU
EVANS Monique Ingrid	WSU
GOKHUL Ashmika	UKZN
GOLDING Tarryn	UCT
GOVENDER Samantha	
HLOPHE Sbekezelo Thembelihle	UKZN
JIYANA Samkelo	WSU
KALAWAN Vidyawathee	UKZN
KAY Chané	US
KESTING Samantha Jane	WITS

KOOBLAL Yajna UP
LALKHEN Hoosain US
LEUZINGER Evelyn UKZN
LEVIN Lindsey Nicola UCT
LIEBENBERG Hendrik Schalk UKZN
LUNJANI Nonhlanhla UKZN
MABOGOANE Tumiso Bridgette Modipadi UCT
MAILULA Mphekwa Thomas UL
MAKABA Ziyanda Tabile WSU
MALHERBE Jonelle WSU
MAMMEN Vijay George WSU
MANIKKAM Samuel Andrew
MAUGHAN Samantha Jane WSU
MHLANGA Gugulethu Tsakani Jenny UP
MINDERS Carine UKZN
MOODLEY Sashmi UKZN
MSOMI Pearl Ayanda UKZN
MTHALANE Ntombizakhona Bongekile Angel UKZN
MWANDLA Nokukhanya Swazi UKZN
NAUDE Camilla Engela US
NDLOVU Busisiwe Nonhlanhla UKZN
NGANWA Patience Jennifer Kengyenya WSU
PADAYACHEE Natasha WITS
PADAYACHI Thanishiya UL
PADAYACHY Vaisali Venkata UCT
PILLAY Derisha WITS
PRETORIUS Lené US
PROCTER Claire Mary US
RAMDAS Yastira UKZN
REID Amy Elizabeth UCT
ROSSOUW Magdel Elizabeth US
SITHOLE Nonthuthuko Precious UKZN
SMITH Michaela Kim UCT
THOMAS Libinu UCT
VENKETRAMEN Jayenthrie UKZN
VENTER Elizabeth Francina WSU
VISSER Yolandi Thelma US
WESSELS Amanda Jean WSU

Diploma in Forensic Medicine of the College of Forensic Pathologists of South Africa – Clin: Dip For Med(SA) Clin

JOSIAS Genine Ann

Diploma in HIV Management of the College of Family Physicians of South Africa: Dip HIV Man(SA)

ANGEL Georgina UKZN
CHARERA Clive
CHAWATAMA Sharlot ZIM
CHOOPA Michelo Sharon
CLOETE Christie Mae UKZN
DU PLESSIS Nicolette Marie UP
DUDUMAYO Ntomboxolo
DUMSE Thembisa Thelma WSU
DUNN Zandile Dorothy WITS
EKRON Bianca
GABELA Lerato
GHARBAHARAN Varanna
GILL Robert Scott
HARIPARSAD Nanditha
HISHAM Thania US
HOFFMAN Elizabeth UCT
HUTCHISON Helen Margot
JEFFERYS Laura Frances
KAJEE Mahomed Sulieman
KARAGA Kudakwashe Weens
KIMANI Daniel Kariuki
KREUSCH Adrian Michael WITS
MAHOMED Sharana UKZN
MAJANGARA Rumbidzai
MAKIWANE Memela MacDonald
MARAMBA Nyasha Godwin
MASONDO Baby Rosemary
MEDAR Sajida WITS
MODIBA Tshepo
MUKWEVHO Israel Thivhulawi
MURIGO Davidzo
NAIDOO Tasneem UKZN
NAIDOO Alexa Joslin WITS
NDZHUKULE Theodorah Rirhandzu
NYUSWA Khethiwe Felicity UP
OLATUNBOSUN Kolawole Seyi
PICKEN Sandra Claire US
PILUSA Jane Hlologelo
RADANA Sakhumzi Vincent
RAKUMAKOE Mmamontsheng Dulcy
RANGWETSI Motshabi Olivia
REDDY Leanne UKZN
ROMAN Sherwyn Lyndon Emil
SADLER Astrid Laila US
SANDERSON Harriet
SHONGWE Sibusiso Asrom
SMITH Chantal Adelle
SOMAROO Harsha US
SUNDAS Amima UKZN
THEKISHO Bessie Neliswa
THOBEJANE Ramabifi Kenneth
THUSINI Zinhle Cleopatra
VAN STADEN Sanet
VARUGHESE Jeena Mary WITS
WATTRUS Nicola Ann
WEGE Martha Helena
WESSELS Peta Jeannette WSU
YUDELOWITZ Bradley Joshua

Diploma in Mental Health of the College of Psychiatrists of South Africa: DMH(SA)

APELEHIN Adeolo Olarinde
BRINK Frans Petrus UFS
BURMEISTER Andrea Kim WSU
GIBSON Joshua Glynn UKZN
KOSHEVA Olga Lubomirova
LEKALAKALA Ramahwana Tshepo Hope
MARK Yael WITS
MOSTERT Rikalet
MTSHALI Thokozani Sanelisiwe UKZN
PIETERSE Deirdre Ilse US
PILLAY Kusturi
PILLAY Narushni UKZN
POKHAREL Prativa WSU
REDDY Kessendri UCT
RETIEF Mari WITS
ROOS Tessa Christine UKZN
TAYLOR John Lovell McCarten

Diploma in Obstetrics of the College of Obstetricians and Gynaecologists of South Africa: Dip Obst(SA)

ANNESS Abigail Ruth UKZN
CRAFFORD Lize US
DAVIDS Lee-Ann Crystal WSU
DE WITT Caro
ELS Hester Christine US
FOURIE Natasha US
GABRIEL Aa-iesha UCT
GORDON Katherine Georgina WSU
GROENEWALD Wendy Christine US
HAGEN Margarietha Johanna US
IKAFIA Attai G
JANSEN Deborah Lynne US
JOHNSON Ilana Olivia UCT
MBODI Langanani
MOAGI Mahloromela Emmanuel UL
NAIDOO Kumesha UP
OKPUGO Ikechukwu Okezie
PARIKH Nitish Upendra UFS
SIBANDA Emanuel WSU
SMITH Aléka
TANGAYI Linda WSU
VINOOS Latiefa UCT

Diploma in Ophthalmology of the College of Ophthalmologists of South Africa: Dip Ophth(SA)

ABOOBAKER Shaheer UFS
LAPERE Steven Robert Jan UL
TRABELSI Omar UP

Diploma in Primary Emergency Care of the College of Emergency Medicine of South Africa: Dip PEC(SA)

BENADE Sanmari
CONRADIE Wilhelmus Jacobus UFS
ESTERHUIZEN Monique
POLLOCK Jenni Patricia WSU
STEARN Donovan
VENTER Ruan Francois US

Fellows by Peer Review

Prof Michael Maurice Romain BOUCKAERT
College of Maxillo-Facial and Oral Surgeons

Prof Gilmie KARIEM
College of Maxillo-Facial and Oral Surgeons

Prof Jean Andre MORKEL
College of Maxillo-Facial and Oral Surgeons

Prof Catherine Anne BEUKES
College of Pathologists

Prof Shan NAIDOO
College of Public Health Medicine

CMSA Minutes

FIFTY FOURTH ANNUAL GENERAL MEETING OF THE COLLEGES OF MEDICINE OF SOUTH AFRICA (CMSA) HELD AT 08:30 ON FRIDAY 16 OCTOBER 2009 IN THE SMITH & NEPHEW FOUNDATION ROOM, CMSA BUILDING, 17 MILNER ROAD, RONDEBOSCH

PRESENT

Prof A Madaree	(President) in the Chair
Prof J Vellema	(Vice President)
Prof D Kahn	(Chairperson: FGPC)
Prof JLA Rantloane	(Chairperson: ECC)
Prof A Reddi	(Chairperson: EC)
Prof T Zabow	(Honorary Treasurer)
Prof D Govender	(Honorary Registrar: FGPC)
Prof MM Sathekge	(Honorary Registrar: ECC)
Prof J Aboobaker	(Honorary Registrar: EC)
Dr SM Aiyer	Prof MFM James
Dr NL Bhengu	Prof BG Lindeque
Prof JG Brink	Prof V Mngomezulu
Prof K-W Bütow	Dr SBA Mutambirwa
Dr R A Chamda	Prof PS Mntla
Prof AJ Claassen	Prof S Naidoo
Prof PF Coetzee	Dr RD Nicholson
Prof CS de Vries	Dr LJ Ramages
Prof RW Eastman	Prof H Saloojee
Prof A Ellmann	Prof AM Segone
Prof L Goedhals	Prof PL Semple
Prof HB Hartzenberg	Prof ZM van der Spuy (IPP)
Prof DA Hellenberg	Prof A Walubo
Prof BM Kies	

Members and others attending by invitation:

Dr WAM Clewlow (Trustee)	Dr S Maweya (SARA)
Dr MD du Trevou	Dr MS Morris
Dr J Fulton	Dr K Mukhudwani (SARA)

APOLOGIES

The apologies were noted.

SECRETARY

Mrs Bernise Bothma	CEO

IN ATTENDANCE

Mrs Ann Vorster	(Academic Registrar)
Mrs Lize Trollip	(Deputy CEO)
Mrs Jane Savage	(Minute Secretary)

WELCOME

The Chairman welcomed all the members attending the Annual General Meeting, and extended a special welcome to the Chairman of the Board of Trustees, Dr Warren Clewlow.

1. **REGISTRATION OF PROXIES**

   The CEO duly registered 111 proxies.

2. **MINUTES OF THE FIFTY-FOURTH (54TH) ANNUAL GENERAL MEETING, HELD ON 16 OCTOBER, 2009**

   The minutes were adopted and signed.

3. **MATTERS OF URGENCY**

   None.

4. **MATTERS ARISING FROM THE MINUTES OF THE LAST ANNUAL GENERAL MEETING**

   None

5. **ANNUAL REPORT OF THE CEO, MRS BERNISE BOTHMA, ON BEHALF OF THE SENATE FOR THE PERIOD JUNE 2009 TO MAY 2010**

   The CEO presented the Annual Report of Senate to the meeting, which appeared on pages 16 to 23 of the current issue of Transactions. She pointed out that the annual reports of the constituent Colleges followed the report of Senate and appeared on pages 25 to 36. The reports were adopted.

6. **FINANCIAL REPORT OF THE HONORARY TREASURER, PROF T ZABOW**

   For clarification purposes, the Honorary Treasurer gave an account of the annual financial statements for the year by way of a slide presentation. He reported as follows:

   "Reporting on the finances of the CMSA is a statutory requirement, and it is therefore important to table this. In introducing the financial statements to you, I want to talk about the process and the responsibility that we all have in relation to these. The main financial activities occur in the Cape Town office. The Treasurer has the responsibility of overseeing this with the Accounts Department, together with the CEO and staff. The information is then monitored by FGPC, with regular reports throughout the year.

   Each office has a responsibility to contain expenses and monitor income, and I thank the staff in the three offices for their efforts in this regard. I need you to understand and remember that the money is used by us very carefully. Last year, I talked about how the CMSA could get more money in, and if all the members paid

their annual subscriptions, an additional R1 million would have come in this year. I therefore appeal to you again to look at the defaulters list, and encourage those who you know to pay their arrears.

Assets, property and equipment total R37 million, and trust funds under administration total R6.9 million, plus investments of R13.5 million, on which I will elaborate later.

"Funds and reserves" refer to general funds: the accumulated funds and the surplus that amounts to R22 million at the end of the financial year. Special grants of R3 million include money in the building fund, the YK Research Fund, the amount that was transferred from the Foundation, the UKZN Members' Association fund, the College of Paediatricians' website money, and finally the monies of the CMSA Project and HIV Project.

The constituent College levy funds are increasing annually, and I appeal to the Colleges to utilise these funds for meetings.

Looking at the income, and specifically comparing it to the previous year, income increased by 6.74% and expenditure by 10.63%, resulting in the drop in surplus. "Donations" are higher than last year, due to the Foundation properties, 23 Rhodes Avenue and 10 Glastonbury Place, being taken over by the CMSA."

In concluding his report, the Honorary Treasurer pointed out that Trust Funds were used by the various disciplines for lectureships and scholarships and,,although it appeared to be a lot of money, "it was not growing as fast as it usually does".

Prof Zabow thanked Margie Pollock and her team for all their hard work over the year.

Dr Ramages pointed out that the percentage allocated to each office was not a percentage of the total admininstrative expenses, but applied to selected expenses which were directly related to examinations.

Prof Hartzenberg asked whether some of the funds could be used towards completion of the Durban Building Project, instead of having to wait for donations.

The Honorary Treasurer reported that this matter had been addressed at the Trustees' meeting the previous day, where the feeling was expressed that the surplus acted as a cushion, and therefore would not be easy to recoup. If there was a guarantee that the money could be repaid, he believed that this could be considered.

Prof Saloojee queried the bank charges which amounted to R300 000 per annum, equating to almost R1 000 per day.

Dr Ramages pointed out that presently, banks were being interrogated about high bank charges. However, the bank charges amounted to approximately 3% of the total income, and the debate centred on whether this was reasonable or not.

The President thanked the Hon Treasurer for his report. He believed the slide presentation contributed to the clarification of figures that were often difficult to understand.

ACCLAMATION

7. REPORT OF THE PRESIDENT, PROF A MADAREE

Prof Madaree reported as follows:

"This report covers my six months as President. Firstly, I would like to express my sincere thanks to our Past President, Prof Zephne van der Spuy, for having led the College from 2007 until May 2010. As you know, she directed the College with distinction, dedication and sincerity. She is still very much part of the team, having a leadership role in the CMSA Project, a major undertaking at this time.

I will now highlight the issues that have been our focus over the past year.

The National Professional Examination

As you have learnt from Senate and meetings of the Executive, the CMSA has been publicly appointed by the Health Professions Council of South Africa to be the preferred provider for the National Professional Examination, and we await formal confirmation of this. At the moment, any registrar entering the training programme will need to comply with the following three requirements: completion of the required training period and formative assessment, completion of the national qualification examination, and a research component, which will hopefully be undertaken by the universities.

Meetings with government departments

We had a meeting with the Minister of Health and two meetings with the Health Science Review Committee, at which we presented various documents about our activities within the CMSA Project. We met with these departments together with the Committee of Deans and the Academy of Science of South Africa. I must say that these have been very fruitful discussions, which leads me to believe that they take us seriously because we are an autonomous body with no hidden agendas, and because we present facts with the aim of improving health care and postgraduate education. We have their ear, and hopefully we can assist in guiding postgraduate training and other important matters. A further meeting is scheduled with the Director-General of Health, Dr Precious Matsoso, in two weeks' time, and this will concentrate on issues pertaining to the unfreezing and filling of unfilled registrar posts, central funding of posts and retention of staff.

CMSA Project

As mentioned, the CMSA Project is headed by Prof Zephne van der Spuy. The next Forum is being arranged for 26 and 27 November 2010, in Cape Town, and we are inviting the constituent Colleges to send three representatives.

After much discussion, we feel that the CMSA Project should not just concentrate on strengthening academic medicine, but also extend beyond this by looking at other issues. These include Maternal Health and Perinatal Mortality (raised in Prof Moodley's address at the graduation ceremony), issues that affect all the disciplines.

Constituent Colleges

We now have 28 constituent Colleges, the newest one being the College of Paediatric Surgeons. We welcome them into our fold ,and I am sure that as time progresses, the number will increase.

The African Initiative

We want to increase our dialogue with colleagues in the various African Colleges. This was discussed at Senate , and we have sent a circular to all the African College Presidents to see how we can increase our activity in this area. We thank Professor Dhiren

Govender for undertaking this task on behalf of Senate, and look forward to closer interaction.

Research

We feel that the CMSA should become more involved in clinical research, and Prof Bogani Mayosi, who is involved in the Academy of Science of South Africa, is going to head this, in collaboration with College projects.

Durban building

We have been trying to raise R10 million to commence building operations in Durban, and so far, we have pledges amounting to approximately R4 million. If we are unable to raise the further R6 million, the idea is to consult with the architects to commence a phased project.

Finally, I would like to thank all the Senators, members of the Executive, the Vice Presidents and other officers and the administrative staff for their dedication and sterling effort in contributing to the smooth running of the CMSA."

ACCLAMATION

8. REPORT OF THE CHAIRPERSON OF THE EXAMINATIONS AND CREDENTIALS COMMITTEE, PROF JLA RANTLOANE

Prof Rantloane reported as follows:

"This is my first report to the AGM, having taken over this portfolio in May of this year,and therefore in the first instance, I would like to express thanks and appreciation to the previous incumbent of this portfolio, Prof Jeanine Vellema, for the guidance I have received from her in running the business of the Examinations and Credentials Committee. There are a couple of issues that I will flag, which formed part of my report to Senate yesterday.

Firstly, similar to the reports that were presented previously to the AGM, there is a development that is causing concern. It relates to the conduct of candidates attending the examinations. We are beginning to see a trend of contravention of examination regulations. We reported on an incident that was presented to Senate for advice, guidance and sanction, and we are very thankful that the recommendation made by ECC with regard to the findings and the sanction, was upheld by Senate. We anticipate a legal appeal for which we are preparing ourselves. However, seeing that this is a growing trend, we have thought about measures to curtail the problem. We accept that we need to increase invigilators' support in the different centres where examinations are written. Surveillance cameras are being considered in the centres used for examinations, and the Academic Registrar is looking at various options. This kind of technology is quite expensive, but essential, if we are to protect the integrity of CMSA examinations.

There is general agreement at Senate that the constituent Colleges would like to see sterner sanctions being imposed on candidates who are found guilty of transgressing examination regulations. I do think that the reported case is a test case, and hopefully, if our findings are confirmed, a strong message will go out that cheating will result in a five-year ban being imposed on entering the CMSA examinations. Some of the candidates will challenge the findings in a court of law, but as the Honorary Treasurer indicated, some provision has been made for this in the budget.

The second issue, also mentioned by the President, is the National Professional Examination. In this regard, we are awaiting confirmation from the HPCSA that the CMSA will be the agent running this examination. In the interim, we have commenced planning in terms of increasing our capacity regarding administrative and other support services. We have also evaluated the quality assurance of our examinations by revisiting our guidelines and regulations, to ensure that we consistently deliver and maintain our high standards. As part of that exercise, we have confirmed once again, that our examinations are inclusive in terms of participation of examiners from the different academic complexes. The recommendation is that the Deans of the Faculties of Health Sciences of the Universities be invited to attend the standing committee meetings, but in particular, to ECC, in order to participate in the development of policy. Furthermore, we have created a task team that has already met, and looked at some of the implications of administering this examination.

There is an examination workshop in November 2010, and we encourage colleagues and examiners to attend the workshops.

Previously, in discussions on improvement of our examinations, there has been support for selling the idea that all our examinations need to be moderated in some way or another, and it is pleasing to note that this has been generally accepted. Our view is also that feedback to candidates, especially those who fail, must be meaningful, and without a marking memo from examiners: a requirement for participating in the examinations, this is not possible.

Inconsistent rule application is a problem that arises from time to time. In other words, some candidates (who meet the criteria that has been set by their specific Colleges), are sometimes excluded from the examinations. More worrisome is the fact that during the week of the oral examinations, constituent College Councils will meet and review a particular examination regulation or rule, and move to amend that rule and expect the amendment to be enforced at the next examination. The procedure is to submit the amended rule or regulation to ECC for ratification and publication, before it is implemented.

Regarding relationships with other organisations and Colleges, we reported yesterday at Senate about an approach from the University of Botswana to offer our postgraduate examinations to their candidates. A task team will review various aspects of this request, which, in principle, has the support of the Examinations and Credentials Committee, with the idea that their candidates would need to meet the criteria imposed on SA candidates.

Finally, with regard to the CMSA examinations, there have been some worrying results which were disussed at the Examiners' results meeting. I am pleased to note that various constituent Colleges have agreed to establish what the reasons might be for the poor results. We are hoping to receive formal feedback from the Colleges in order to address any significant problems.

I would now like to extend our appreciation and thanks to Mrs Ann Vorster and the examinations office, certainly for facilitating my function, and for meeting the majority of the needs of examiners."

The President expressed his appreciation to Prof Rantloane.

Prof Shan Naidoo thanked Prof Rantloane and his team for doing a "sterling job", and contributing to a "good year" for the examinations office.

ACCLAMATION

9. REPORT OF THE CHAIRMAN OF THE EDUCATION COMMITTEE, PROF A REDDI

Prof Reddi reported as follows:

"I certainly feel that I have been at the right place at the right time for a long time, simply because my task has been made very easy in Durban with the help of Anita Walker and Antoinette Conning. I am very grateful to them and record our gratitude and appreciation.

Over the last decade, the role of the Education Committee has been filtered down to three main areas, relating to educational and lectureships, which are recorded in the Chairman's report. The educational aspects relate to visits to Mthatha, and in addition to this, there are funded lectureships such as the Francois P Fouché and Arthur Landau.

The second area is the accreditation process in which the Durban office is actively involved, and we have co-opted Dr Clive Daniel, who is exceptionally experienced in matters of CPD. We are very appreciative of his role, as this relieves me of a little of the workload.

The last area pertains to updating of the regulations. As mentioned yesterday, many of the amendments, changes and modifications to the curriculum are first ratified by ECC, and that is probably why Arthur has a longer report than mine! That body of work is then sent to Durban for embalming, and every now and then we exhume that body and give you a report. So I am very glad to report that the regulations have been updated at a faster pace than has ever been done before. However, the way this information is filtered down to the candidates needs improvement. I would ask the Councils of the constituent Colleges to encourage registrars (on the day that they are enrolled into a programme) to start with the CMSA website. This outlines everything that they need to do over the next four or six years.

We have adopted a few itinerant issues, the latest of which is the MPS Workshop which we will pilot in Durban, and which will then be held in the other provinces with a missionary zeal, which I think is quite important in this day of increasing litigation. We will be discussing the HIV/AIDS project in detail soon. The President has already mentioned the expansion of the Durban offices. This is essentially a fundraising project."

ACCLAMATION

Prof Mike James remarked that the CMSA often debates the benefits (that it holds) to members and the issue of defaulters. Speaking on behalf of the anaesthetists, he advised that the Australian College of Anaesthetists has taken over the CPD registration, which means that they have 100% paid-up members. As the probable National Examining Body, he believed that the CMSA should negotiate with HPCSA to manage CPD accreditation for its members.

Prof Reddi cautioned that, although he thought that, in principle, the idea was excellent, this would drastically increase the EC's workload.

Prof Brink supported the view expressed by Prof James, but believed that this was a huge undertaking that would need to be explored and undertaken by a separate committee. This would be an excellent way of strengthening the CMSA, and would also be of huge benefit to its members.

Prof Lindeque was under the impression that the CMSA should act as the channel through which things are directed, so that a single message goes out to the registration authority as this is purely an administrative function.

Prof Naidoo also supported the principle, and agreed that the EC should investigate to determine the implications.

AGREED

That the matter be pursued by the Education Committee.

10. REPORT OF CHAIRPERSON OF THE FINANCE AND GENERAL PURPOSES COMMITTEE, PROF D KAHN

Prof Kahn reported as follows:

"I am going to be very brief. As you know, the main function of the Finance and General Purposes Committee is the financial and general administration of the CMSA, and Prof Zabow has already presented the financial statements.

The other non-finance related functions of FGPC overlapswith much of the report of the President, as well as the agenda of the Senate meeting, which I will not go over again. These include items such as the CMSA Project, the African Initiative, the Strategic Planning, interaction with other government authorities, and the review of proposals for Honorary Fellows.

Finally, I want to thank Mrs Bernise Bothma and her staff in the Cape Town office for their hard work.

ACCLAMATION

11. REPORT OF THE EDITOR OF TRANSACTIONS, PROF G A OGUNBANJO

Prof Madaree reported on behalf of Prof Ogunbanjo, who was unable to attend the AGM.

"For 2011, the Editor wishes to increase the scientific content of *Transactions*, and raise the advertising revenue to R75 000 per edition. He will be soliciting original/review articles from Fellows of the various constituent Colleges. He also plans to cover important and topical issues such as examinations and assessments, portfolios, quality assurance, benchmarking, blue-printing and NHI.

The President thanked Prof Ogunbanjo for his continued efforts to improve the content and appearance of *Transactions*.

12. ANNUAL APPOINTMENT OF AUDITORS

APPROVED

That Deloitte and Touche be reappointed as Auditors for the next year.

13. CORRESPONDENCE

None.

The meeting concluded at 09h30.

Policy Forum: Challenges and Solutions 2010 Forum Report

Introduction

The Policy Forum on 26 and 27 November 2010 focused on the challenges and possible solutions to strengthening academic medicine and specialist training and improving the governance of academic medicine. The Forum reflected issues that arose from work done in 2010 on securing growth in registrar and sub-specialist training, and developing policy recommendations for governance and management of academic health complexes.

The CMSA Project is generously sponsored by private health sector organizations. Annexure 1 details the sponsors of the Project.

The Forum was attended by 135 delegates, an increase on the numbers of delegates from 2009 by 15 (annexure 2.) Invited delegates included representatives from the National Departments of Health, Education and Treasury, two members from each of the 27 Constituent Colleges of the CMSA, the Executive of the CMSA, three representatives from each of the Deans of the Faculties of Health Sciences and Dentistry, delegates from the private hospital sector and private health care administration sector, and other stakeholders in healthcare and academic medicine.

The Forum Programme addressed the following themes (Annexure 3)

- The role of specialist and sub specialists in healthcare
- Financing issues in the development of academic medicine
- Quality assurance in academic medicine
- Governance options for academic health complexes

The Forum included presentations which offered new proposals and solutions, and active discussion. The challenge in the year ahead for the CMSA is to take forward the issues raised and ensure they are incorporated into discussions, change strategies and implementation.

Forum Presentations

The CMSA Forum for 2010 was opened by Professor Madaree, President of the CMSA:

"This year the theme is 'Challenges and Solutions'. I wish to thank Professor van der Spuy and the project team. We encourage an open forum. Think broadly. Please contribute – so at the end of the meeting we can say we have moved further."

Session 1: CMSA Project Update by Professor Zephne van der Spuy

The CMSA Project was initiated in late 2007 and developed in 2008. The need for the Project arose from concerns about academic medicine and specialist training in South Africa and the loss of expertise through emigration and retirement policies.

Work of the Project Committee has focused on:

- Numbers and distribution of specialists
- Future needs and training requirements
- Governance and conditions of service
- Infrastructure requirements and quality assurance
- Meeting the HIV challenge
- Retention and expansion of human resources.

A detailed review of HPCSA data from site inspections revealed that 37.7% of specialist and 82% of sub specialist trainee numbered posts are unfilled – mainly because of lack of funding.

	Number	Filled	Unused	% Vacant
Specialist	3582	2229	1353	37.7%
Sub-specialist	405	71	334	82%

Further data provided by Nicholas Crisp revealed that between 1997 and 2006 the following staff shifts occurred:

- A significant decline of 25% (n=854) specialists in public sector from 3782 to 2928
- Medical practitioners in public sector only increased from 9184 to 9958
- Hospital and Health support staff (non-medical) reduced from 81097 to 60 030
- Administrative staff increased from 28 676 to 37 419 (30.5% increase).

The key reason for the shortage of doctors in the health system is lack of retention of doctors in the public sector. The annual output of MBChB graduates was 12 000 over the same 10 years as the data detailed above. The annual output of specialists is 500 a year, with 5000 produced over the same period but there was a decline of 854 specialists in the public sector between 1997 and 2006.

During 2010 the CMSA Committee met with Colleagues in National Government Departments to address the following priorities:

- Fill and fund all numbered training posts
- Maintain specialist trainers in Faculties
- Review governance of academic health complexes
- Discuss retention strategies
- And improve data capture with HPCSA registration.

Session 2: The Role of Specialists and Sub-Specialists in Healthcare

Session 2 discussed the important role of the specialist and sub-specialist in health care.

Professor Heather Zar discussed *The Impact of Sub-specialties on Primary Health Care – Case Study of Paediatric Pulmonology at Red Cross War Memorial Children's Hospital.* Professor Zar's presentation showed how vital the sub specialist role is in developing clinicial interventions at all levels of the health system, and informing guidelines for care locally and internationally.

Professor Buchmann discussed the *The Role of the Specialist in Health Care: A Case Study of the Department of Obstetrics and Gynaecology, Chris Hani Baragwanath Hospital.* Prof Buchmann indicated that 'Bara' is the largest hospital in Africa and has a huge clinical load of 24,000 births a year and 11,000 births at nearby clinics which depend on them for Specialist input.

The role of the trainee specialists at Bara is often to support the district and regional function of the hospital. The problems within this system include:

- "The hospital is overloaded and registrars are workhorses for Bara's secondary function
- There is no time for discussion, reflection, counselling
- There are nursing staff shortages
- Facilities and equipment are in disrepair
- Unsophisticated gynaecology facilities and equipment
- Case-mix indicates mainly secondary level care
- No offices and computers for trainee specialists
- There is a gap between research and service
- Science will disappear as there is no research and a general decline in clinical academic medicine".

Prof Buchmann indicated the solution is for the teaching hospitals to become national assets, and that they should not belong to provinces. In addition he suggested;

- The Part I and research component for trainees must be non-negotiable
- The College council should adjust training
  - According to HPCSA guidelines
  - Advocate a 5-year training period
- Specialists and training should take place at regional hospitals (not only tertiary)
- We need strategies to retain and empower specialists
- Collaboration between government, universities, the CMSA and HPCSA is essential.

Professor Lee Wallis discussed *Planning Emergency Medicine Personnel and Services to Meet the Challenge of the Burden of Disease.* Emergency Medicine is a new speciality, but vital for the huge burden of disease. Trauma and homicide comprise 16% of the burden of disease. However, all diseases present with emergencies and need to be managed at the highest level of skill in the early period of the patient presenting at a health facility. Such care is often not available. The need for specialist and other level health workers has been carefully planned for the new discipline. Over 2000 EM specialists are needed for the level of cover required in RSA. Only 70 Emergency Medicine specialists exist in the country in the public and the private sector. There is an urgent need for nurses to support emergency care.

Issues highlighted in discussion were:

- The severe lack of infectious diseases specialists in South Africa and lack of public health specialists,
- The lack of midwives and specialist nurses
- A need for generalists who are multi skilled
- The lack of patient level clinical data for routine management and for research
- The example of Wits using unfilled non academic posts in regional hospitals with trainees may be followed, Wits has specialist posts for their own subspecialist trainees and expands this cohort.
- Registrars should be required to do a one-year rotation in a peripheral hospital
- Inefficiencies in the internship and community service model were raised and need further discussion
- It is necessary to prioritise what sort of specialists should be trained.

Session 3: Financing Issues in the Development of Academic Medicine

The financing of academic medicine and academic health complexes is complicated and requires working together of key departments, in particular Health, Higher Education and National Treasury.

Ms Kirti Menon from the National Department of Higher Education and Training, spoke on *Meeting the Challenges of Health Science Education: DHET and Health Science Review Committee Current Strategies and Priorities'.* Ms Menon said there was a Ministerial requirement to double output in the health sciences. This was also a requirement for engineering, life sciences and teacher training.

Ms Menon elaborated that the Health Science Review Committee, established by Minister Pandor in 2007, and now chaired by Prof Makgoba: VC UKZN, served as a forum to provide oversight and bring together role-players – NDOH, National Treasury, CHE, HPCSA. The Committee had established the Clinical Training Grant and made recommendations for the restructuring of the HPTDG. The Committee is in the process of developing a Memorandum of Agreement between the three departments on the HPTDG. The Committee was currently modelling expansion of all health professionals including MBChB graduates, and had supported the CMSA request to fill unfilled training numbers.

Mr Andrew Donaldson, DDG Public Finance, spoke on *'The Public Sector Context and the Financing of Academic Health Complexes'.* Mr Donaldson said:

"We have one central thing that has to be fixed – it about decision making in hospitals and giving a corporate identity to hospitals, especially the hospitals that comprise the tertiary services. They need to have identity. Rules of engagement are complex – between universities, faculties, many service providers, the public and private sectors, DHET, NDOH, research bodies etc.. All are important players. We need long term agreements need to do this with confidence – this is about clarifying how decisions are taken.."

Mr Donaldson made the following points:

- Recent reforms which have lead to changes in the equitable share will make hospital financing more explicit
- These steps will lead towards case mix based financing of hospitals
- Hospitals need to be reimbursed based on what they do
- And good statistics are necessary to do that
- New hospital financing will be given greater impetus by the HPTG
- The Clinical Training Grant has been a small step but is a new mechanism through which we can finance critical needs in clinical training and faculties.

Mr Donaldson stated that Treasury was addressing the following five issues in the decade ahead:

- "To plan for growth, with the implications for resources and how programmes are run
- To think about inclusivity
- To address egalitarianism: how do we level playing field between public and private sector , implications for taxes, opportunities for greater partnerships between private hospital groups, universities, Academic Health Complexes and the health funding industry, the development of training and tertiary services, and finally implications for funding and centres excellence
- Hard work needs to be done in relation to cost containment and cost management; the Ministry of Health is strong on this, we need to build better control of resources in public health system. The challenge is good information and opportunities for ongoing focus in order to achieve goals.
- As Treasury we have a challenge to rethink how we do public private partnerships. We need to think innovatively about financing arrangements involving the public and private sectors".

"The work of the Health Science Review Committee has been useful, but there is lots to do. I recognise it is important for the CMSA to give intellectual leadership."

Mr Donaldson concluded that we must move to greater clarity, and through negotiations between ministries, faculties, and hospitals, must carve out financing responsibilities. "We need clarity on who is going to do what and how is it going to be paid for".

Session 4: Quality Assurance in Academic Medicine

The quality of the academic health service platform is essential to the training of doctors, and to the quality of health care that becomes the standard for the health system. This session indicated support for accreditation of academic service sites.

Dr Carol Marshall, from the Office of Standards Compliance of the National Department of Health, spoke on *Quality Assurance in Health Care: The National Department of Health Initiative.* Dr Marshall explained that in November 2010 (in the week before the Forum) an Amendment Bill on quality and standards was approved by Cabinet for public debate. Included in the Bill is the appointment of an independent regulator for enforcement of quality standards across the health system which incorporates:

- Advise on mandatory standards and norms
- Inspection of all establishments
- Obligatory certification of compliance
- Monitoring / early warning system
- An ombudsperson.

NDOH has developed National Core Standards which form the basis for system quality. The purpose of the standards is to have:

1. "A common definition of quality care = expectation
2. A benchmark / assessment = measurement
3. And a framework for certification = accountability ".

"Six priority areas have been fast tracked for improvement.

- Values and attitudes of our staff (and managers)
- Cleanliness of our facilities
- Waiting times – queues and delays
- Patient (and staff) safety and security
- Infection prevention and control
- Availability of medicines and supplies".

Dr Marshall concluded by noting the key role of specialist and academic clinicians involved in training, in ensuring quality care.

Prof Stuart Whittaker from the Council for Health Service Accreditation, and Prof Linegar from Universitas Hospital spoke on the topic of *Accreditation for Academic Training Sites*. Prof Whittaker detailed COHSASA's method of accreditation and standards assessment. The areas covered for hospital standards are detailed in the box over the page.

The National Core Standards have seven domains (potential quality or safety risk areas):

1. Patient rights	2. Patient safety, clinical governance & care
	3. Clinical support services
4. Public Health	
5. Leadership & corporate governance	
6. Operational management	
7. Facilities & infrastructure	

Prof Whittaker detailed the COHSASA accreditation process. Universitas was shown as a case study of a hopsital that had been evaluated, gone through an improvement programme, and sustantially improved their accreditation status over time.

In terms of the importance of accreditation for academic training sites, Prof Whittaker reinforced the point that the accreditation process is important in:-

✓ Maintaining an acceptable / stable platform for post-graduate training

✓ And providing a support basis for clinical research.

Session 5: Governance of Academic Health Complexes – What are the Options?

The legislation on academic health complexes is limited to a paragraph in the Health Act 2004. This session discussed issues for consideration in elaborating the legislation on academic health complexes.

Dr Andrew Good from LifeChoice, explained how research his team had undertaken research for the CMSA to evaluate how information is collected and analysed in academic (central) hospitals.The topic was: *"If you can't measure it, you can't manage it": Initial findings of the audit of data captured at selected academic (central) hospitals with reference to its ability to support outcomes measurement, specialist training and facility efficiency.*

The research project has involved an audit of five academic central hospitals with the following objectives:

- To understand data being captured
- To understand the information gathering process
- To understand the quality of data captured and its relevance in measuring outcomes
- To develop high level recommendations with respect to specialist training and the capture and analysis of clinical and resource data on the academic service platform.

The research showed big differences in the hospitals in many aspects, with data storage ranging from microfiche to Electronic Patient Records. There is not a common approach to data capture and analysis for clinical and resource information. Procedure coding systems are different. Due to the way data are captured and analysed there is no case mix adjustment ability. Recommendations of the project intend to contribute to development of a common system of analysis in order to assist future financing and management of academic (central) hospitals.

Summary of areas covered by hospital standards

Management areas
1 Management and Leadership
2 Human Resource Management
3 Administrative Support
4 Access to care
5 Patient and Family Rights
6 Management of Information
7 Health and Safety
8 Quality Management and Improvement
Clinical support services
19 Laboratory Service
20 Radiology Service
21 Pharmaceutical Service
25 Serilising and Disinfecting Unit
Hotel Services
26 Food service
27 Laundry Service
28 Housekeeping Service
Technology
29 Maintenance Service
31 Health Care Technology Management

PAMS
32 Physiotherapy Service
33 Occupational Therapy Service
34 Dietetic Service
35 Speech Therapy Service
37 Social Work Service
Clinical areas
9 Prevention and Control of Infections
10 Medical/Surgical/Paediatric & Obstetrics
11 Medical care
12 Surgical care
13 Critical care
14 Obstetric/Maternity care
15 Psychiatric care (ward)
16 Paediatric care
17 Operating Theatre and Anaesthesis Service
18 Nuclear Medicine Service
22 Emergency Care
23 Outpatient Care
24 Ambulatory Care
30 Resuscitation Service
36 Clinical Psychology Service

These standards have been developed in conjunction with South African professional bodies e.g. DENOSA, Society of Surgeons and Society of Anaesthesiologists, ICSSA, etc and are recognised as meeting ISQua's International Principles for Standards.

Dr Brigid Strachan discussed *Strengthening Academic Health Complexes: An Issue for the Future of Academic Medicine.* It was noted that academic medicine had experienced difficulties internationally and this was due to organisation and financing arrangements.Strengthening acdedmic health complexes in South Africa was central to strengthening academic medicine. It was noted that in South Africa the legislation on academic health complexes has never been elaborated. It was also noted that there are not common definitions for many aspects of the endeavour of acdemic health complexes. A defintion was proposed for academic health complexes.

"Academic Health Complexes are establishments that :

- *Consist of one or more health establishments (may take different organisational forms)*
- *Are aimed at primarily educating health care professionals in health promotion, disease prevention and curative medicine*
- *Undertake educational and research activities which increase knowledge and understanding of health and disease*
- *Use knowledge and evidence based research as the basis for improving the treatment of illness and improving health*
- *Design and test new models for improved clinical care, service delivery and improvement of population health*
- *Advise government on population health and health care."*

It was recommended that it is necessary to develop policy on academic health complexes which would include:

- An Academic Health Complex Policy Committee – with professional and clinical representation
- A definition of Academic Health Complexes
- Requirements of organisational models
- AHC strategic and operational grading criteria and process
- Public entity status for Academic (Central) Hospitals
- Academic (Central) Hospital Regulator (independent body)
- Standardised Information Analysis (goal being development of Diagnostic Related Groups or DRG's for clinical and resource use analysis)
- Compulsory accreditation of Academic (Central) Hospitals and other academic sites
- Financing of academic health complexes
- Staffing of academic health complexes
- Public/private partnerships
- And leadership and management requirements.

Dr Victor Litlhakanyane of Netcare Hospital Group, spoke on *Public Private Partnership*

Models for Academic Health Complexes. Dr Litlhakanyane emphasised that clinicians ought to be playing a central role in making the changes in the health care system that will allow the system to offer better outcomes, greater ease of use, lower cost, and more social justice in health status. He emphasized that the public and private sectors form part of the national health system under the Minister of Health, and need to interact optimally for an efficient, equitable and accessible National Health System.

Dr Lilthakanyane stated the private sector is already involved in training, but it is patchy and not consistent. There are different ways for the private sector to be involved:

- Funding of academic Chairs
- Scholarships
- Honorary appointments in the public sector
- Sessional appointments in the public sector
- Registrar rotation in the private sector
- Formal ward rounds in the private sector
- Formal academic programmes in the private sector.

To improve co-operation it is necessary to accredit private hospitals for training:

- The facility must comply with HPCSA requirements
- Recognize appointment of private specialist as consultants on an honorary basis
- Recognition of time spent by Registrars in this private units
- And access for public patients to the technology and clinical expertise.

Netcare has 30 units that could participate in offering sites for training.

Dr Litlhakanyane did raise the question as to whether a private medical school is an option for South Africa.

Dr Litlhakanyane suggested the following way forward:

- Establish a working forum to refine a workable model
- Action learning by implementing an extended training platform into the private sector as a pilot
- Obtain approval of relevant stakeholders
  - University
  - HPCSA
  - CMSA
  - Private Hospital groups
  - Private specialists.

Address by the Director General for Health: Ms Precious Matsoso

Ms Matsoso discussed the topic: *Meeting the challenge of quality services, access and ensuring the training platform for medical professionals.*

Ms Matsoso discussed:

- Background: The NDOH Ten point plan and service delivery agreement
- Global and local initiatives
- The Health Workforce: medical personnel
- Challenges with access and quality
- Solutions

Ms Matsoso discussed the outcome of a recent Global Conference on Social Accountability in Medical Schools (Lancet 11 November 2010), which emphasized the important role of medical schools in the development of the health system. Internationally and in South Africa there are shortages of medical personnel.

In South Africa the shortage is being addressed through the following:

- An inter-ministerial process to address the shortage, involving collaboration between DHET and DoH,
- Working with DHET on the financing of health science education, especially clinical training
- Strengthening of academic health complexes
- Co-operation of our colleagues in DHET, the provincial departments of health, the academic health complexes, and medical and dental professionals in the public and private sectors.
- Lifting on obstacles to recruitment
- Opening of posts in the public sector and career planning
- Improvement of working environment (hospital management)
- Development of a service plan and HR projections.

Way Forward

Prof Madaree summed up discussions and closed the Forum.

Prof Madraee highlighted the following areas as important for the CMSA to address in the year to come:

- To emphasise sub specialist training and its impact on primary and secondary level care

- To work towards the integration of teaching, clinical care and research
- To produce good quality specialists and extend the training time
- To plan specialist training in relation to the burden of disease
- To consider the development of a generalist with additional skills
- To work on the priority of filling unfilled registrar training post numbers
- To expand the academic service platform by using unfilled posts in the public sector
- And to develop strategies for retention and improved conditions of service.

Prof Madraee noted other issues with which the CMSA will engage which impact on the specialist training environment:

- To support moves towards quality assurance and accreditation of academic training sites
- To play a role improving primary health care outcomes
- To support investigation into improving the role of the private sector in financing specialist training
- To participate in discussion on the ring fencing of academic health complexes
- To participate in developments which improve the funding mechanisms for clinical training (CTG and HPTDG)
- To encourage review of the current internship and community service arrangements.

Conclusion

A broad range of issues were addressed at the Forum. Time did not allow for enough discussion on some issues which were being raised for policy consideration for the first time. The challenge in the year ahead is to take forward many of the solutions presented in presentations and discussion, to create opportunities for discussion to take issues further, and ensure implementation of new ways of strengthening academic medicine and specialist training.

Dr B Strachan

Annexure 1 Acknowledgement of donor funding

The Colleges of Medicine of South Africa (CMSA)

Policy Forum
26 and 27 November 2010
Challenges and Solutions

Acknowledgement
Donations to the CMSA Project: Strengthening Academic Medicine and Specialist Training

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- Discovery Foundation
- SAMA Medical Advisors Group
- Metropolitan Health Group
- MediClnic Hospital group
- Netcare Hospital Group

The Colleges of Medicine of South Africa acknowledge the generous donations of the above with sincere appreciation.

Annexure 2 Delegates

The Colleges of Medicine of South Africa (CMSA)

Policy Forum

Managing Change in Academic Medicine:
Priorities and Strategies for Developing and Retaining Specialists

26 and 27 November 2010
Venue : CMSA, 17 Milner Road, Rondebosch

DELEGATE LIST

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College of Medical Geneticists	(Not represented)
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CMSA Project Co-ordinator	Dr Brigid Strachan

Books donated to the CMSA library

College members who have authored and donated their books:

- Craig, CJT. Medico-legal experience in obstetrics and gynaecology. In: CJT Craig and E Rösemann, editors. Bellville: Cipla Medpro; 2006. p. 128.
- Craig, CJT. Avoiding medico-legal experience in obstetrics and gynaecology. In: CJT Craig and E Rösemann, editors. Bellville: Cipla Medpro; 2010. p. 93.
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- Naudé, JH. Making the cut in South Africa: a medico-political journey. London: Royal Society of Medicine Press; 2007. p. 172.

Other books donated:

The South African Medical Association (SAMA)

- Bartlett, JG, Gallant, JE, Conradie, FM. Medical management of HIV infection. Pretoria: Foundation for Professional Development; 2008. p. 339.

Dr CJT Craig

Books and special-edition South African Medical Journals, including the following:

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The West African College of Surgeons

- Ajayi, OO. Knife in hand: the history of the West African College of Surgeons 1960-2010. Ibadan: Bookbinders; 2010. p. 233

Prof P Spargo

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***The Academy of Science of South Africa** (ASSAf)*

- Consensus report on revitalising clinical research in South Africa. Pretoria: ASSAf; 2009. p. 255.

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The changing epidemic of chronic kidney disease: strategies for treatment and prevention

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Keywords: **Key words**: sub-Saharan Africa, end-stage renal disease, chronic kidney disease, renal replacement therapy

Abstract

Background: The increasing burden of chronic kidney disease (CKD) and end-stage kidney failure presents a challenge for both developed and emerging countries. While dialysis and transplantation consume an ever-increasing proportion of the health budget in countries such as the USA, Japan and Taiwan, there is limited availability of these expensive therapies in the majority of emerging countries, and more so in African nations. The aim of this study was to review the changing prevalence, causes and strategies for the treatment and prevention of end-stage renal disease in sub-Saharan Africa.

Method: The method was a review of the literature and information received from colleagues in Africa.

Results: Approximately 70 of the least developed countries of the world are in sub-Saharan Africa. Rapid urbanisation is occurring in many parts of the continent, contributing to overcrowding and poverty. While infections and parasitic diseases are still the leading cause of death in Africa, non-communicable diseases are coming to the forefront. There is a continuing "brain drain" of health care workers (physicians and nurses) from Africa to more affluent regions. There are large rural areas of Africa that have no health professionals to serve these populations. There are no nephrologists in many parts of sub-Saharan Africa. The numbers vary from 0.5 per million population in Kenya to 0.6 per million in Nigeria, 0.7 per million in Sudan and 1.1 per million in South Africa. CKD affects mainly young adults aged 20-50 years in sub-Saharan Africa, and is primarily due to hypertension and glomerular diseases. Human immunodeficiency virus (HIV) related CKD is assuming increasing prominence, and often presents late, with patients requiring dialysis. Diabetes mellitus affects 9.4 million people in Africa. The prevalence of diabetic nephropathy is estimated to be 6-16% in sub-Saharan Africa. The current dialysis treatment rate is < 20 per million population (and nil in many sub-Saharan countries), with in-centre haemodialysis the modality of renal replacement therapy (RRT) for the majority. Transplantation is carried out in a few sub-Saharan countries: South Africa, Sudan, Nigeria, Mauritius, Kenya, Ghana and Rwanda. Most of the transplants are living donor transplants, except in South Africa where the majority are from deceased donors. Prevention programmes are in their infancy in most of sub-Saharan Africa, due to lack of personnel and resources.

Conclusion: CKD care is especially challenging in sub-Saharan Africa, with large numbers of ESRD patients, inadequate facilities and funding, and lack of national or regional registries.

Introduction

Chronic kidney disease (CKD) should be viewed as a continuum, ranging from risk factors that cause CKD and result in the reduction in kidney function, to microalbuminuria, macroalbuminuria, and end-stage renal failure and death.[1]

In recent years, major social and demographic changes have taken place in Africa, with large numbers of rural black populations migrating to the cities, adopting a more Western style of life, and being exposed to vascular risk factors with respect to diet, smoking habits, and level of physical activity. Recent hospital morbidity and intensive care unit statistics in South Africa indicate that the prevalence of coronary heart disease (CAD) in urban blacks is increasing.[2]

While the burden of infections presents an enormous challenge in sub-Saharan Africa, non-communicable diseases also constitute a major threat to African populations. This "double burden" poses as a public health and economic affliction to developing countries. Infections and parasitic diseases are still the leading cause of death in Africa, with over 5.5 million deaths in 2005, and over 2 million deaths due to human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS). Non-communicable diseases are becoming more prevalent, with over 2.4 million deaths in 2005.[3] While communicable diseases are the leading cause of death in low income countries, chronic diseases such as ischaemic heart disease and stroke, feature at number two and four respectively[4] and were the leading cause of deaths in South Africa in the previous decade.[5] A more recent study showed that stroke and heart disease were the two leading causes of death in 15-64 year-old black South African men and women for the period 1999-2006, with death from kidney disease featuring as the fifth leading cause of death in this age group in 2006.[6]

Background

The lack of renal registries means that there are no reliable statistics about the prevalence of chronic kidney disease (CKD) in the majority of African countries. Calculations suggest that CKD must be in the range of 200-300 per million of the general population.

CKD is prevalent in Nigeria, accounting for 8-12% of hospital admissions.[7] CKD affects mainly young adults aged 20-50 years in sub-Saharan Africa, and is primarily due to hypertension and

glomerular diseases, unlike in developed countries, where CKD presents in middle-aged and elderly patients, and is predominantly due to diabetes mellitus and hypertension.

CKD has been shown to confer increased risk for cardiovascular (CV) death. The Women's Health Study, of ± 40 000 health care workers aged > 45 years in the USA, reported that 1 199 CV events and 856 deaths occurred over 12 years. There were1 315 women with eGFR < 60ml/minute/1.73m^2 and an increased risk of CV death with a hazard ratio of 1.68. Average demographics of the study population [age 55, total cholesterol, 5.5 mmol/l; high-density lipoprotein (HDL) cholesterol, 1.4mmol/l; not diabetic; non-smoker; systolic blood pressure, 124 mmHg)] suggested that the increased CV risk was due to a decrease in renal function.[8] The Framingham study showed increased CV, and all cause mortality according to the proteinuria status in men and women aged 35-74 years over 16 years of follow-up.[9]

Major risk factors

Hypertension

In the South African Demographic Health Survey of over 13 000 adults, hypertension prevalence was 21.3%, with < 50% treated and < one-third controlled.[5] Hypertension is a leading cause of CKD in sub-Saharan Africa, in the range of 25% in Senegal, 29.8% in Nigeria, 45.6% in South Africa, and 48.7% in Ghana, especially in black patients.[10] Hypertension affects about 25% of the adult population, and is the cause of end-stage kidney disease in 21% of patients on renal replacement therapy in South Africa.[11] The clinical pattern of hypertension in hospitalised patients takes a rapid course with uraemia and death, frequently from cerebral haemorrhage. Malignant hypertension was an important cause of morbidity and mortality among urban black South Africans, with hypertension accounting for 16% of all hospital admissions.[12] It is less frequent presently.

Glomerulonephritis

Glomerular disease is common in Africa and is a major cause of ESRD in reports from SSA. Reports from different areas of Africa display differences in the prevalence of patterns of glomerular injury. For example, in Nigerian children with the nephrotic syndrome, membranoproliferative patterns on biopsy predominate, whereas in the series from South Africa, focal segmental glomerulosclerosis (FSGS) seems to be the most common.[13,14] Although epidemiologic data from many areas in Africa is sparse, the incidence of glomerular disease, particularly the nephrotic syndrome, seems to be many fold higher in Africa. Glomerular disease is more prevalent in Africa, seems to be of a more severe form than that found in Western countries, and is characterised by a poor response to treatment and progression to renal failure.

One success story is the impact of the hepatitis B vaccination in South Africa. Prior to the availability of the vaccine, hepatitis B virus (HBV) infections accounted for over 80% of membranous nephropathy in black children.[15] Following vaccination, there were no cases of membranous nephropathy due to HBV reported in the 0-4 years age group.[16]

Human immunodeficiency virus infection

The HIV infection is epidemic in sub-Saharan Africa. The number of new infections is now declining, with increasing numbers of patients being treated with antiretroviral therapy (ART).[17] Data on the prevalence of HIV-related glomerular disease in Africa are scarce. This relates to the late presentation in Africa of patients with the disease, as often, patients require dialysis at presentation. The reported prevalence of CKD in HIV-infected ART-naïve patients in sub-Saharan Africa ranges from 6%-45% (see Table I).[18]

Table I: Prevalence of human immunodeficiency virus chronic kidney disease

Sub-Saharan Africa		Global	
Country	Prevalence (%)	Country	Prevalence (%)
South Africa	5.5-6	United States	3.5 - 12
Nigeria	38	Europe, Israel, Argentina	3.5 - 4.7
Cote d'Ivoire	26	Hong Kong	18
Tanzania	28.4	Brazil	1.1 - 5.6
Kenya	25	Switzerland	18
Uganda	20-48.5	India	27
Zambia	33.5	Iran	20

Screening studies in South Africa reported proteinuria in 5.5%-6 %, with HIV-associated nephropathy (HIVAN) on biopsy in 5%-83%.[19, 20] Recent studies showed that the risk for HIVAN is linked to the MYH9 gene polymorphism, with the risk variant accounting for all, or nearly all, of the increased risk for FSGS (80%) and HIV-associated collapsing glomerulopathy (100%), that characterise African Americans.[21,22]

The APOL1 variant was reported to be strongly associated with the collapsing glomerulopathy of HIV-associated nephropathy in African Americans.[23] An escalating burden of HIV CKD may be anticipated, with increasing life expectancy on ART, ageing of HIV-infected populations and nephrotoxicity of the various drugs used in this population. Following ART, renal function improved,[24] with renal survival being dependent on the virological response to therapy.[25] Lack of response was attributed to a high index of chronic damage in a study of 61 patients with HIVAN, presenting with advanced CKD at the time of diagnosis and initiation of ART, 56% of whom reached ESRD in at a median time of 4.2 years.[26] The response of both microalbuminuria (MA) and proteinuria to ART was rapid and sustained, resolving to normal limits within 3-6 months.[27]

Diabetes mellitus

There are 135-million diabetics worldwide. This figure is projected increase to 300 million by 2025, and to increase by 170% in developing countries (± 40% in developed countries).[28] Diabetes mellitus affects 9.4-million people in Africa. By 2025, the estimated increase in diabetes mellitus in Africa is anticipated to be 12.7 million, an increase of 140%. The prevalence of diabetic nephropathy is estimated to be 6%-16% in sub-Saharan Africa.[29] Forty percent of diabetics are at risk of overt nephropathy. Diabetic patients with renal disease have a five to six fold increased mortality rate, as compared to diabetic patients with no signs of renal disease, or healthy subjects. CV risk is increased in diabetics according to the level of proteinuria,[30] and the presence of hypertension.[31]

Resources for nephrology care

There is a continuing "brain drain" of health care workers (physicians and nurses) from Africa to more affluent regions.[31] There are large rural areas of Africa that have no health professionals to serve these populations. Table II shows the distribution of physicians and nephrologists in a spectrum of sub-Saharan countries, and their corresponding rates of renal replacement therapy (RRT). There are no nephrologists in many parts of sub-Saharan Africa. The numbers vary from 0.5 per million population in Kenya, to 0.6 per million population in Nigeria, 0.7 per million population in Sudan, 1.1 per million population in South Africa,[32] while the USA had 16.7 nephrologists per million population. Optimal numbers are 30 nephrologists per million population.

Renal replacement therapy

The availability of RRT is limited in much of sub-Saharan Africa due to high costs and the shortage of skilled personnel. This is responsible for the high rates of morbidity and mortality. Most dialysis centres are situated in cities, placing a further burden on patients who often have to travel long distances to a dialysis centre. In-centre haemodialysis is the modality of RRT for the majority of African countries. Many patients are under-dialysed. Only 20% of patients in a Nigerian centre could afford to have dialysis three times weekly and 70% could only afford it once weekly.[33] As the majority are self-funded, very few are able to sustain chronic dialysis beyond six months.

Renal replacement therapy was accessed by approximately 1.8 million people worldwide in 2004. Less than five per cent of the dialysis population was from sub-Saharan Africa. The current dialysis treatment rate ranges from < 20 per million population for most of sub-Saharan Africa (and nil in many Sub-Saharan African countries) to 421 per million population in Egypt. The corresponding figures for Japan are 1 940 per million population, 1 090 per million in the USA, 800 per million in Germany. Dialysis rates are 45 per million for haemodialysis (HD) and 23 per million for continuous ambulatory peritoneal dialysis (CAPD) in South Africa; 46 per million for HD and 3 per million for CAPD in Sudan; and 7.5 per million for HD and 1.2 per million for CAPD in Kenya; compared to 421 per million for HD and 0.3 per million for CAPD in Egypt; 650 per million for HD and 20 per million for CAPD in Tunisia.[32] Availability of CAPD is limited in sub-Saharan Africa because of the high cost of dialysis fluids, and a perception of a high rate of peritonitis. The average cost of haemodialysis in Africa is US$100 per session. The annual costs of CAPD are equivalent to that of in-centre haemodialysis.

Transplantation is carried out in a few sub-Saharan countries: South Africa, Sudan, Nigeria, Mauritius, Kenya and Ghana. Most of the transplants are living donor transplants, except in South Africa, where deceased donor transplants are carried out to a greater extent (80% deceased donors and 20% living donors respectively). Deceased donation is hampered in many countries by lack of a legal framework governing brain death, and religious and social constraints. The transplant rate in Africa averages 4 per million population and is 9.2 per million population in South Africa. [34]

Funding for RRT is primarily private in much of Africa, with the governments of only a few countries providing RRT for small number of patients (e.g. Cameroon, Mali, Mauritius, Rwanda, Sudan and South Africa). Indigent South Africans are able to access chronic dialysis at governmental cost, only if they are eligible for transplantation. In many African countries, chronic dialysis is not sustainable. Patients are unable to afford dialysis beyond the first 2-3 months.

Strategies for Africa

The above highlights important facts on chronic disease epidemiology in Africa, with tremendous public health ramifications. With urbanization, hypertension, diabetes, coronary heart disease and ESRD, are on the verge of becoming an epidemic in Africa. Treatment for all who are affected is beyond the reach of most African countries. The only cost-effective and sustainable means is prevention. How can Africa prevent or curtail the increasing prevalence of these non-communicable conditions?

Primary prevention strategies

Effective prevention and management of chronic conditions requires a co-ordinated, comprehensive health care system involving self-management and regular follow-ups. Public education should take place at an early stage (at schools), and on an ongoing basis, with active media participation to promote healthy living. Financial and other incentives could ultimately result in healthier populations.

Table II: Distribution of physicians, nephrologists and renal replacement therapy in some sub-Saharan African countries

Country	Physicans		Nephrologists	[a]PMP	Renal replacement therapy				
					[b]HD		[c]CAPD		Transplants
	Number (n)	Density/ 10 000	n		n	PMP	n	PMP	n/ year
Nigeria	34 923	3	70	0.6	1 000	8	0		70
Ghana	3 240	2	2	0.1	35	2	0		0
Senegal	594	< 1	2	0.2	50	4.2	26	1	0
Sudan	11 083	3	25	0.7	1 610	46	111	3	74
Kenya	4 506	1	15	0.5	260	7.7	30	1.2	10
Rwanda	432	< 1	1		0		30	3.7	18
South Africa	34 829	8	50	1.1	2 070	45	1058	23	240

a = per million population; b = hemodialysis, c = continuous ambulatory peritoneal dialysis

Countries such as South Africa have legislated successfully against smoking in public places.

Immunisation has played an important role in disease prevention. In 1995, inclusion of the hepatitis B vaccination in the extended programme of immunisation in South Africa, impacted on the prevalence of membranous nephropathy, due to this aetiology in children.

Secondary prevention strategies

The majority of patients with CKD present with terminal uraemia, requiring emergency dialysis. Screening of high-risk populations for CKD (Table III) is a strategy that should be implemented and directed at patients with hypertension, diabetes mellitus, proteinuria, HIV infection, the elderly, and those with a family history of CKD.

Table III: Screening for chronic kidney disease

High risk:
Hypertension Diabetes mellitus HIV Family history of chronic kidney disease
Screening tests:
Urine: protein creatinine ratio; haematuria Serum creatinine → eGFR

All patients diagnosed with HIV infection should be screened for proteinuria and kidney function at presentation, and annually if high risk (Table IV).

Table IV: Recommendations for the screening of HIV chronic kidney disease

Patients at high risk of HIV-related nephropathy:
African descent Low CD4 counts High viral loads Patients with DM, HPT, HCV co-infection 1°/2° relative with ESRD (5.4x increased risk)

Adapted from Gupta et al, Clin Infect Dis, June 2005

Conclusion

The provision of RRT is especially challenging in sub-Saharan Africa. Nephrologists and physicians are faced with a large numbers of ESRD patients, inadequate facilities, funding and support. While prevention strategies are recognised as optimal in managing CKD, they are still in their infancy in much of sub-Saharan Africa, mainly due to a lack of health care workers and funding. Retention of health care workers is a challenge for many African countries. A co-ordinated, comprehensive health care system, with political support and funding, and public and medical education, would be an effective solution to the CKD epidemic.

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Management of diabetic ketoacidosis

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Abstract

Although the mortality of diabetic ketoacidosis (DKA) has decreased substantially in the developed world, high mortality rates still prevail in South Africa, thus making this an important condition to recognise early and manage well. This review discusses the treatment of DKA, with emphasis on the controversial aspect of initial fluid replacement therapy. Current guidelines recommend the use of normal saline. The concern is that normal saline, when used in large volumes, leads to the development of a hyperchloraemic metabolic acidosis which is of uncertain clinical significance. This hyperchloraemic acidosis is better quantified using Stewart's model, as opposed to the "traditional" Henderson-Hasselbalch equation. Ringer's lactate is an alternative choice for initial fluid resuscitation, but may exacerbate the high lactate to pyruvate ratio in patients in DKA, and may cause hyperkaleamia. Insulin therapy, prevention of electrolyte abnormalities, and the replacement of bicarbonate and phosphate, are other important considerations in the management of the patient with DKA.

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Introduction

Diabetic ketoacidosis (DKA) continues to be a frequent cause of admission to the medical ward. In the developed world, the overall mortality rate of adult patients in DKA has been reduced to < 1%.[1] However, in the South African setting, mortality rates remain between 6.8-9%,[2,3] positioning DKA as an important condition that requires correct recognition and management. Furthermore, as the incidence of type 1 diabetes mellitus appears to be increasing in almost all populations worldwide,[4] it is likely that more patients will present in DKA in the future. In addition, awareness is needed of the recently defined entity of ketosis-prone diabetes in patients of African origin, who present in DKA, but who have the clinical and metabolic features of type 2 diabetes.[5] This review will focus on the treatment of DKA, with special emphasis on fluid therapy.

Fluids

Fluid replacement and intravenous insulin administration are the primary and most critical initial treatments of diabetic ketoacidosis (DKA). While it is accepted that fluid resuscitation is a crucial factor, the exact type of fluid to be used remains controversial. The fluid lost in DKA is predominantly due to osmotic diuresis, caused by glycosuria, with minor contributions from vomiting, pyrexia and hyperventilation.[6] The osmolality of the fluid lost is similar to half-normal saline, making it a relatively hypotonic fluid. Half the fluid loss in DKA is derived from the intracellular compartment, and the other half from the extracellular compartment.[6] Although fluid is lost from all body fluid compartments, patients present clinically with hypovolaemia, i.e. depletion of the intravascular compartment. In managing a patient who presents in DKA, the first priority should be to restore the circulating volume and improve tissue perfusion so that insulin may be adequately delivered to the sites of action.[7]

Colloid versus crystalloid solution

Colloid solutions are more effectively retained in the intravascular compartment than crystalloid solutions, and are most efficient for rapid resuscitation. However, a recent systematic review comparing colloid and crystalloid fluid resuscitation across a wide variety of clinical conditions (but not including DKA), failed to show a mortality benefit in favour of using colloid solutions.[8] Crystalloids are preferred as they are readily available and inexpensive compared to colloid solutions. Unlike colloid solutions, they also don't carry the risk of anaphylaxis. With regard to crystalloid solutions, choices include hypotonic solutions such as half-normal saline, or isotonic solutions like normal saline or Ringer's lactate. Table I compares the constituents of normal saline and Ringer's lactate.

Table I: Composition of intravenous fluids, based on one-litre bags

	Normal saline	Ringer's lactate
Na^+ mmol/l	154	130
K^+ mmol/l	0	4
Cl^- mmol/l	154	109
Ca^{2+} mmol/l	0	2.7
HCO_3^- mmol/l	0	0
Lactate mmol/l	0	28
pH	5.0	6.5
Osmolality	308	273

Isotonic versus hypotonic fluid

Since the fluid lost in DKA is hypotonic, should our initial choice of fluid replacement be isotonic or hypotonic?

Hypotonic solutions do not remain intravascular, and for that reason are not ideal for the purposes of initial resuscitation. However, they do manage to restore total body fluid losses with distribution to all three compartments. On the other hand, isotonic fluids are more efficient at restoring circulatory volume.[6] For every litre of infused isotonic saline, a quarter normally remains in the circulatory volume.[6] Because isotonic saline remains largely confined to the extracellular compartment, it does not provide free water to replace intracellular losses. Isotonic fluids are mainly distributed to the interstitial space, and if administered in excess, may lead to peripheral and pulmonary oedema when the interstitial compartment becomes overexpanded.[6]

Normal saline versus Ringer's lactate

Current guidelines from the USA and the UK recommend intravenous isotonic fluid replacement in the management of DKA. A recent consensus statement from the American Diabetes Association[9] advocates the use of isotonic saline as the initial fluid therapy in the absence of cardiac compromise. The Association of British Clinical Diabetologists' guideline[10] agrees. In fact, early studies on DKA in the 1970s used normal saline,[11] and its use continues to be advocated in modern textbooks.[12]

Over the past decade, a number of articles have compared two different approaches to interpreting acid-base disorders.[13,14] The "traditional" approach uses the Henderson-Hasselbalch equation to describe and classify metabolic acidosis. A shortcoming of the traditional approach is that it doesn't allow a distinction between the various possible causes of metabolic acidosis. The "modern" approach is Stewart's physical chemical approach: a model more useful for quantifying acid-base disorders. In Stewart's analysis, there are only three independent variables that determine pH:

- Partial CO_2 tension (PCO_2).
- Total concentration of weak acid (ATOT). In plasma, these consist of albumin and inorganic phosphate.
- Strong ion difference (SID). The SID describes the difference between the concentrations of the strong cations (Na^+, K^+, Mg^{2+}, and Ca^{2+}) and strong anions (Cl^-, lactate, ketoacids, sulphate and others) in a fluid compartment, and may be calculated using the complex equation below.

Any change in pH must be because of a change in one or more of these independent variables, or in the dependent variables, such as hydrogen ion concentration (H^+) and bicarbonate concentration (HCO_3^-).

Calculation of strong ion gap (SIG)

$$SIG = [(Na^+ + K^+ + Ca^{2+} + Mg^{2+}) - (Cl^- + lactate^-)] - (2.46 \times 10^{-8} \times PCO_2/10^{-pH} + [albumin\ (g/dl)] \times (0.123 \times pH - 0.631) + [PO4^-\ (mmol/l)] \times (pH - 0.469)]$$

The concern is that administration of large volumes of normal saline is associated with the development of a hyperchloraemic metabolic acidosis in the majority of patients.[15] This acidosis may be more accurately described as a strong ion acidosis.[16] A problem arises when clinicians use the base deficit in preference to the anion gap to document an improvement in the DKA. The base deficit, although an accurate measure of the total metabolic component of an acidosis, cannot differentiate between coexistent causes like ketosis and hyperchloraemia. Hyperchloraemia, if not explicitly recognised as giving rise to acidosis, may mask resolution of the ketoacidosis. The unwary clinician may erroneously interpret the low bicarbonate as being due to ongoing ketosis or hypovolaemia, and this may prompt an unnecessary alteration in therapy: either a change in insulin dose and/or increased fluid administration.

This is where Stewart's theory comes into play. The "traditional" Henderson- Hasselbalch model assumes that bicarbonate is an independent variable and is not influenced by chloride, hence it cannot satisfactorily explain the mechanism of the hyperchloraemic acidosis. However, Stewart's strong ion approach provides a mechanistic explanation for hyperchloraemic acidosis by using a set of equilibria that describes the chemistry of plasma.[17]

Besides the development of hyperchloraemic acidosis, the administration of large volumes of normal saline may theoretically cause hyperkalaemia through an extracellular shift of K^+ ions caused by acute changes in blood H^+ ion concentration, which occurs secondary to the hyperchloraemic acidosis.[15] A few small studies have suggested that normal saline administration may be detrimental to renal function.[15]

What about the use of Ringer's lactate in DKA? There are arguments against its use for several reasons. Patients in DKA have a high lactate to pyruvate ratio, and the 28 mmol/l of lactate in Ringer's lactate could exacerbate this.[18] Secondly, a litre of Ringer's lactate contains 4 mmol of potassium, which may be life-threatening for a patient who is initially hyperkalaemic. Another consideration is the cost. One litre of Ringer's lactate costs R33.72, as opposed to R12.77 for a litre of normal saline.[19]

Therefore, the question of which fluid replacement is optimal in DKA still remains unanswered. No randomised controlled trials are currently available to support the superiority of one fluid over another. Endocrinologists advocate normal saline, whereas critical care specialists argue against it due to the likelihood of saline causing a hyperchloraemic acidosis. Yet, there is no evidence in the literature that this is clinically significant or dangerous to patients. More prospective studies in this area are needed.

How much fluid to replace?

The average fluid deficit in an adult presenting in DKA is five-to-ten litres,[20] or 100 ml/kg. The fluid deficit may be calculated using the following formula:

Total body water deficit
= (0.6 x body weight in kg) x (1-140/serum Na^+)[21]

Corrected Na^+
= serum Na^+ + 1,6 x [(plasma glucose in mmol/l – 5.551)/5.551]

Patients should receive 1-1.5 l of fluid in the first hour,[9] and thereafter 250-500 ml per hour. The aim is to replace 50% of the fluid deficit during the first 12 hours of presentation, and the remainder within the next 12-16 hours.[22] Since hyperglycaemia is corrected faster than ketoacidosis,[23] dextrose-containing fluids should be used once the glucose falls to < 14 mmol/l to prevent hypoglycaemia.

Insulin therapy

Insulin remains the main component of DKA management. The most common way of administering regular insulin is via the intravenous route, either by continuous infusion, or by hourly administration of a bolus. A landmark randomised controlled trial in patients in DKA demonstrated that insulin is effective, irrespective of the route of administration.[24] In this trial, the group receiving insulin intravenously displayed the most rapid fall in plasma glucose and ketones, when compared to the groups receiving either subcutaneous or intramuscular insulin.[24] Subcutaneous insulin was found to have a delayed onset of action and prolonged half-life. Thus, if carefully titrated, continuous intravenous infusion of regular insulin remains the preferred route of therapy because of its short half-life and ease of titration.

Current treatment guidelines recommend an initial intravenous bolus of regular insulin of 0.1 u/kg, followed by an intravenous infusion of 0.1 u/kg/hour.[9] A more recent randomised controlled trial compared the use of this regimen to intravenous infusions of insulin without the use of a bolus.[25] The findings showed that a bolus dose of insulin was unnecessary if a slightly higher insulin infusion rate of 0.14 u/kg/hour was used.

Since the advent of the insulin analogues, studies have showed that subcutaneous administration of the insulin analogues is an effective alternative to regular insulin administered by the intravenous route in patients presenting in DKA. Patients with mild-to-moderate DKA were treated out of the intensive care unit (ICU) with subcutaneous insulin aspart every one or two hours.[26] This regimen was found to be as safe and effective as an intravenous insulin infusion administered in ICU. In this study, there was no mortality, no difference in length of hospital stay, and no difference in total dose of insulin used. There was approximately 30% less cost with the use of insulin analogues in the general ward, versus intravenous insulin infusions used in ICU. The use of insulin analogues by the subcutaneous bolus route may be a safe, effective and cost-saving alternative in patients with mild, uncomplicated DKA in the general ward setting. However, in our setting, patients are infrequently admitted to ICU and receive hourly regular insulin boluses in the general ward.

Potassium replacement

It is important to measure serum potassium levels before initiating insulin therapy. Patients in DKA usually present with mild-to-moderate hyperkalaemia. In these patients, serum potassium levels are an unreliable indicator of total body potassium, which is usually depleted. If the initial electrolyte panel shows a K^+ of < 3.5 mmol/l, potassium replacement should commence before initiating insulin therapy to avoid the risk of hypokalaemia. Insulin therapy and correction of acidosis cause potassium to move into cells, and may precipitate severe hypokalaemia with arrhythmias and muscle weakness complications. Thereafter, four-hourly monitoring of electrolytes should guide the need for further potassium replacement as shown in Table II. Potassium levels should be maintained within the normal range.

Table II: Guide to potassium chloride replacement

Serum K^+	Replacement
< 3 mmol/l	40 mmol KCl per litre
3.1-4.0 mmol/l	30 mmol KCl per litre
4.1-5.0 mmol/l	20 mmol KCl per litre
> 5 mmol/l	Omit KCl

Bicarbonate therapy

The use of bicarbonate in the treatment of DKA is controversial. A study on both human and animal subjects in DKA showed that administration of bicarbonate augments ketosis and markedly increases blood acetoacetate and B-hydroxybutyrate levels.[27] Bicarbonate therapy actually led to delayed improvement of blood ketones when compared to control subjects, despite more rapid correction of acidaemia. [27] A prospective randomised study in 21 patients showed no beneficial or deleterious effects in those receiving bicarbonate therapy for pH between 6.9-7.1.[28]

In both prospective and retrospective studies of patients in DKA, treated with or without sodium bicarbonate, there were no differences in cardiac or neurologic function, incidence of hypokalemia or hypoglycemia, or rate of recovery from ketoacidosis.[28,29,30] Therefore, no clinical benefit has been demonstrated by the administration of bicarbonate to treat DKA.

There are no prospective randomised studies that have used bicarbonate in patients with a pH < 6.9. Despite a paucity of data on such patients, in an attempt to err on the side of caution, bicarbonate use is advocated in these instances. The rationale is that the administration of sodium bicarbonate in patients with severe acidaemia will increase serum pH, thereby eliminating the potentially deleterious effects of acidaemia. Severe acidaemia causes a decrease in myocardial contractility, [31] a fall in cardiac output and a fall in blood pressure. It also sensitises the myocardium to arrhythmias. Acidaemia reduces the binding of norepinephrine to its receptors. Protons bind to intracellular proteins, as well as extracellular proteins, especially albumin and haemoglobin. Thus, acidaemia may adversely affect important cell functions such as enzymatic reactions, generation of ATP, fatty acid biosynthesis, and bone formation and resorption.[32] On the positive side, a decrease in pH reduces the affinity of haemoglobin for oxygen, thereby enhancing delivery of oxygen to tissues: also known as the Bohr Effect.

Current recommendations support the use of bicarbonate in patients in DKA with an admission pH < 6.9.[9] Patients should receive 100 mmol of 8.4% sodium bicarbonate in 400 ml of water, together with 20 mmol of potassium chloride administered at a rate of 200 ml per hour until the venous pH is more than 7.0. This infusion may be repeated until the pH reaches > 7.0.

It is important to remember that sodium bicarbonate therapy is not without potential harm. The sodium load may worsen hyperosmolarity and cause hypernatraemia. Administration of bicarbonate to humans and animals increases blood lactate, as well as ketone bodies.[27] A number of in vitro studies show that alkalinisation hastens cell death, i.e. acidosis has been shown to protect cells against hypoxic injury in a variety of organs, including the heart, lung and liver. [33,34,35] Potassium shifts into cells as pH rises, sensitising the heart to arrhythmias. It is important, when using bicarbonate, to carefully monitor and replace potassium. Serum ionised calcium concentration is reduced by sodium bicarbonate infusion.

In a study where normal human volunteers were made acidaemic with acetazolamide, and then corrected with sodium bicarbonate, the acute correction of the pH caused increased haemoglobin affinity for oxygen that worsened oxygen delivery to tissues. This effect lasted approximately eight hours.[36]

In summary, many potentially detrimental effects of bicarbonate administration have been identified, but whether these observations are all clinically relevant to humans in DKA is unknown. Further prospective controlled studies are required.

Phosphate replacement

Patients in DKA typically present with hyperphosphataemia, despite whole body deficits in phosphate. However, up to 90% of patients will become acutely hypophosphataemic within six to twelve hours of beginning therapy.[37,38] The hypophosphatemia, resulting from the treatment of DKA, may be attributed to transcellular shifts resulting from a number of factors, including fluid resuscitation, correction of acidosis, insulin therapy, and use of bicarbonate, which lower serum phosphate levels.[38,39]

Symptomatic hypophosphataemia is usually observed when plasma phosphorus falls below 0.32 mmol/l. The clinical manifestations of a low serum phosphate are diverse, and include altered mineral metabolism, disorders of skeletal and cardiac muscle, and respiratory depression. Rhabdomyolysis may complicate severe hypophosphataemia.[40] Another consequence of phosphate depletion is respiratory muscle weakness. This may delay the recovery of patients receiving mechanical ventilation.[41]

Wilson et al showed that the routine use of phosphate therapy does not affect the duration of DKA, dose of insulin required, rate of fall of glucose, morbidity or mortality.[42] However, a number of studies conducted in settings other than DKA show an association between hypophosphataemia and increased mortality.[43,44] It is unclear as to whether the hypophosphataemia contributes to the increased mortality, or whether it is just a marker of severity of illness.[45]

It is generally recommended that patients with severe hypophosphataemia (< 0.3 mmol/l) are treated to avoid potential detrimental consequences, especially if the patients are critically ill, intubated, or are symptomatic.

In patients who require it, 20-30 mmol/l of K_2PO_4 can be added to the replacement fluid.[9] The infusion rate should not exceed 20 mmol per hour of K_2PO_4.[45] Hypocalcaemia may be precipitated by the use of phosphate in the treatment of DKA.[46]

Conclusion

The successful management of a patient in DKA requires careful attention, not only with regard to the abovementioned points pertaining to correction of dehydration, hyperglycaemia and electrolyte imbalances, but also to identification of the precipitating event that gave rise to the DKA, and management of sepsis. Frequent patient monitoring and vigilance for possible complications are vital.

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Honorary Fellows
As at 30 November 2009

* Deceased

*	Abrahamse Leonard George (CMSA) (1991)	Cape Town, SA
	Acquaye Joseph Kpakpo (CP) (2004)	Accra, Ghana
	Adams Aileen Kirkpatrick (CA) (1987)	London, UK
	Adamson Fryhofer Sandra (CP) (2003)	Atlanta, USA
	Akande Oluwole (COG) (2002)	Ibadan, Nigeria
	Alberti Kurt George MM (CP) (1998)	London, UK
*	Anderson Edward William (C PSYCH) (1964)	Frant, UK
	Arulkumaran Sabaratnam (COG) (2005)	London,UK
	Asmal Kader (CMSA) (2003)	Cape Town, SA
*	Atkins Hedley John Barnard (CS) (1968)	London, UK
	Azubuike Jonathan C (C PAED) (2005)	Enugu, Nigeria
	Baird David (COG) (2009)	Edinburgh, UK
*	Ballantyne John Chalmers (C ORL) (1989)	London,UK
	Baltzan Richard (CP) (2001)	Saskatoon, Canada
*	Barlow Charles Sydney (CS) (1970)	Johannesburg, SA
	Becklake Margaret R (CP) (1994)	Montreal, Canada
	Benatar Solomon Robert (CP) (2001)	Cape Town, SA
	Bird Alan Charles (C OPHTH) (2006)	London, UK
*	Blaisdell F William (CS) (1986)	California, USA
*	Bortz Edward L (COG (1957)	Pennsylvania, USA
	Bothwell Thomas Hamilton (CP) (1994)	Johannesburg, SA
	Bouchier Ian Arthur Dennis (CP) (1992)	Edinburgh, UK
*	Boulter Patrick Stewart (CS) (1961)	Cumbria, UK
	Boix-Ochoa José (CS) (2006)	Barcelona, Spain
*	Bradlow Emanuel Percy (CMSA) (1980)	Johannesburg, SA
*	Brain Walter Russell (C NEUROL) (1957)	London, UK
*	Brebner Innes Wares (CS) (1961)	Halfway House, SA
	Breen James Langhorn (COG) (1984)	New Jersey, USA
*	Brock John Fleming (CP) (1973)	Cape Town, SA
	Brown Thomas C K (Kester) (CA) (2002)	Victoria, Australia
	Browse Norman (CS) (1996)	London, UK
*	Bruce John (CS) (1962)	Edinburgh, UK
	Burger Henry (CP) (1984)	Victoria, Australia
	Burgess John H (CP) (1991)	Westmount, Canada
*	Byrne Patrick Sarsfield (CFP) (1975)	Manchester, UK
	Calder Andrew (COG) (2005)	Edinburgh, UK
	Calnan Charles Dermod (C DERM) (1970)	London, UK
	Cameron Donald Patrick (CP) (1998)	Queensland, Australia
	Caruso Vincent (C PATH) (2005)	NSW, Australia
	Chalmers Iain Geoffrey (COG) (2001)	Oxford, UK
*	Chisholm Geoffrey Duncan (C UROL) (1990)	Edinburgh, UK
*	Clark Douglas Henderson (CS) (1979)	Glasgow, UK
*	Clayton Stanley George (COG) (1975)	Surrey, UK
	Clewlow Warren (CMSA) (2006)	Sandton, SA
	Collin John Richard Olaf (C OPHTH) (2007)	London, UK
	Conti Charles Richard (CP) (1991)	Florida, USA
	Courtemanche Albert Douglas (CS) (1991)	Ottawa, Canada
	Couture Jean (CS) (1979)	Quebec, Canada
*	Cowley John Godfrey (CMSA) (1989)	Johannesburg, SA
	Cox John (C PSYCH) (2000)	London, UK
*	Craib William Hofmeyer (CP) (1974)	Somerset East, SA
*	Crichton Eric Cuthbert (COG) (1963)	Cape Town, SA
	Cunningham Anthony Andrew (CA) (2004)	Dublin, Ireland
	Cywes Sidney (CS) (1998)	Cape Town, SA
*	Dacie John Vivian (C PATH) (1973)	London, UK
*	Dall George (CMSA) (1989)	Cape Town, SA
*	Dart Raymond Arthur (CMSA) (1984)	Johannesburg, SA
*	Daubenton François (Snr) (COG) (1986)	Cape Town, SA
*	De Beer Johannes (CMSA) (1978)	Pretoria, SA
	De Klerk Frederick Willem (CMSA) (1994)	Cape Town, SA
	De Laey Jean-Jacques (C OPHTH) (2000)	Gent, Belgium
*	Denny-Brown Derek Ernest (CP) (1971)	Boston, USA
	Deschênes Luc (CS) (1998)	Quebec, Canada
	De Swiet Michael (COG) (2004)	London, UK
	Deutman August (C OPHTH) (2000)	Nijmegen, Netherl.
*	De Villiers Henri Paul (CMSA) (1993)	Johannesburg, SA
*	Dewar Frederick Plummer (C ORTH) (1982)	Ontario, Canada
*	Dewhurst Christopher John (COG (1978)	London, UK
*	Dickson Wright Arthur (CS) (1960)	London, UK
*	Diederichs Nico (CMSA) (1977)	Pretoria, SA
	Dinsdale Henry B (CP) (1996)	Ontario, Canada
*	Donald Ian (COG) (1967)	Essex, UK
*	Dott Norman McOmish (CS) (1957)	Edinburgh, UK
*	Douglas Donald MacLeod (CS) (1972)	Dundee, UK
	Douglas Neil James (CP) (2005)	Edinburgh, UK
*	Doyle J Stephen (CP) (1994)	Dublin, Ireland
*	Drake Charles George (CS) (1972)	Ontario, Canada
	Drife James Owen (COG) (2002)	Leeds, UK
*	Dubb Asher (CP) (1998)	Johannesburg, SA
	Dudley Hugh Arnold Freeman (CS) (1987)	London, UK
*	Duff Francis Arthur Joseph M (CS) (1972)	Dublin, Ireland
*	Dunlop Derrick (CP) (1978)	Edinburgh, UK
*	Du Plessis Daniel Jakob (CS) (1982)	Johannesburg, SA
*	Du Toit Guillaume Tom (C ORTH) (1982)	Johannesburg, SA
	Elkington Andrew R (C OPHTH) (1997)	Hampshire, UK
*	Elliott Guy Abercrombie (CP) (1968)	Cape Town, SA
	English Terence Alexander H (CS) (1991)	London, UK
	Fabb Wesley Earl (CFP) (1975)	Victoria, Australia
	Farooqui Muhammad S (CP) (2001)	Karachi, Pakistan
	Fitzpatrick John Michael (C UROL) (2002)	Dublin, Ireland
	Foëx Pierre (CA) (2007)	Oxford, UK
*	Forman Frank (CP) (1970)	Tel Aviv, Israel
	Foulds Wallace Stewart (C OPHTH) (1992)	Glasgow, UK
	Fritz Vivian Una (FCP) (1972)	Johannesburg, SA
	Galasko Charles S B (C ORTH) (2003)	Cheshire, UK
*	Gear James Henderson S (CMSA) (1990)	Johannesburg, SA
*	Geldenhuys Frans Gert (COG) (1987)	Pretoria, SA
	Genest Jacques (CP) (1970)	Montreal, Canada
*	Gillingham Francis J (C NEUROS) (1981)	Edinburgh, UK
	Gill Geoffrey Victor (CP) (2007)	Wirral, UK
	Gilmore Ian Thomas (CP) (2007)	London, UK
	Giwa-Osagie Osato O F (COG) (2005)	Lagos
*	Gluckman Henry (CP) (1983)	Johannesburg, SA
*	Gordon Isidor (C FOR PATH) (1984)	Durban, SA
*	Gordon-Smith Derek Peter (CMSA) (1993)	Johannesburg, SA
	Greenberger Norton J (CP) (1991)	Massachusetts USA
	Guillebaud John (COG) (2004)	Oxford, UK
	Hamilton Andrew M P (C OPHTH) (2001)	Middlesex,UK
	Hamilton Stewart (CS) (2005)	Alberta, Canada
	Hanlon C Rollins (CS) (1988)	Chicago, USA
	Hanrahan John Chadwick (CS) (1992)	Peppermint Gr. WA
*	Harrison Donald F N (C ORL) (1988)	London, UK
*	Harwood-Nash Derek C (C RAD) (1991)	Toronto, Canada
	Hederman William Patrick (CS) (1992)	Dublin, Ireland
	Hennessy Thomas Patrick J (CS) (1997)	Dublin, Ireland
*	Hoffenberg Raymond (CP) (1999)	Queensland, Austr.
	Hollins Sheila (C PSYCH) (2005)	London, UK
	Hudson Alan Roy (C NEUROS) (1992)	Ontario, Canada

	Hume Robert (CS) (1992)	Glasgow, UK
	Huskisson Ian Douglas (CMSA) (1997)	Cape Town, SA
	Hutton Peter (CA) (2003)	Birmingham, UK
	Idezuki Yaso (CS) (1992)	Saitama, Japan
*	Illingworth Charles Frederic W (CS) (1965)	Glasgow, UK
*	Jaffe Basil (CFP) (2007)	Cape Town, SA
*	Jansen Ernest George (CP) (1959)	Pretoria, SA
*	Janssen Paul Adriaan Jan (CMSA) (1989)	Beerse, Belgium
*	Jeffcoate Thomas Norman A (COG) (1972)	Liverpool, UK
	Joubert Peter Gowar (CMSA) (1999)	Johannesburg, SA
*	Kathrada Ismail (CMSA) (1998)	Durban, SA
*	Kay Andrew Watt (CS) (1972)	Glasgow, UK
	Keogh Brian (CP) (1998)	Dublin, Ireland
	Kerr David Nicol Sharp (CP) (1992)	London, UK
	Keys Derek Lyle (CMSA) (1993)	Johannesburg, SA
*	Kirsch Ralph Emmanuel (CMSA) 2009	Cape Town
*	Knocker Phyllis Amelia H (CMSA) (1988)	Johannesburg, SA
*	Kok Ordino Victor Steyn (CA) (1975)	Pretoria, SA
*	Krige Christiaan Frederik (COG) (1966)	Johannesburg, SA
	Kuku Sonny F (CP) (2001)	Lagos, Nigeria
*	Landau Arthur (CP) (1981)	Cape Town, SA
	Langer Bernard (CS) (2001)	Ontario, Canada
	Leffall LaSalle D (CS) (1996)	Washington, USA
	Lemmer Johan (CD) (2006)	Sandton, SA
*	Leon Alan Henry (CMSA) (1978)	Cape Town, SA
	Levett Michael John (CMSA) (1999)	Cape Town, SA
	Levin Lawrence Scott (C PLAST) (2006)	North Carolina, USA
*	Loewenthal John (CS) (1972)	NSW, Australia
	Looi Lai Meng (C PATH) (2005)	Kuala Lump. Malaysia
	Lorimer Andrew Ross (CP) (2004)	Glasgow, UK
*	Louw Jan Hendrik (CS) (1980)	Cape Town SA
*	Luke Egerton M F (CP) (2001)	Merseyside, UK
	Luntz Maurice Harold (C OPHTH) (1999)	New York, USA
	MacKay Colin (CS) (1998)	Glasgow, UK
*	MacKenzie Walter Campbell (CS) (1975)	Alberta, Canada
	Maryon-Davis Alan (CPHM) (2010)	London, UK
	McDonald John W David (CP) (2004)	Ontario, Canada
	McLean Peter (CS) (1998)	Dublin, Ireland
	MacLean Lloyd Douglas (CS) (1996)	Quebec, Canada
	MacSween Roderick N M (C PATH) (1998)	London, UK
	Mandela Nelson Rohlihlala (CMSA) (1995)	Johannesburg, SA
	Maran Arnold George D (CS) (1998)	Edinburgh, UK
	McKenna Terence Joseph (CP) (2005)	Dun Laoghaire, Dublin
	Meakins Jonathan Larmonth (CS) (2004)	Oxford, UK
	Mensah George A (CP) (2005)	Georgia, USA
*	Mercer Walter (C ORTH) (1956)	Edinburgh, UK
	Meursing Anneke Elina Elvira (CA) (2003)	Blantyre, Malawi
*	Middlemiss John Howard (C RAD) (1975)	London, UK
	Mieny Carel Johannes (CMSA) (1996)	Pretoria, SA
	Mokgokong Ephraim T (COG) (2006)	Medunsa, SA
	Molteno Anthony C B (C OPHTH) (2001)	Otago, New Zealand
	Morrell David Francis (CMSA) (2004)	Kenton on Sea, SA
	Mortimer Robin Hampton (CP) (2004)	NSW, Australia
*	Murley Reginald Sydney (CS) (1979)	London, UK
*	Mushin William Woolf (CA) (1962)	Wales, UK
*	Myburgh Johannes Albertus (CMSA) (1991)	Johanneburg, SA
	Myers Eugene Nicholas (C ORL) (1989)	Pennsylvania, USA
*	Nel Cornelius Johann C (CMSA) (1998)	Bloemfontein, SA
*	Newman Philip Harker (C ORTH) (1982)	Suffolk, UK
	Ngu Victor Anomah (FCS) (2008)	Cameroon
	Norman Geoffrey Ross (FCM) (2003)	
*	O'Brien Bernard McCarthy (C PLAST) (1992)	Victoria, Australia
	O'Donnell Barry (CS) (2001)	Dublin, Ireland
	Ogilvie Thompson Julian	Johannesburg, SA
	Oh Teik Ewe (CA) (2003)	Perth, West Australia
	O'Higgins Niall (CS) (2005)	Dublin, Ireland
	Oliver Thomas Keyser (Jnr) (C PAED) (1980)	North Carolina, USA
*	Ong Guan-Bee (CS) (1976)	Mid-Lev. Hong Kong
	Opie Lionel Henry (CP) (2008)	Cape Town, SA
*	Oppenheimer Harry Frederick (CP) (1968)	Johanneburg, SA
*	Organ Claude H (Jnr) (CS) (1986)	California, USA
	Pasnau Robert O (C PSYCH) (1988)	California, USA
	Patel Naren (COG) (1997)	Dunkeld, Scotland
*	Peel John (COG) (1968)	Salisbury, UK
*	Petrie James Colquhoun (CP) (1998)	Edinburgh, UK
	Pinker George (COG) (1991)	London, UK
*	Platt Harry (CS) (1957)	Manchester, UK
*	Porritt Arthur (CS) (1962)	Wellington, N Zealand
	Prys-Roberts Cedric (CA) (1996)	Bristol, UK
	Ramphele Mamphela Aletta (CMSA) (2005)	Cape Town, SA
	Reeve Thomas Smith (CS) (1991)	NSW, Australia
	Retief Daniel Hugo (CD) (1995)	Alabama, USA
*	Rhoads Jonathan Evans (CS) (1972)	Philadelphia, USA
*	Rice Donald Ingram (CFP) (1975)	Ontario, Canada
	Richmond John (CP) (1991)	Edinburgh, UK
*	Rickham Peter Paul (CS) (1992)	Altendorf, Switzerl.
*	Robson Kenneth (CP) (1969)	London, UK
*	Rosenheim Max Leonard (CP) (1972)	London, UK
	Rosholt Aanon Michael (CMSA) (1980)	Johanneburg, SA
*	Roth Martin (C PSYCH) (1973)	Cambridge, UK
	Rudowski Witold (CS) (1990)	Warsaw, Poland
*	Rupert Antony Edward (CP) (1968)	Stellenbosch, CT
*	Rutledge Felix Noah (COG) (1990)	Texas, USA
*	Saint Charles Frederick Morris (CS) (1967)	Cape Town, SA
	Salter Robert B (C ORTH) (1973)	Ontario, Canada
	Salyer K Everett (C PLAST) (2007)	Texas, USA
	Saunders Stuart John (CMSA) (1989)	Cape Town, SA
	Schulz Eleonora Joy (C DERM) (2006)	Pretoria, SA
	Seedat Yackoob Kassim (CMSA) (1998)	London, UK
	Segal Anthony Walter (CP) (2008)	Durban, SA
*	Sellors Thomas Holmes (CS) (1972)	London, UK
	Sewell Jill (CP) (2005)	Victoria, Australia
*	Shaw Keith Meares (CS) (1979)	Dublin, Ireland
	Shear Mervyn (CD) (1999); (C PATH) (2004)	Cape Town, SA
*	Shields Robert (CS) (1991)	Liverpool, UK
	Shires George Thomas (CS) (1979)	Nevada, USA
	Siker Ephraim S (CA) (1983)	Pennsylvania, USA
	Sims Andrew C Peter (C PSYCH) (1997)	Leeds, UK
	Slaney Geoffrey (CS) (1986)	London, UK
	Smith Edward Durham (CS) (1990)	Victoria, Australia
	Smith John Allan Raymond (CS) (2005)	Sheffield, UK
*	Smith Marlow Rodney (CS) (1976)	London, UK
*	Smythe Patrick Montrose (C PAED) (1988)	Durban, SA
	Soothill Peter William (COG) (2004)	Bristol, UK
	Sparks Bruce Louis W (CFP) (2006)	Parktown, SA
	Spitz Lewis (CS) (2005)	London, UK
*	Stallworthy John Arthur (COG) (1964)	Oxford, UK
*	Staz Julius (CD) (1989)	Cape Town, SA
	Steer Phillip James (COG) (2004)	London, UK
*	Straffon Ralph A (CS) (1992)	Ohio, USA
	Strong John Anderson (CP) (1982)	Edinburgh, UK
	Strunin Leo (CA) (2000)	London, UK
*	Swart Charles Robberts (CP) (1963)	Brandfort, SA
	Sweetnam Sir Rodney (CS) (1998)	London, UK
	Sykes Malcolm Keith (CA) (1989)	Oxford, UK
	Tan Ser-Kiat (CS) (1998)	Singapore
	Tan Walter Tiang Lee (CP) (2001)	Singapore
*	Taylor Selwyn Francis (CS) (1978)	London, UK
*	Te Groen Lutherus Johannes (COG) (1963)	Pretoria, SA
	Terblanche John (CMSA) (1995)	Cape Town, SA
	Thomas William Ernest Ghinn (CS) (2006)	Sheffield, UK
	Thomson George Edmund (CP) (1996)	New York, USA
	Tobias Phillip (CMSA) (1998)	Johannesburg, SA
	Todd Ian P (CS) (1987)	London, UK
*	Townsend Sydney Lance (COG) (1972)	Victoria, Australia
*	Tracy Graham Douglas (CS) (1979)	NSW, Australia
	Trunkey Donald Dean (CS) (1990)	Oregon, USA
	Tucker Ronald BK (CMSA) (1997)	Cape Town, SA
	Turnberg Leslie Arnold (CP) (1995)	Johannesburg, SA
	Turner-Warwick Margaret (CP) (1991)	London, UK
	Underwood James C E (C PATH) (2006)	Sheffield, UK
*	Van der Horst Johannes G (CP) (1974)	Cape Town, SA
	Van Heerden Jonathan A (CS) (1989)	S Carolina, USA
	Vaughan Ralph S (CA) (2003)	Cardiff, UK
*	Viljoen Marais (CMSA) (1981)	Pretoria, SA
	Visser Gerard (COG) (1999)	Utrecht, Netherlands
*	Walt Alexander J (CS) (1989)	Michigan, USA
	Wijesiriwardena Bandula C (CP) (2005)	Kalubowila, Sri Lanka
*	Wilkinson Andrew Wood (CS) (1979)	Edinburgh, UK
*	Wrigley Arthur Joseph (COG) (1957)	Cheshire, UK
	Yeoh Poh-Hong (CS) (1998)	Kuala Lump, Malaysia

Fellowship *ad Eundem*
As at 25 March 2011

* Deceased

	Bowie Malcolm David (C PAED) (2007)	Knysna
*	**Breytenbach** Hermanus (CMFOS) (2001)	Stellenbosch
	Cleaton-Jones Peter Eiddon (CD) (2005)	Johannesburg
	Corder Robert Franklin (CEM) (2007)	Maryland, USA
	Davey Dennis Albert (C PAED) (2008)	Bergvliet, Cape Town
	Davies John Carol Anthony (CPHM) (2007)	Johannesburg
	Gear John Spencer Sutherland (CPHM) (2005)	Still Bay
	Gevers Wieland (CP) (2001)	Rosebank, Cape Town
	Hansen John D Lindsell (C PAED) (2007)	Plettenberg Bay
	Heese Hans de Villiers (C PAED) (2007)	Rondebosch
	Keet Marie Paulowna (C PAED) (2007)	Cape Town
	Levin Solomon Elias (C PAED) (2007)	Johannesburg
	Lemmer Johan (CD) (2003)	Johannesburg
	Makgoba Malegapuru W (CP) (2003)	Durban
	Moodley Jagidesa (COG) (1975)	Durban
	Ncayiyana Daniel JM (CMSA) (2002)	Durban
	Odendaal Hendrik Johannnes (COG) (2009)	Cape Town
	Padayachee Gopalan N (CPHM) (2004)	Cape Town
	Philpott Hugh Robert (COG) (2008)	Durban
	Price Max Rodney (CPHM) (2004)	Cape Town
	Saffer Seelig David (C NEURO) (2004)	Johannesburg
	Sutcliffe Thomas James (C PSYCH) (2008)	Cape Town
*	**Van Reenen** Johannes F (C DENT) (2003)	George
*	**Van Selm** Justin Leander (C OPHTH) (2005)	Plettenberg Bay
	Welsh Neville Hepburn (C OPHTH) (2006)	Lydenburg

Life Members
As at 25 March 2011

* Deceased

Aaron Cyril Leon
Abdulla Mohamed Abdul Latif
* Abel Solomon
Abell David Alan
* Abrahams Abduragiem
Abrahams Cyril
Abramowitz Israel
Ackermann Daniel J Joubert
Adam Anvir
Adams Edward Barry
Adhikari Mariam
* Adler David Ivan
* Adler Max
Adno Jacob
Africa Benjamin Jakobus
Ahmed Yusuf
Aitken Robert James
Alderton Norman
* Alexander Louis Leonard
Allan John Cameron
* Allen Colin E Lewer
* Allen Keith Lewer
Allen Peter John
Allie Abduraghiem
Allison John Graham
Allwood Clifford William
Allwright George Tunley
* Anderson Donald Frederick
* Anderson Joan
Anderson Mary Gwendoline
Anderton Edward Townsend
Andre Nellie Mary
Andrew William Kelvin
Appleberg Michael
Archer Graham Geoffrey
* Armitage Bernard Albert
* Arndt Theodore C Heinrich
Asmal Aboobaker
* Baigrie Robert D Hutchinson
* Bailey Michael John
Baillie Peter
Baines Richard E Mackinnon
Baise Gershan
Baker Graeme Cecil
Baker Lynne Wilford
Baker Peter Michael
Barbezat Gilbert Olivier
Barday Abdul Wahab
* Barlow John Brereton
* Barnard Christiaan Neethling
Barnard Philip Grant
* Barnard Pieter Melius
Barnes Donal Richard
Barnetson Bruce James
* Barrett Carl T Herzl
* Barron David
Barry Michael Emmet
* Baskind Eugene
* Batchelor George Bryan
Bax Geoffrey Charles
Bean Eric
Beatty David William
Becker Herbert
Becker Ryk Massyn
* Bedford Michael Charles
* Beemer Abraham Mayer
Benatar Solly Robert
Benatar Victor
Benjamin Ephraim Sheftel
Bennett Margaret Betty
Bennett Michael Julian
* Bensusan Arthur David
Berk Morris Eli
* Berkowitz Hayman Solomon
Berkowitz Leslie
Berson Solomon David
Bernstein Alicia Sheila
* Bernstein Henry
Bethlehem Brian H James
Beukes Hendrik Johannes Stefanus
* Bezuidenhout Daniel Johannes J
Bezwoda Werner Robert
Beyer Elke Johanna Inge
Biddulph Sydney Lionel
Biebuyck Julien Francois
Binnewald Bertram R Arnim
* Bird Allan Vivian
Blair Ronald Mc Allister
Blaylock Roger Selwyn Moffat
* Blecher John Aubrey
Bleloch John Andrew
Bloch Cecil Emanuel
Bloch Hymen Joshua
* Block Joseph
Block Sidney
Blum Lionel
* Blyth Alan George
Bock Ortwin A Alwin
* Bodenstab Albert TBH
* Bok Louis Botha
* Booth John Vivian
Borchers Trevor Michael
Bosman Christopher Kay
* Botha Daniel Johannes
Botha Jan Barend Christiaan
Botha Jean René
* Botha Louis Johannes
Bothwell Thomas Hamilton
Boulle Trevor Paul
Bowen Robert Mitford
Bowie Malcolm David
* Bradlow Bertram Abraham
Braude Basil
Bremer Paul MacKenzie
Bremner Cedric Gordon
* Brenner Dietrich Karl
Briedé Wilhelmus M Hendrik
Brink Andries Jacob
Brink Garth Kuys
Brink Stefanie
Brits Jacobus Johannes
Brock-Utne John Gerhard
Brokensha Brian David
Broude Abraham Mendel
* Brown Alexander Annan
* Brown Helen Annan
Brown Raymond Solomon
Brueckner Roberta Mildred
Bruinette Hendrik van Rensburg
Bruwer André Daniel
Bruwer Ignatius Marthinus Stephanus
* Buch Julius
Buchan Terry
* Bull Arthur Barclay
Burger Thomas Francois
Burgess John Digby
Burgin Solomon
Burns Derrick Graham
* Burton Dudley Walton
* Butcher Nigel Ross
Butler George Parker
Butt Anthony Dan
Buys Anna Catherina
Byrne James Peter
* Cain Michael Frank
Caldwell Michael William
Caldwell Robert Ian
Carim Abdool Samad
Carim Suliman
Catterall Robert Desmond
Catzel Pincus
Cavvadas Aikaterine
Chaimowitz Meyer Alexander
Chait Jack
Charles David Michael
Charles Lionel Robert
* Charlewood Godfrey Phillips
Charlton Robert William
* Charnock Frederick Niven
* Cheetham Richard W Spencer
* Chenik Gerald Samson
* Chetty Dhevaraj Vasudeva
* Chitters Max
* Chouler Florence Joan Gordon
* Cilliers Leon
Cilliers Pieter Hendrik Krynauw
Cinman Arnold Clive
Claassens Hermanus JH
Clausen Lavinia
* Cluver John Arthur
Clyde Jack Howard
Coetzee Daniël
* Coetzee Louis Frederik
Coetzer Hendrik Martin
Cochrane Raymond Ivan
Cohen Brian Michael
Cohen David
Cohen Eric
Cohen Harvey
Cohen Leon Allan
* Cohen Lionel
Cohen Morris Michael
Cohen Philip Lester
Coller Julian Somerset
Combrink Johanna Elizabeth
Combrink Johanna Ida Lilly
Comfort Peter Thomas
* Conradie Marthinus T Steyn
Cooke Paul Anthony
Cooke Richard Dale
Cooper Cedric Kenneth Norman
Coote Nigel Penley
Coovadia Hoosen Mahomed
Coovadia Mohamed Abdool Hak
* Cort Alexander
Cowie Robert Lawrence
* Cowley John Godfrey
* Cowley Ronald
* Cowlin John Albert
* Cox Herbert Walter
Coxon John Duncan
Craig Cecil John Tainton
Crewe-Brown Heather Helen
Crichton Eric Derk
Crosier James Herbert
Crosley Anthony Ian
Croucamp Petrus C Hendrik
Cullis Sydney Neville Raynor
Cumes David Michael
Cywes Sidney
* Dall George
Dalrymple Desmond Ross
Danchin Jack Errol
* Dando Raymond Victor
Danilewitz Daniel
Daneel Alexander Bertin
Darlison Michael Tatlow
Daubenton François
* Daubenton François (Snr)
Daubenton John David
Davey Dennis Albert
Davidson Aaron
Davies David
Davies Michael Ross Quail
Davis Charles Pierre
* Davis Meldrum J Finnamore
Dawes Marion Elizabeth
* Daynes William Guy
De Beer Hardie Alfred
De Klerk Daniel Johannes Janse
* De Kock Johannes Hendrikus
* De Kock Machiel Adriaan
De Villiers Jacquez Charl
* De Villiers Jan Naude
De Villiers Pieter Ackerman
De Wet Jacobus Johannes
Dean Joseph G Kerfoot
* Denis-Lester Leslie
Dent David Marshall
Dennehy Patrick J Pearce
Derman Henry Jack
Dhansay Jalaluddin
Dhansay Yumna
* Dickie-Clark William Findlay
Digby Rodney Mark
Distiller Lawrence Allen
Docrat Rookayia

* Dommisse George Frederick
Donald Peter Roderick
Dornfest Franklyn David
Douglas-Henry Dorothea
Dove Ephraim
* Dove Jechiel
* Dowdle Eugene B Davey
Dower Peter Rory
* Dreyer Cornelis Jan
Dreyer Wynand Pieter
* Dubb Seymour
* Duckworth William Calvert
Duncan Harold James
Dunning Richard Edwin Frank
* Du Plessis Daniel Jacob
Du Plessis Dionisius Johann
Du Plessis Hendrik Pienaar
Du Plessis Hennie Lodewia
* Du Plessis Hercules Gerhardus
* Du Plessis Willem Hendrik
Durham Francis James
* Du Toit Guilluame Tom
Du Toit Johan Jakob
Du Toit Johan Loots
Du Toit Pierre F Mulvihal
Duursma Rienk Willem
Duys Pieter Jan
* Dykman Cornelis Derksen
* Eales Lennox
Eathorne Allan James
Edelstein Harold
* Edelstein Wolfe
Edge Kenneth Roger
* Edge William E Basil
Ehrlich Hyman
Eksteen Jurgen Kotze
* Engelbrecht Jacobus Adriaan
Enslin Ronald
* Enslin Theophilus Benedictus
* Epstein Edward
Erasmus Frederick Rudolph
Erasmus Philip Daniel Christoffel
Essack Maimona
Esterhuysen Stephen Philip
Etellin Pierre Anthony
Evans Warwick Llewellyn
* Evans William Benjamin David I
* Eyre Jane
* Faiman Israel Osser
* Fainsinger Maurice Haig
Fanarof Gerald
Fehler Boris Michael
* Feldman Max Bernard
Fergusson David J Guillemard
Fernandes Carlos Manuel Coelho
Findlay Cornelius Delfos
Fine Julius
Fine Leon Arthur
Fine Stuart Hamilton
* Fischer Gustav Fichardt
Fisher-Jeffes Donald Leonard
Fleishman Solomon Joel
Flynn Michael Anthony
Fontein Batholomeus T Petrus
* Foord Charles John
Forman Robert
Förtsch Hagen E Armin
Foster Nathaniel E George
Foster Patrick Anthony
* Fourie Christian F Gilsen
Frankel Freddy Harold
Frank Joachim Roelof
* Franks Maurice
Freedman Jeffrey
* Freeman Arthur Arnold
Freiman Ida
* Friedberg David
* Friedland Benjamin Percival
* Friedman Isidore
* Friedman Sydney
Friedmann Allan Isodore
Fritz Vivian Una
* Frost Cyril
Froese Steven Philip
* Fuller Denis Norden
* Futeran Gerald
Galatis Chrisostomos
Galloway Peter Allan
Gani Akbar
Garb Minnie
Gardner Jacqueline Elizabeth
* Gasson Charles H Reginald
Gasson John Edward
Gaylis Hyman
* Geere Jacobus Johannes
* Geerling Rudolf
* Geffen Heime
* Geldenhuys Frans Gert
Gentin Benjamin
* Gerber Johan Abraham
Gersh Bernard John
Gibson John Hartley
Gildenhuys Jacobus Johannes
Gillis Lynn Sinclair
* Gillmer Ralph Ellis
Ginsberg Hilde
* Girdwood Donald Hampden
Glazer Harry
* Glen Alan Murray
* Gluckman Jonathan
Glyn Thomas Raymond
Goeller Errol Andrew
* Goetz Robert Johannes
* Goldberg Solomon
* Goldblatt Nochem
Goldin Martin
Goldschmidt Reith Bernard
Goldstein Bertie
* Gollach Benjamin Leonard
Goodley Robert Henry
Goodman Hillel Tuvia
Goosen Felicity
* Gordon Grant M Cameron
* Gordon Isidor
Gordon Robert John
* Gordon Vivian Nathan
* Gordon Walter
* Gordon-Smith Derek Peter
Gorvy Victor
Govender Perisamy Neelapithambaran
Govind Uttam
* Gowans Ronald
* Graham John Donald
Graham Kathleen Mary
* Grant John F Cardross
* Grayce Isaac
* Grek Isaac Joseph
Greyling Jacobus Arnoldus
* Grieve James Muir
Griffiths Joan McElwee
Griffiths Seaton Bythyl
Grimbeek Johannes Fredericus
Grobbelaar Nicolaas Johannes
Grobler Johannes Lodewikus
Grobler Marthinus
Grotepass Frans Willem
* Grundill Wilfrid
* Grusiner Wolf
* Haarburger Oswald Maximillian
* Hacking Edgar Bolton
Haffejee Ismail Ebrahim
* Hamelberg Henri Jacques
* Hamilton Clarence Gawn
* Hamilton Donald Graham
* Hamilton Ritchie Douglas Archibald
Hammer Alan John
Hangelbroek Peter
Hansen Denys Arthur
Hansen John D Lindsell
Harper Peter James
Harris Ian Michael
* Harris Michael
* Harrison Derek Haddrell
* Harrison Gaisford Gerald
Hartdegen Richard Gerhardus
Hartley Patricia Staunton
Hartman Ella
Hassan Mohamed Saeed
* Haupt Frank Johannes Groot
Hawthorne Henry Francis
* Haynes Donovan Russell
Hayward Frederick
Head Mark Stephen
Heese Hans de Villiers
Heitner Rene
Hefer Adam Gottlieb
* Helfet Arthur Jacob
Helman Isaac
Henderson Linda Grantham
Henderson Rex Scott
* Hendrix Robert J Maria
* Henning Alwyn J Harvard
* Henson Soloman
* Hersch Sidney Julius
* Hersman Doris
* Heselson Jack
* Heymann Seymour Charles
Heyns Anthon du Plessis
Hift Walter
Higgs Stephen Charles
Hill John William
Hill Paul Villiers
Hillock Andrew John
* Hilson Don
Hirschowitz Jack Sydney
Hirschson Herman
Hitchcock Peter John
Hockly Jacqueline Douglas Lawton
Hoffmann David Allen
Hoffmann Vivian Jack
* Hofmeyr Francis Edward
Hofmeyr Nicholas Gall
Holdsworth Louis David
Holland Victor Bernard
Holloway Alison Mary
Horak Lindley Rousseau
Horrowitz Stephen Dan
* Hossy Sidney Charles
Hovis Arthur Jehiel
Howell Michael E Oram
Howes Neville Edward
Hugo André Paul
* Hugo Pierre Andre
* Human Randolph Russell
Hundleby Christopher J Bretherton
Hurwitz Charles Hillel
Hurwitz Mervyn Bernard
Hurwitz Solomon Simon
Huskisson Ian Douglas
Hyslop Robert James
Immelman Edward John
Ichim Camelia Vasilica
Ichim Liviu
* Ingle Pauline Cornwell
Isaacson Charles
Ismail Khalid Hajee
* Ismail Mahomed Hoosen Hajee
Israelstam Dennis Manfred
* Jacob Hilderbrand Hamilton
Jacobs Daniel Pieter Sydney
Jacobs Miguel Adrian
Jacobs Peter
* Jacobson Isaac
* Jaffe Basil
Jammy Joel Tobias
Jan Farida
Janse van Rensburg Johan Helgard
* Janse van Rensburg Lucas Carl
Jansen van Rensburg Martinus
Jassat Essop Essak
Jasön Peter Michael Constantine
Jedeikin Leon Victor
Jeena Hansa
Jeffery Peter Colin
* Jeppe Carl L Biccard
Jersky Jechiel
Jöckel Wolfgang Heinrich
* Joel-Cohen Sidney
Joffe Leonard
Joffe Stephen Neal
Johnson Sylvia
* Jones Cecil Stanley
Jonker Edmund
Jooste Edmund
Jooste Jacobus Letterstedt
Jordaan James Charles
Jordaan Johann Petrus
Jordaan Robert
Joubert James Rattray
Kaiser Walter
* Kalley Harold Aaron
Kane-Berman Jocelyne Denise
Lambie
Kaplan Cyril Jacob
* Kaplan Harry
Kaplan Neville Lewis
Karlsson Eric Lennart
* Karstaedt Abraham Lemel
* Katz Arnold
* Katz Hymie
Kaufman Morris Louis
* Kay Sholem
* Keen Edward Norman
Keet Marie Paulowna
Keet Robert Arthur
Keeton Godfrey Roy
Kemp Donald Harold Maxwell
Kenyon Michael Robert
Kernoff Leslie Maurice
* Kerr Edward Matson
Kessler Edmund
Kew Michael Charles
Key Jillian Jane Aston
Kieck Charles Frederick
King Jennifer Ann
King John Frederick
Kinsley Robin Howard
* Kirsch Ralph Emmanuel
* Kisner Cyril David
* Klein Herman
Klein Hymie Ronald
* Klenerman Pauline
Klevansky Hyman
Kling Kenneth George
Klopper Johannes Frederick
* Kloppers Phillippus Johannes
Klugman Leon Hyam
Knobel John
* Knocker Phyllis A Hendrika
Knoetze Gerald Casparus
* Knox Lance O'Neil
Kok Hendrick Willem Lindley
Koller Anthony Bruce
Koopowitz Joseph Ivan
* Kornell Simon
Kotton Bernard

* Kotzé Johannes van Zyl
Koz Gabriel
* Kramer Michael Sherman
Krengel Biniomin
* Kretzmar Noel
Kriel Jacques Ryno
* Krige Christiaan Frederick
Krige Louis Edmund
* Kriseman Michael Maurice
* Krogh Lex
Kussel Jack Josiah
Kussman Barry David
Labuschagne Izak
Lachman Anthony Simon
Lachman Sydney Joshua
La Grange Jacobus Johannes Christiaan
Laing John Gordon Dacomb
Lake Walter Thomas
Lallo Maneklal
Lamont Alastair
Lampert Jack Arthur
Landsberg Pieter Guillaume
* Landsman Gerald Bernard
Lantermans Elizabeth Cornelia
* Lapinsky Gerald Bert
Large Robert George
Lasich Angelo John
Latif Ahmed Suliman
Laubscher Willem M Lötter
Lautenbach Earle E Gerard
* Lawrence Henry Martin
Lawson Hugh Hill
Leary Peter Michael
Leary William P Pepperrell
Leask Anthony Raymond
Leaver Roy
* Lebona Aaron David
Leeb Julius
* Leeming John A Lamprey
* Leigh Werner E Julius
Lejuste Michel JL Remi
* Lemmer Eric Richard
Lemmer Johan
Lemmer Lourens Badenhorst
Le Roex René Denyssen
* Le Roux Desmond Raubenheimer
Le Roux Petrus A Jacobus
Lessing Abrahim J Petrus
Levenstein Stanley
Levin Joseph
Levin Solomon Elias
Levy Reginald Bernard
Levy Wallace Michael
Levy Walter Jack
Lewin Arthur
* Lewin Ethel
* Lewis Henry Montague
L'Heureux Renton
* Liebenberg Nicolaas Dreyer
Linde Stuart Allen
Lipper Maurice Harold
* Lipschitz David
* Lipschitz Robert
* Lipsitz Max
Lipworth Edward
Lissoos Irving
Lloyd David Allden
Lloyd Elwyn Allden
Lochner Jan de Villiers
Lodemann Heide Katharina
Loening Walter E Karl
Lombard Hermanus Egbertus
Loot Sayyed M Hosain
Loots Petrus Beaufort
Losken Hans Wolfgang
Losman Elma
Lotzof Samuel
Loubser Johannes Samuel
* Louw Adriaan Jacobus
* Louw John Xavier
Macdonald Angus Peter
MacEwan Ian Campbell
* MacGregor James MacWilliam
MacKenzie Basil Louis
MacKenzie Donald Bernard
MacLeod Ian Nevis
MacPhail Andrew Patrick
* Maggs Roderick Frank
Maharaj Ishwarlall Chiranjilall
Mahomed Abdullah Eshaak
Mair Michael John Hayes
Maitin Charles Thabo
Malan Atties Fourie
Malan Christina
* Malan Gerard
Maliza Andile
* Malkiel-Shapiro Boris
Mangera Ismail
* Mangold Fritz Theodor
Mankowitz Emmanuel
* Mann Noël Myddelton
Mann Solly
Marais Ian Philip
Marais Johannes Stephanus
* Marchand Paul Edmond
Maresky Abraham Leib
* Maresky Leon Solomon
Marivate Russell
Margolis Frank
Margolis Kenneth
Marivate Martin
Markman Philip
Marks Charles
* Masey George R Frederick
* Mason Eric Ivor Henry
* Massey Patricia J Helen
Matisonn Rodney Earl
* Matus Szlejma
Mauff Alfred Carl
May Abraham Bernard
Maytham Dermine
McCutcheon John Peter
McDonald Robert
* McIntosh Robert Roy
McIntosh William Andrew
McKenzie Malcolm Bett
McPhee Michael Henry
Mears Jasper W Walter
Meer Farooq Moosa
Meeran Mooideen Kader
Melvill Roger Laidman
Melville Ronald George
Mervis Benjamin
* Mendel Sonnie Ivan
* Mendelow Harry
* Mendelsohn Leonard Meyer
Meyer Anthonie Christoffel
Meyer Bernhardt Heinrich
* Meyer Cornelius Martinus
Meyer David
* Meyer Eric Theodore
* Meyer Jan Abraham
Meyer Julius
Meyer Roland Martin
Meyers Anthony Molyneux
Meyersohn Sidney Jacob
Meyerson Louis
* Michael Aaron Michel
Michaelides Basil Andrew
Michaels Maureen Jeanne
Michalowsky Aubrey Michael
Michelow Maurice Cecil
Midgley Franklin John
Mieny Carel Johannes
Miles Anthony Ernest
Millar Robert Norman Scott
* Miller Samuel
Milne Anthony Tracey
Milne Frank John
Milner Selwyn
* Mirkin Wilfred Hyman
Misnuner Zelik
Mitchell Peter John
Mokhobo Kubeni Patrick
Molapo Jonathan Lepoqa
* Möller Carl Theodorus
Molteno Christopher David
Moodley Jagidesa
Moodley Thirugnanasumburanam
Moola Yousoof Mahomed
Moosa Abdool-Sattar
Morley Eric Clyde
Morrell David Francis
Morris Charles David Wilkie
* Morris Derrick Ryder
Morris Edel
Morrison Gavin
Moti Abdool Razack
Movsowitz Leon
Mullan Bertram Strancham
* Muller Hendrik
Mulligan Terence P Simpson
* Mundy Raymond
* Murray Neil Laird
* Myburgh Johannes Albertus
Myers Leonard
Naidoo Balagaru Narsimaloo
Naidoo Lutchman Perumal
Naidoo Premilla Devi
Nair Gonasegrie Puckree
Nanabhay Sayed Suliman
Nash Eleanor Scarborough
Naude Johannes Hendrik
* Naylor Aubrey Chalkley
Neifeld Hyman
Nel Elias Albertus
Nel Jan Gideon
Nel Jacques Bernadus Anton
Nel Pieter Daniel
* Nel Rhoderic William Arthur
Nel Wilhelm Stephanus
Neser Francois Nicholas
Nestadt Allan
Newbury Claude Edward
* Nicholson John Campbell
Nicholson Melanie Eugene
Noble Clive Allister
Noll Brian Julian
Norman-Smith Jack
* Norwich Isadore
Novis Bernard
Nurick Ivan James
Obel Israel Woolf Promund
Odendaal Hendrik Johannes
Okreglicki Andrzej Michael
Olinsky Anthony
Oliver Johannes Andries
Omar Yusuf
* Opie William Henry
Orelowitz Manney Sidney
Osler Henry Ingram
Ospovat Norman Theodore
Padayatchi Perumal
Palmer Philip Edward Stephen
Palmer Raymond Ivor
Pantanowitz Desmond
* Paradisgarten Hymie Charles
Parkes John Ryan
Parsons Arthur Charles
* Pascoe Francis Danby
Pasco Michael Danby
Patel Prabhakant Lalloo
Pather Runganayagum
Pearlman Theodore
Peer Dawood Goolam Hoosen
* Penn Jack
* Penzhorn Herbert Otto
* Pein Nathaniel Kemsley
Perdikis Phoebus
* Perk David
Peters Ralph Leslie
Pettifor John Morley
Philcox Derek Vincent
Phillips Gerald Isaac
Phillips Louisa Marilyn
* Piesold Gerald A Ferdinand
* Pieterse Holland Frederik
Pillay George Permall
Pillay Govindasamy Sokalingum
Pillay Rathinasabapathy Arumugam
Pillay Thiagarajan Sundragasen
Pillay Veerasamy K Govinda
Planer Meyer
Plit Michael
Polakow Everard Stanley
* Polakow Raphaely
Politzky Nathan
Pollak Ottilie
Polley Neville Alfred
Pompe van Meerdervoort Hjalmar Frans
Porteous Paul Henry
Porter Christopher Michael
* Posel Max Michael
* Potgieter Louis
Power David John
Prentice Bernard Ross
Pretorius David H Schalk
Pretorius Hendrik Petrus Jacobus
Pretorius Jack
Pretorius Johannes Jacobus
Pretorius Johannes Lodewikus
* Price Samuel Nathaniel
Prinsloo Simon Lodewyk
Procter Desmond S Collacott
Prosser Geoffrey Leslie
Prowse Clive Morley
Przybojewski Jerzy Zbigniew
Pudifin Dennis James
Quan Tim
Quantock Owen Peter
Quinlan Desmond Kluge
Quirke Peter Dathy Grace
* Rabinowitz Albert
* Rabinowitz Leslie
Radford Geoffrey
Raftopulos Paris
Raghavjee Indira Vaghjee
Raine Edgar Raymond
Rankin Anthony Mottram
Ransome Olliver James
Rayman Ashley
Rebstein Stephen Eric
Redfern Michael John
Reichman Leslie
Reichman Percy
* Reid Frederick Payne
Reidy Jeremy Charles
Reif Simon
Reinach Werner
Renton Maurice Ashley
Retief Daniel Hugo
* Retief Degenes Jacobus
Retief Francois Jacobus
Retief Francois Johannes Petrus
Retief Francois Pieter
Reynders Johannes Jurgens
Reyneke Philippus Johannes
Rice Gordon Clarke
* Richey Allan Frank Whitfield
Richards Alan Trevor
Richmond George

Ritchken Harry David
Roberts William A Brooksbank
* Roberts William Michael
* Robertson Thomas Chalmers
Robinson Brian Stanley
Rode Heinz
Rogan Ian MacKenzie
Roediger Wolf Ernst Wilhelm
Roelofse Hendrik Johannes
Roman Horatius E Hereward
Roman Trevor Errol
Rome Paul
Roos Charles Phillipus
Roos Nicolaas Jacobus
Roose Patricia Garfield
Rosenberg Basil
Rosenberg Edwin Robert
* Rosenthal Elijah
* Rosin Isodore Roland
* Ross Bremner Lloyd
Rousseau Theodore Emile
Rossouw Dennis Pieter
* Rossouw Johan Tertius
* Rothschild Emil E Aaron
* Roux Daniel Jacobus
Rudolph Isidore
* Russell John Tait
* Rutovitz Isaac Jacob
Ryan Raymond
* Sacks Selig
* Sacks Sidney
Sacks William
Safro Ivor Lawrence
Salant David John
* Salkinder Joe
Samson Ian David
Samson John Monteith
Sandeman John Charles
* Sanders Eric John
Sanders Hannah-Reeve
Sandison Alexander Gorrie
* Saner Robert Godfrey
Sapire David Warren
* Sarkin Theodore Leonard
* Sartorius Kurt Honbaum
Saunders Stuart John
Saxe Norma Phyllis
Schaetzing Albrecht Eberhard
Scallan Michael John Herbert
Schepers Anton
* Schepers Nicolaas Jacobus
Scher Alan Theodore
Schneider Cecil Max
* Schneider Tobias
Schneier Felix Theodore
Scholtz Roelof
Schutte Philippus Johannes
Schwär Theodor Gottfried
Schwarz Kurt
Scott Bruce William Haigh
* Scott James Graham
Scott Neil Petrie
Scott Quentin John
* Scott Walter Fleming
Scragg Joan Noelle
Seaward Percival Douglas
Sedgwick Jerome
Seedat Yackoob Kassim
Sellars Sean Liam
Senior Boris
* Sesel John Ruby
Shapiro Benjamin Leon
* Shapiro Max Phillip
* Shapiro Norman
Sharpe Jean Mary
Shear Mervyn
Sher Gerald
Sher Geoffrey
Sher Joseph Norman
Sher Mary Ann
Sher Rickard Charles
Shété Charudutt Dattatraya
Shulman Louis
Shweni Phila Michael
Siew Shirley
Silberman Reuben
Silbert Maurice Vivian
Simons George Arthur
* Simonsz Christiaan G Adolph
* Simpson Thomas Victor
Simson Ian Wark
Singer Martin
* Sischy Benjamin
* Skinner Donald Pape
Skudowitz Reuben Benjamin
Sliom Cyril Meyer
* Smalberger Johannes Marthinus (Snr)
Smit Wilhelm Michiel
Smith Alan Nathaniel
* Smith John Alaister
* Smith Lionel Shelsley
Smith Michael Ewart
* Smith Petrus Nicolaas
* Smulian Hubert Godfrey
* Smythe Patrick Montrose
Sneider Paul
Snyman Adam Johannes
Snyman Hendrick G Abraham
* Solomon Herman Israel
Somera Satiadev
Sonnendecker Ernest W Walter
Sparks Bruce Louis Walsh
Spies Sarel Jacob
Spilg Harold
* Spitz Mendel
Stein Aaron (Archie)
Stein Abraham
* Stein Leo
Stein Lionel
Stein Mannie
* Stern Ferdinand
Stewart-Wynne Edward George
* Steyn Dora Nell
Steyn Gerbrandt
Steyn Izak Stefanus
Stronkhorst Johannes Hendrikus
Styger Viktor
Suliman Abdoorahaman Ebrahim
Sur Monalisa
Sur Ranjan Kumar
* Sutin Gerald Joseph
* Suzman Moses Myer
Svensson Lars Georg
Swanepoel André
* Swart Barend Hermanus
Swart Johannes Gerhardus
Swartz Jack
Swift Peter John
Tang Kenneth
Tarboton Peter Vaughan
Taylor Robert Kay Nixon
Te Groen Frans Wilhelmus
* Te Groen Lutherus H Treub
* Teeger Arnold
Terblanche John
Terespolsky Percy Samuel
Thaning Niels-Otto
* Thatcher Geoffrey Newton
Theron Eduard Stanley
Theron Francis
Theron Jakobus L Luttig
Tinker John
Thomson Alan J George
Thomson Morley Peter
Thomson Peter Drummond
Thompson Michael Wilson Balfour
Thompson Roderick Mark McGregor
Thorburn Kentigern
Thornington Roger Edgar
Thorp Marc Alexander
* Tobias Ralph Lulu
Toker Eugene
* Tomlinson John R Dacomb
Treisman Oswald Selwyn
Trichard Louis C G Lennox
* Trope Robert Allan
* Trott Edmund Lorimer
* Trubshaw William H Daines
* Tucker Robert D St George
Tucker Ronald B Kidger
Turner Peter James
Underwood Ronald Arthur
Ungerer Matthys Johannes
Utian Hessel Lionel
Van Coeverden de Groot Herman A
Van Coller Beulah Marie
Van den Berg Andries D Petrus
Van den Bergh Cornelius Jacob
Van den Ende Jan
Van der Merwe Christiaan
Van der Merwe Gideon Daniel
Van der Merwe Hendrik Johannes
Van der Merwe Jan Abraham
Van der Merwe Schalk W Petrus
Van der Meyden Cornelis Hendrikus
* Van der Riet John Werendly
* Van der Riet Ryno le Seur
Van der Spuy Johan Wilhelm
Van der Walt Andrè
* Van der Walt Johannes Joachim
Van der Walt Pieter Johannes
Van der Wat Jacobus JH Botha
* Van Dongen Leon G Raymond
Van Drimmelen Bertha
Van Drimmelen Pieter
Van Gelderen Cyril Jack
Van Graan Nico Jacobus
Van Greunen Francois
* Van Hasselt Carel Hugh
Van Helsdingen Jacobus O Tertius
* Van Huyssteen Hendrik Roelof (Snr)
Van Leenhoff Johannes Willem
Van Niekerk Christopher
Van Niekerk Christoffel Hendrik
Van Niekerk Gilbert André
* Van Niekerk Willem Abraham
* Van Rooyen Adriaan J Louw
* Van Schalkwyk Colin Henri
Van Schalkwyk Derrick
Van Schalkwyk Herman Eben
Van Selm Christopher Denys
* Van Selm Justin Leander
Van Wyk Chris
Van Wyk Eugene Muller
Van Wyk Frederick A Kelly
* Van Zyl Jakobus J Wynand
Van Zyl-Smit Roal
Velzeboer Sallly Jane
Venter Pieter Ferdinand
* Victor Arthur
Viljoen Ignatius Michael
* Viljoen Theunis Gabriel
Visser Daniel
* Vogelpoel Louis
Von Varendorff Edeltraud Mathilde
Von Wielligh Gysbertus Johannes
Vooght Terence Edward
Vorster Carl Theodorus
* Vosloo Arnoldus Johannes
Wade Harry
Wahl Jacobus Johannes
Walker David Anthony
Walker Dennis Hamilton
Walker John Douglas
* Walker Lindsay Hamilton
Walls Ronald Stewart
* Walsh James Clifford
* Warren George St Leger
* Watson Ian France
* Wayburne Samuel
Webber Bruce Leonard
Weich Dirk Jacobus Visser
Weinberg Eugene Godfrey
* Weingartz Felix Kruger
Wellsted Michael Dennis
Welsh Ian Bransby
Welsh Neville Hepburn
* Welsh Robert Hepburn
* Wessels Cornelius Johannes
Westaway Joan Lorraine
Weston Neville Anthony
Whiffler Kurt
* White Ian William Craig
Whitfield Leslie Edwin
Whiting David Ashby
Whittaker David Ernest
Wickens Johannes Tromp
Wienand Adolf Johann
Wiggelinkhuizen Jan
Wilkinson Lynton Dallas
Willemse Pieter
Willers Petrus Salmon
Williams Margaret Ethel
Williams Robert Edward
Wilson Peter James
Wilson Timothy Dover
Wilson William
Wilton Thomas Derrick
Wingreen Basil
Winship William Sinclair
Wise Roy Oliver
Wittenberg Dankwart Friedrich
* Wium Peter Pet
Wolfsdorf Jack
* Wood Frank Henry
Wootton John Barry Leif
Wranz Peter Anthony Bernhard
Wright Ian James Spencer
Wright Michael
Wunsh Louis
* Wykerd Hermanus Claassens
* Wylde Ronald Burns
* Youngleson John Henry
Yudaken Israel Reuwen
Zaacks Philip Louis
Zaaijman John du Toit
Zabow Tuviah
Zent Clive Steven
Zent Roy
Zieff Solly
Zion Monty Mordecai