TRANSACTIONS

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Admission Ceremony October 2019

TRANSACTIONS

Volume 64 (1) January - June 2020

Contents

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Instructions to Authors

1. MANUSCRIPTS

1.1 All copies should be typewritten with double spacing and 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 (ie 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, ie telephone, mobile, 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 Figure 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 numbers should be given.

3.3 "Unpublished observations" and "personal communications" may be cited in the text, but not as references.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 invading 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 keen to establish the whereabouts of the following "lost members", some of whom may be deceased. Any information that can be of assistance to the CMSA can be forwarded to:

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Furstenburg, Phillip Pieter
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Gnawali, Meghraj
(College of Paediatricians)

Greyling, Marina
(College of Neurologists)

Jennings, Ronald Edward
(College of Psychiatrists)

Ngakane, Herbert
(College of Surgeons)

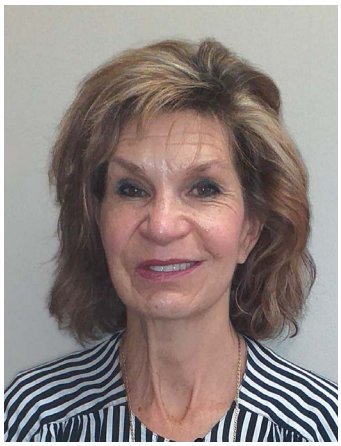
Rensburg, Megan Amelia
(College of Pathologists)

Theron, Jakobus Lodewikus Luttig
(College of Surgeons)

Tun, Myint
(College of Surgeons)

Information as at 17 March 2020

Editorial
Professor Leanne Sykes
Building, Constructing and Developing


Professor Leanne Sykes

Welcome to a new decade, a new editor and many new faces at the CMSA.

During the last few years we have worked through many of the early "teething problems" (excuse the dental analogy) of the Unitary Exit Examinations process. This would not have been possible without the dedicated perseverance and hard work of all the staff at the CMSA as well as the members of the various committees, the steering guidance from Mrs Ann Vorster, the input from our educationalist Vanessa Burch, and of course the total buy-in and commitment from you, our colleagues and members. We are also aware that rapid and dramatic changes are taking place in the world with respect to urbanization and migration, science and technology and the future of the earth. The stethoscope is dying after serving us well for over 200 years and will likely be replaced with a handheld ultrasonic device. With these rapid advances and the momentum of the Fourth Industrial revolution, our curricula, teaching, learning spaces and examination methodologies also need to transform. "There is a demand for us to try and solve many of the crucial healthcare challenges through translational research that integrated various disciplines. This will entail integration of Big Data platforms for collection and interpretation of data, as well as practical skills training using state of the art technology"[1]. To this end we ourselves need to remain current, and to adapt to the changing world. I thus chose a theme of "Building, Constructing and Developing" for this edition of the Transaction Journal. The research paper by Cloete, Jooste, Parker and Geduld reflects of how the College of Emergency Medicine has grown from its inception in 2012, where they had 28 candidates sitting for the final exam to 2017 where this number had multiplied substantially to 133. While on the one hand we admire this growth, the study by Khan, Mabongo and Kolisa reminds us of the stark realities in SA of why their services are so essential. In 2017, the Department of Oral and Maxillofacial Surgery at the Chris Hani Baragwanath Academic Hospital saw over 5000 new trauma related patients over a three month period. Countrywide there is also over 30 000 trauma related deaths reported annually. It presents data showing the increased volume of trauma related injuries seen by Oral and Maxillofacial surgeons in just one of the many large state hospitals.

It is very easy to get caught up in the numbers and forget why we studied medicine in the first place. Surely our first obligation should be to try and prevent the harms of trauma and violence through patient and societal education and counseling. Thereafter to use our skills to treat all patients in need of medical care. This bring me to focus on the patient, and more specifically on a holistic approach to treatment planning and execution. I have thus taken the liberty of dedicating the rest of my editorial to a short ethics paper I wrote that addresses this issue and ties in with the theme of building.

It is titled:
Constructing the Consultation Chair.
Reflecting over the past century in medicine with 20:20 vision, we have seen a number of changes in materials, techniques, medicaments, facilities, patient desires, and treatment options. What has not changed is the duty of the clinician to "use knowledge and conscience to promote and safeguard the health of all patients, and to always act in their best interest when providing medical care."

In practice, all healing carries the risk of harm, and almost every prophylactic, diagnostic, and therapeutic procedure involves certain risks and burdens. The onus is on the clinician to determine the most suitable and beneficial treatment option with the least risks for each patient. This is not always easy as there are a number of external factors to consider. Their levels of training, skill and experience, their personal preferences, ethical standards, the availability of materials and facilities, and the time and costs of treatment will all influence planning and decision making. In addition, they must consider patient factors such as level of education and understanding, family and peer pressure, their desire to conform to social media standards and their actual needs versus their wishes and demands. This paper will look at all of the different elements that may impact on treatment planning and clinical decision-making, using the analogy of a four legged chair with seat and backrest.

The clinician is the carpenter whose aim it is to construct a well balanced, comfortable, aesthetically pleasing, durable, and functional chair. The seat of the chair is the treatment plan, the most central element in the entire process. The four legs are the pillars that support the patient, and are represented by four "E" concepts, these being Education, Evidence Based Dentistry, Experience, and Ethics. Each "E" has to be present and carefully balance with the other three legs if the chair is to be comfortable and stable under load. The last

element is the back of the chair. This represents the laws governing medical practice. It is generally not crucial for the chair to function, but goes a long way to providing additional comfort, support, and a solid backing for the patient to lean on if needed.

1. Education

The bulk of clinical decision-making and treatment is based on the education doctors received as undergraduate and postgraduate students. However, science and technology are constantly advancing and changing. Clinicians are morally obliged to keep abreast of the latest developments and to adapt their practices accordingly. Attendance at CPD courses and "hands-on skills training" are legal requirements in medicine and dentistry throughout the world. Sadly, many of these programmes have become money-making ventures for the presenters and point collecting activities for the participants, rather than valid learning experiences. There is little control or monitoring of the material that is presented at these courses. At a recent congress (2019), a presentation on facial aesthetics referred to measurements of facial profiles taken from a 1960's study done on Scandinavian patients. They used these guidelines for work carried out on a very racially diverse South African population. Not only was the information dated, but the so-called "ideal norms" were subjective, and unsuited to the local population. Not a single person in the audience challenged this! So, while it is a legal requirement to attend ongoing training, it is incumbent upon us to ensure we acquire current, valid and reliable information. This is also obtained by reading peer-reviewed scientific literature and by following technological developments to learn about new materials and products, and to then implement changes and adapt our practice accordingly (when necessary or indicated). One should be suspicious of any doctor who is still using all the same techniques and materials they were taught many years ago. That said, there are still a number of situations where traditional, conservative management is the best option. The aim of any treatment should be preservation and retention of what is, rather than restoration of what has been lost.

2. Experience

There is no substitute for experience. Every patient encounter is a learning exercise. Clinicians gain as much knowledge from their successes as from their failures, and both will influence how they approach the next similar patient situation. The "In my hands" approach to decision-making and treatment often becomes the norm for well-established practitioners especially if this stance has served them well for many years previously. However, it has the danger of leading to complacency, blinding them to the possibility that there may be newer and better ways of doing things. The wise practitioner will know when it is time to consider abandoning one approach for another.

Conversely there may be clinicians with LITTLE experience but a LOT of zeal. They eagerly embark on testing out new products, instruments and free samples on their patients, and in effect turn them into walking human experiments. While their desire to remain current or to aid progress is admirable, and it is known that much of medical progress is based on research involving experimentation on human subjects, the health and well-being of patients should never be put in jeopardy in the process. The dentists may justify their actions if they have a strong conviction that they are improving prophylactic, diagnostic, or therapeutic procedures. Nobody can argue that even the best-proven medical science must continuously be challenged to confirm its effectiveness, efficiency, accessibility, and quality. However, the well-being of patients should always take precedence over a clinician's interests, ambitions, (bank balances) and objectives, and of the needs of science and society.

3. Evidence Based Medicine / Dentistry (EBM / EBD)

All clinical practice should be based on methods, materials, and procedures that have undergone extensive laboratory and / or clinical trials. The research must be based on good science, well controlled with suitably sized randomized samples, and must have undergone rigorous scientific review i.e. be evidence based. It may be difficult for practitioners focused on clinical commitment to judge the value of published research. In 1992 Guyatt's proposal that there should be a formal means of evaluating the trustworthiness of research[2] led to the development of "The Evidence Ladder / Pyramid". This grades the quality of research from highest to lowest as follows: high quality systematic reviews, large randomized trials with clear results; smaller randomized trials with uncertain results; non-randomized trials with contemporary controls; non-randomized trials with historical controls; cohort studies; case-controlled studies; dramatic results from uncontrolled studies; case series and lastly are reports or expert opinions based on clinical experience.[3]

Thus, whenever clinicians are presented with a new material, device or technique, the onus is on them to examine all available evidence before blindly accepting and using it. In the absence of evidence or only company sponsored research, the claims must be viewed with circumspection if not suspicion, and it may be best to avoid the offerings until more credible results become available.

While EBD is the universally accepted "gold standard" in research, it has become almost impossible to secure ethical approval for clinical studies involving patients. This has led to the more recent trend of journals accepting case reports, and, to a greater extent, case series, for publication. Many groundbreaking discoveries have come about by chance. This makes it crucial for practitioners to keep comprehensive, accurate, and clear patient records and to either document cases of interest, or at least to disseminate this information amongst their colleagues - especially if they notice a trend developing. NB – this is NOT the same as, or an excuse to permit "experimenting" on patients and leads to the fourth leg – that of ethical conduct.

4. Ethics

There are a myriad of papers, books, guidelines, and opinion pieces related to ethical clinical practice. Most of them revolve around the four key elements proposed by Beauchamp and Childress in 2001,[4] namely 1. Patient autonomy (including understanding, education and consent) 2. Beneficence 3. Non-maleficence 4. Justice. Essentially, ethics is a matter of treating each patient in the same manner as you would like to be treated yourself, striving to maintain and promote health, choosing the treatment option that offers the most benefits and the least amount of risk or discomfort, and refraining from willfully inflicting harm or damage. The latter is not restricted

to physical harm, but also includes the burdens of emotional stress, wasted time, financial costs, and having to endure pain and suffering. Thus, we believe that ethical considerations should be the guiding factors when drawing up any set of treatment options and deciding on the most appropriate and suitable treatment plan. And so we move up from the legs to look at the seat of the chair.

5. The Seat

The seat refers to the treatment options, plan, and execution. It forms the foundation for the patient's mental and physical health and will be used for years to come. As such it needs to be sturdy, comfortable, aesthetically pleasing, functional, durable and suited to the overall chair design. Not all seats can or will be made out of the same material or in the same manner and may function slightly differently. Most are designed to make optimal use of the materials present when the patient first arrived, but may be influenced by factors such as their desires and demands, the amount of time they are willing to spend in construction, as well as the funds available for purchasing additional "building supplies". Some chairs may have to be made with compromised seats, especially if there was limited or poor-quality material present initially. It may still be possible to restore the seat, but the patient needs to be cautioned to use it with care. Some seats may be built as temporary measures until such time as the patients can afford more permanent materials or used as diagnostic aids to evaluate the load that they will need to carry. More complex seats require regular maintenance, and adjustments, with professional monitoring and repair. Finally, regardless of the design and type, all seats need daily home care by the patients. No chair should ever be delivered without the clinician taking the time to explain this process fully and clearly.

Some final design thoughts and guidelines: keep it simple; never discard or destroy any material that the patient arrived with unless it is undoubtedly beyond saving; choose the most conservative design first, this allows one to opt for a more complex restoration at a later date; if in doubt on how to proceed, don't make major or irreversible changes to the existing chair; never be tempted to choose a design that is based on personal interests or the desire to bolster sales of a product, and to swell your own pockets; at times, the best choice may be to do nothing and leave the existing chair to function as it has been, after all the patient came in using it and it would be foolish to destroy what they have unless you are certain you can build a better one; and remember, you have the right to refuse taking on a project when the patient has unrealistic demands. Perhaps the final guiding principle comes from 19th-century English surgeon Thomas Inman who said "Practice two things in your dealings with disease: either help or do not harm the patient".[5]

6. The Backrest

At times it becomes necessary to sit back and reflect upon the success and comfort of the chair. In such cases the backrest becomes a type of concinnity, a skillful fitting together of parts, so that it offers benefits to both or either of the two parties, the patient and doctor. While all chairs have backrests, they are not always used, and many competent and experienced clinicians don't pay much attention to this aspect when planning and working on the other components. However, the patient's comfort will be vastly improved if they know there is this extra support on which to lean should the need arise. That support / the backrest is the Law. It is generally only focused upon when the patient is unhappy with other elements of the craftsmanship. Thus, if a clinician has forgotten to provide a proper backrest in the form of legal and ethical requirements the patient may "fall off" the chair. They may then return with any number of complaints such as the seat being uncomfortable, the chair breaks frequently, the legs are unstable, they don't like the design, colour or materials used to make the chair, their family feel the chair doesn't suit them, they were not told about the different choices of design initially, the doctor destroyed some of the seat material that could have been saved and re-used, the chair looks and functions worse than when they brought it in for repair, or most commonly, that they have been over charged for the chair.

Generally, when a dispute arises, independent expert witnesses, usually experienced colleagues of good repute, will assess the case. It is never easy to criticize another doctor's work as there are often many sides to each complaint, and a number of extenuating circumstances that could have impacted on the treatment outcome. Their judgement is usually made using the Reasonable Man Rule i.e. what would a reasonable clinician, under the same circumstances, have done in a similar situation for their patient? The ruling will depend on whether the witness believes the doctor acted in a reasonable manner and in their patient's best interest.

However, there is one major lapse in this approach. It usually involves debating the technical and legal aspects of the treatment and its outcomes. There is seldom consideration of all four legs of the chair. Has the doctor remained current in Education or were dated materials and procedures used? Did the treatment conform to that advocated by the best practice approach of EBM / EBD? Was the doctor Experienced enough to undertake the work? And finally, did he/she have good intentions and act Ethically? The latter may have a strong influence on whether the verdict should be innocent or guilty. For example: the witness needs to differentiate between a cautious "wait and see" approach and supervised neglect; or between an adverse event and gross negligence. Other ethical issues to consider are the frequency, magnitude, and intent of the clinician. Once-off adverse events where the intention was good may be condoned, however repeat offenders with malicious intentions need to be admonished. A final consideration for the expert witness is to be aware of and cautious not to allow personal views and practice philosophy to influence or bias their determinations.

So, in conclusion, perhaps we in the medical profession need to re-look at how we go about constructing our consultation chairs and assemble our treatment planning and execution according to our own adapted version of the legal rule.

Ours can be called "The Reasonable ETHICAL Man Rule"

References

1. *Quoted with permission from Professor Tiaan De Jager, Dean of the Faculty of Health Sciences at the University of Pretoria.*
2. *Guyatt, G. Evidence based medicine. A new approach to teaching the practice of medicine. JAMA, 1992; 268 (17): 2420-5.*
3. *Sutherland, S. Evidence Based Dentistry: Part 4, Research designs and levels of evidence. J Can Dental Assoc; 2001, 67:375-8.*
4. *Beauchamp, T and Childress, JF. Principles of Biomedical Ethics. Oxford University Press; New York, 2001.*
5. *Sokol, DK. "First do no harm" revisited. BMJ. 2013 Oct 25;347:f6426. doi: 10.1136/bmj.f6426.*

Novel Coronavirus Disease (COVID-19): A Call For Solidarity and a New Norm

Dr Flavia Senkubuge

Dr Flavia Senkubuge

Richard P Feynman said, "We are at the very beginning of time for the human race. It is not unreasonable that we grapple with problems. But there are tens of thousands of years in the future. Our responsibility is to do what we can, learn what we can, improve the solutions, and pass them on."

As I sat down to pen this message, I was left remembering these words from Richard P Feynman. When I wrote our last message, none of us could have imagined how much would have changed by this time. Colleagues, never before in the history of our College have we faced the challenges that we are facing right now due to Novel Coronavirus Disease (COVID-19). Currently, the entire world is in a period of uncertainty, and the greatest difficulty is in truly admitting that, that we are in a period of uncertainty. That admission will allow us to be able to move forward in a manner that will ensure that we experience minimal disruption to the work that we are required to do.

The Director General of the World Health Organisation (WHO) Dr Tedros Ghebreyesus in his call for global solidarity in the fight against COVID-19 said, "…we need global solidarity that's cemented on genuine national unity. Without national unity and global solidarity, trust us, the worst is yet ahead of us. " Never before has it been more important for us all to stand and pull together not only as colleagues, but as the medical fraternity, than it is right now as we lend our hand in this crisis. Our colleagues across the globe are facing daily mounting challenges in the quest to contain COVID-19, and many have fallen in this battle we are fighting against an invisible enemy. We salute our heroes and heroines.

It is not often that as medical professionals we have to reflect on why we do what we do. However, at times like these when majority of us have been or will be called upon to be at the frontlines of this battle, we are called to remember the oath that we took. That oath was to exercise our profession for the safety and welfare of all persons entrusted to our care and for the health and wellbeing of humanity. We will constantly have to remind ourselves of this oath as we continue to work our way through this extremely difficult time.

It's natural to feel apprehensive about our own health and that of our friends and family, as this is also the time when being a doctor truly is put to the test. Each of us is being called to rise above our own needs so as to ensure the health of our community and society because that is what being a doctor truly is. We, together with the entire health team are now the soldiers fighting a war that is going to test us to the very core. A war which no one prepared for, an unseen and an unknown enemy. History will judge us by every decision we take, every action we don't. As we put service above self may we also not forget to take care of ourselves. I want to thank the CMSA leadership, board, senators, constituent college council members, examiners and all our stakeholders and partners for the selfless work you have been doing and will be doing. I thank you for the sacrifices that each one of us will have to make in order to ensure that we survive this storm. May we be guided by that beautiful age old hymn, make me a channel of your peace,"

"….Make me a channel of your peace
Where there's despair in life let me bring hope
Where there is darkness, only light
And where there's sadness ever joy
Oh, master grant that I may never seek
So much to be consoled as to console
To be understood as to understand
To be loved as to love with all my soul…"

I would also like to thank the staff of the CMSA who have been tirelessly working remotely, due to the national lockdown, and ensuring that the CMSA continues to function during this challenging time. The CMSA family during this period welcomed a number of new staff appointments, Prof Eric Buch was appointed as our new CEO; Prof Vanessa Burch as the Executive director: Education and Assessment; Ms Yolokazi Kanzi as the Academic Registrar and Ms Carina van der Berg as the Executive manager: Finance. The appointment of this formidable team of colleagues is exciting and moves forward the needle on our gender and transformation agenda. We warmly welcome our colleagues to the CMSA family and look forward to working with you as we implement a kinder, more responsive CMSA and adopt a new CMSA architecture of Ubuntu through the implementation of the CMSA Agenda 2021.

We as the CMSA, have had to balance our primary duty as clinicians who must serve our country in a time of crisis, while still ensuring that candidates are able to complete their examinations and also ensure that we are confident of the credibility of our examination process. Therefore, like many organisations across the globe the

CMSA has had to make a number of changes due to COVID-19. We have for the first time ever, had to defer some of our exams. Further, the national state of disaster and lockdown regulations on physical distancing necessitated a relook at the format of the exam so as to protect our candidates, examiners and staff while adhering to the national regulations. As such, constituent colleges have been implementing the senate resolution of conducting, Structured Oral Case-Based Examinations (SOCBE) and holding these examinations by videoconference from decentralised sites. This remote exam, a first for the CMSA, ushers in a new norm and also ensures that the CMSA mandate is fulfilled while maintaining the excellent standards for which the CMSA is known for. COVID-19 has also meant that the future, comprehensive Workplace Based Assessment (WBA) will begin to be implemented where Colleges will use the principles of and criteria for WBA in a manner that is practical under the circumstances.

The CMSA leadership, board, senate and staff, together with our stakeholders and partners will continue to work around the clock to ensure that the changes due to COVID-19 cause minimal disruption to our registrars, constituent Colleges, examiners, stakeholders and partners. We are acutely aware that every decision we make affects moms, dads, husbands, wives, individuals, their plans, their hopes and dreams and this is not lost on the CMSA. We will, in all our decisions use the most cutting edge and current evidence and heart. In this climate where every organisation is functioning in an environment of "business unusual" we as the CMSA will worker closer and in solidarity with the whole CMSA family together with our stakeholders and partners. Being sensitive, understanding, kind, caring and companionate will be even more important during this difficult time, not only to others but to ourselves as well. It is only in working together in solidarity as all different arms of the CMSA family, stakeholders and partners that we will be able to navigate our way through the COVID-19 crisis we currently facing.

Cicero, a roman philosopher, once said " In nothing do men nearly approach the gods, than in giving health to men." Giving health to all is what we all do on daily basis, but this time it will be on a larger scale than any of us have ever experienced before. It will take time for us to return to what we knew as normality and in some instances we may never return to the old but, we will need to embrace a new normal. As we go forward in the new normal let us hold dear the words of the father of medicine Hippocrates, when he said, "Wherever the art of medicine is loved, there is also a love of humanity". May we never forget that.

I wish the entire CMSA family, stakeholders and partners all the strength emotionally and physically that will be needed, God speed to us all and in the words of the old traditional Irish blessing,

"May the road rise up to meet you.
May the wind be always at your back.
May the sun shine warm upon your face;
the rains fall soft upon your fields and until we meet again,
may God hold you in the palm of His hand."

Hope

If you only carry one thing throughout your entire life, let it be hope. Let it be hope that better things are always ahead. Let it be hope that you can get through even the toughest of times. Let it be hope that you are stronger than any challenge that comes your way. Let it be hope that you are exactly where you are meant to be right now, and that you are on the path to where you are meant to be...because during these times, hope will be the very thing that carries you through.

NIKKI BANAS

Admission Ceremony
31 October 2019

The Admission Ceremony was held at the Station Urban Events Space, Stamford Hill, Durban.

At the opening of the ceremony the President, Dr Flavia Senkubuge asked the audience to observe a moment's silence for prayer and meditation.

Ms Josina Z Machel, the Founder and Managing Director of the Kuhluka Movement gave the oration.

Seventeen medallists were congratulated by the President on their outstanding performance in the CMSA examinations. Medals were awarded in the following fellowship disciplines, Anaesthetics, Dermatology, Medicine, Paediatrics, Psychiatry, Public Health Medicine, Radiology and General Surgery.

The Diplomate Admission Ceremony is now held at the time of the Diploma Oral Examinations and does not form part of the formal CMSA Admission Ceremony.

The President announced that she would proceed with the Admission to the CMSA of the new Certificants and Fellows.

The new Certificants and Fellows were announced and congratulated.

The Honorary Registrar - Examinations and Credentials, Professor Victor Mngomezulu announced the candidates, in order, to be congratulated by the President.

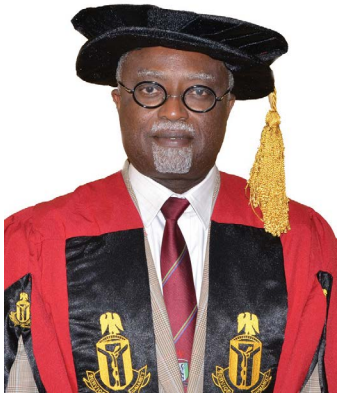
The Honorary Registrar – Education Committee, Dr Dean Gopalan individually hooded the new Fellows.

The President was assisted by Professor Pitcher Honorary Registrar – Finance and General Purposes Committee who handed each graduate a scroll containing the Credo of the CMSA.

All in all, the President admitted 43 Certificants and 268 Fellows.

At the end of the Ceremony 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.



Professor Opubo Benedict da Lilly-Tariah

GUEST OF HONOUR

Professor Opubo Benedict da Lilly-Tariah is the President of the National Postgraduate Medical College of Nigeria.

Professor Opubo Benedict da Lilly-Tariah was a guest of honour at The Colleges of Medicine of SA (CMSA), Admission Ceremony in October 2019.

He is a Professor of Otorhinolaryngology at the University of Port Harcourt Teaching Hospital and Consultant Otorhinolaryngology Surgeon at the University of Port Harcourt Teaching Hospital, Rivers State.

His area of interest is Head and Neck Surgery. He has published numerous papers in local and international scientific journals.

Oration delivered by Ms. Josina Z. Machel at the Admission Ceremony of The Colleges of Medicine of SA (CMSA), The Station Urban Events, Durban 31 October 2019

Ms. Josina Z. Machel

Graduates of the Class of 2019! Members of the Senate, President of the Colleges of Medicine of South Africa, Vice President of the Colleges of Medicine of South Africa, President of the National Postgraduate Medical College of Nigeria, Distinguished Guests, Ladies and Gentleman, I am honored to be standing here today and be given the opportunity to address you.

Congratulations to the Class of 2019, on a day that you receive a certificate from the Medical Board, the Medical Community and your society at large. This certification changes your whole life and it is the realization of many dreams to come. I applaud you for the perseverance and determination you found within to sustain you through the long hours of training, the late and sleepless nights of studying, and the endurance tests of rigorous examinations. All the tears and the sweat that finally culminate in today's celebration have been worth it! I also honor and congratulate the parents, the guardians, the aunties and uncles, the grandmothers and grandfathers who have made tremendous sacrifices and selfless contributions to ensure that we are here today, and that you can have a bright tomorrow.

I also take a moment to acknowledge the faculty and administration of The University of KwaZulu-Natal, who work tirelessly to ensure this fine learning environment is recognized as a reputable institution that grooms the brightest brains and specialists in the field of medicine in this Country.

Graduates, this University has afforded you with specialist expertise and today you are well equipped to navigate the challenges of this World and there are many challenges. According to Stats SA 2018, HIV-AIDS, Tuberculosis, Cholera, Breast and Cervical cancer, Diabetes, Cerebrovascular diseases and Gender-based Violence place a tremendous strain on the South African health-care system, social fabric and economy at large.

You will be faced with work overload, inadequate infrastructure, inequalities in distribution of services, and many other trying challenges. However, you will also be presented the powerful opportunity to make a significant impact in the lives of those you touch – physically, mentally and spiritually. I urge you to make sure that each of your patients are positively impacted by your compassion and skill, and grateful for the humanity that you bring to your profession.

I begin my remarks today with this plea of empathy, because I speak from a painful place of personal experience.

On 17th October 2015, I was savagely beaten by my then-partner as a seated passenger in his car.

When the first blow came, I was stunned into paralysis. The second blow burst my right eye open. The third blow hit me to the back of my head. At that moment, a force called Life instructed me to run from the car and scream for help in order to save myself from what I feared was my own death.

As I shrieked for assistance along an affluent street of Maputo, I was received with a deafening silence. No one came out to help me. The man who abused me eventually decided to put me in his car and take me to the Hospital.

As I burst through the doors, holding onto my eye and asking for help at around 1am in the morning, the blasé attitude of the medical team was incredulous. The lack of urgency and attention given to me, a woman who was absolutely shocked, shoeless, drenched in blood, using both hands to hold onto her eye and crying for help, is still incredibly difficult for me to come to terms with. I was met with nothing but cold indifference.

A caring look, as a recognition of the turmoil and pain I was in, would have made a difference over the 4 treacherous hours in which I was on my knees asking for anyone, anyone to call my family so I could be taken to another hospital and receive the comprehensive medical care I needed and deserved. All the training the nurses and doctors had received were failing me and no one displayed the compassion, the empathy, the human touch to adequately help me in these most horrific of circumstances.

In the midst of my immediate chaos, thankfully, my family was able to arrange for my admission to a specialist clinic in Europe. Before flying out, I was taken to an eye specialist in Maputo who stitched my cornea back into the socket, with local anesthetic because I

had to fly that same day. While I layed motionless for an hour, the understanding and caring attitude of the 2 doctors gave me mild relief and a momentary sense of calm. Implicitly I trusted them with life, knowing my health and my vision was in their hands.

The Doctor that performed the surgery delivered the tragic news that my retina had burst beyond repair, yet I was not the only person to whom he had ever delivered such life-changing message. At that moment however, he was present and compassionate, and treated me as if I were his only patient in the world. He provided his gentle and personalized medical care without judgement and with a heart full of empathy. His warmth made all the difference.

I am sharing my story with you all because at that singular moment, the whole predisposition of that particular Doctor, made me decide that my disability would not define the rest of my Life. I got the courage to stand up and be counted. I would not be a number, I would not be a victim, instead I would be a voice and a face as a testament to the horrific war against women.

The African American social justice activist, Angela Davis, reminds us wisely that "you have to act as if it is possible to radically transform the World, and you have to do that all the time".

The reality is that you can and must change the world with your actions. You must always choose to act courageously in spite of all odds and difficulties. Your attitude every time you meet a patient in need of care and interact with those in your medical fraternity, will impact on how we progress as humanity.

As you toil seemingly endlessly to provide medical care to those in need, in the late hours of the nights, in hospitals and clinics that may be under-resourced, exhaustion may try to overwhelm you. You may be tempted to disregard the drunkard. To dismiss the mentally unstable. To treat a bruised, raped woman as just a statistic or a chart to complete. Yes, physical injuries fall within clinical guidelines that you need to treat, however the emotional damage and the subsequent journey of survival to all who pass through your doors require unique care and sensitivity.

So, I appeal to you, instead of looking at us who find our way to your stethoscope and operating table, as one more case, one more number, humanize us and attach us to our life stories. Acknowledge our different trajectories and personalize us with our names and faces. You have to humanize the numbers in order to influence positively the future of those who have endured unspeakable horrors and come to you in our moments of most vulnerable need.

Studies by Oxfam 2010 have demonstrated that in police stations and in hospitals, the behavior of the staff can determine whether a survivor of domestic violence, for example, will have the emotional fortitude to go on to press charges and take up the difficult path of walking away from her abuser. Your interventions in these critical moments can transform a person's life, be that supportive change that is needed!

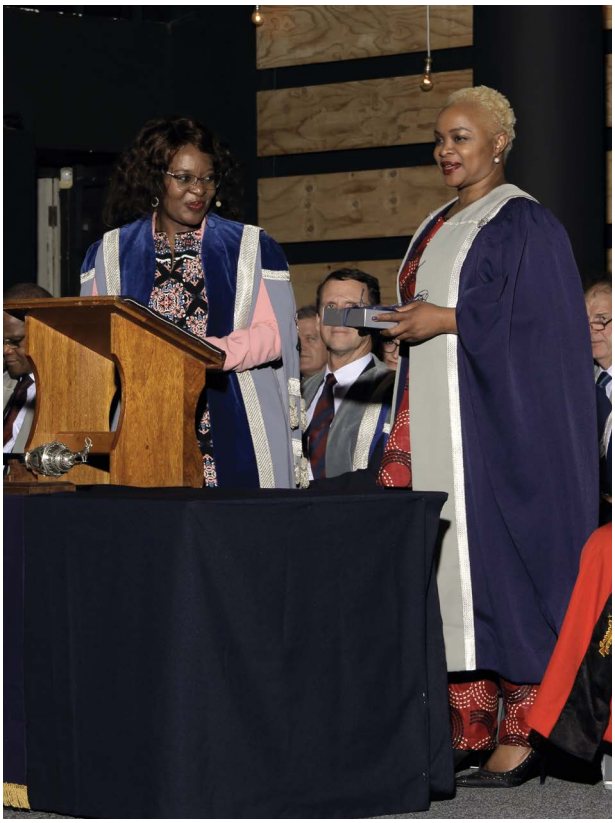
Graduates, the unique marrying of technical skill of your hands and minds together with the compassion within your heart and spirit is what is expected and required of you. Your individual and collective contribution can change the dynamics and the trajectory of the Gender-based Violence pandemic in South Africa.

Now it is time to get back to the communities that raised you and acquaint, immerse yourselves in its realities. As doctors, you diagnose the physical signs of disease, but remember that our contemporary illnesses have their origins in the social and community fabric of our societies. Do not disassociate yourself from the community you have today vowed to serve.

Rest and enjoy the next days of euphoria to revel in your graduation and your exciting journeys ahead, but know that your significant body of work is yet to come. Your greatest contributions and celebrations of service to others lie ahead. God gives us Life and in choosing this profession you consciously have chosen to be the hands that perform health miracles every day.

You have chosen a profession which is about Service. As doctors, healers, fixers, givers of Hope you will use your life in service and you will be in Service to Life. Use your knowledge as well as your heart to Serve your people.

I thank you.



The Colleges of Medicine of SA (CMSA) Staff Announcements

PROFESSOR ERIC BUCH
CHIEF EXECUTIVE OFFICER

We are pleased to inform you that Professor Eric Buch, a Fellow of the Faculty of Public Health Medicine has been appointed as the Chief Executive Officer (CEO) of The Colleges of Medicine of South Africa (CMSA).

Professor Eric Buch - MBBCh, MSc (Med), DTM&H, DOH, FFCH (CM) (SA) is a stalwart of the medical fraternity, a Professor of Health Policy and Management at the University of Pretoria (UP) and formerly Dean of its Faculty of Health Sciences.
He has led its Albertina Sisulu Executive Leadership Programme in Health.

Professor Buch was formerly Health Adviser for the New Partnership for Africa's Development (NEPAD), Deputy Director General for Health Care in Gauteng Province, Executive Director for Health, Housing and Urbanisation of Johannesburg and a Director of the Centre for Health Policy at the University of the Witwatersrand.

He also served as General Secretary of the anti-apartheid National Progressive Primary Health Care Network (NPPHCN), was active in the National Medical and Dental Association (NAMDA) and co-founded the University of the Witwatersrand Rural Health Services Development Unit in Bushbuckridge.

He has served as Chair of the Board of the National Health Laboratory Service and on the Boards of the Global Health Workforce Alliance and Health Systems Trust.

In 2015 he was awarded the Public Health Association of South Africa's "Phila" Lifetime Achievement Award.

Professor Buch's appointment is historic as it is the first time ever in CMSA's 65-year history that a medical specialist is appointed as CMSA's CEO.

We are delighted and honoured to welcome Professor Buch to the CMSA and look forward to working with him in his role as the CEO.

MRS YOLOKAZI KANZI
ACADEMIC REGISTRAR

The Colleges of Medicine of SA is pleased to announce the appointment of Mrs Yolokazi Kanzi as of the 01 January 2020 in the position of Academic Registrar to the CMSA. Prior to this appointement, Mrs Kanzi held the position of Deputy Academic Registrar at the CMSA.

Mrs Kanzi brings with her a wealth of experience from various Academic Institutions such as University of South Africa, University of Pretoria and Stellenbosch University. Her previous employment at the HPCSA has also proved of great benefit to her.

Her background in Academia involves quality assurance, marketing and public relations, programme management, student enrolment, student and academic systems as well as database management.

She holds a BA (Langugage and Communication Studies) from the University of the Western Cape (UWC).

She is a member of the Board of Directors as well as a member of the Senate of the CMSA.

We wish Mrs Kanzi well in her new role as Academic Registrar to the CMSA.

MRS CARINA VAN DER BERG
EXECUTIVE MANAGER: FINANCE

The Colleges of Medicine of SA is pleased to announce the appointment of Mrs Carina Van Der Berg as Executive Manager Finance to the CMSA with immediate effect.

Mrs Van Der Berg has previously held the position of Financial Manager as well as Acting Financial Director at the CMSA.

Mrs Van Der Berg brings a wealth of financial knowledge to the CMSA.

She holds a Bachelor's degree in Commerce Accounting from the University of the Western Cape.

Her professional skills are vast and are not limited to IFRS and GAAP, ISA (Auditing), SA taxation and Financial accounting which are but to name a few.

She is a member of the Board of Directors as well as a member of the Senate of the CMSA.

We wish Mrs Van der Berg well in her new role as Executive Manager - Finance to the CMSA.

PROFESSOR VANESSA BURCH
EXECUTIVE DIRECTOR:
EDUCATION AND ASSESSMENT

We are pleased to announce the permanent appointment of Professor Vanessa Burch to the Colleges of Medicine of SA in the role of Executive Director: Education and Assessment with immediate effect.

Professor Vanessa Burch is a Rheumatologist and Health Professions Educationalist who holds a PhD in Assessment from Erasmus University in Rotterdam, the Netherlands.

Vanessa Burch was Professor and Chair of Clinical Medicine at the University of Cape Town from 2008-2018.

She is currently Honorary Professor of Medicine at UCT and works as an Educational consultant to the Colleges of Medicine of South Africa.

She has received numerous awards for Health Professions Education, serves on the editorial board of international medical education journals, and is the founding editor of the African Journal of Health Professions Education.
She is widely published and is considered a leader in Health Professions Education in sub-Saharan Africa.

Professor Burch has received four national lifetime awards for teaching excellence: (1) Distinguished Teacher's Award at the University of Cape Town; (2) National Excellence in Teaching and Learning jointly awarded by the Council for Higher Education (CHE) in the Department of Higher Education and Training and the Higher Education Learning and Teaching Association of Southern Africa (HELTASA); (3) Distinguished Educator (South African Association of Health Educationalists (SAAHE), and most recently, (4) a Teaching Advancement at University (TAU) fellowship, jointly awarded by the CHE and HELTASA.

Vanessa Burch is also a Fellow of the Foundation for Advancement of International Medical Education and Research (FAIMER), founding Director of the sub-Saharan Africa FAIMER Regional Institute (SAFRI) and holds a Teaching at University (TAU) Fellowship from the Council for Higher Education of South Africa.

Her education research and education expertise include assessment of clinical competence, novel methods of teaching and assessment in the workplace, clinical reasoning, curriculum design and programme evaluation.

We wish Professor Burch well in this exciting venture at the CMSA and look forward to her very valuable guidance and leadership.

SOUTH AFRICAN SIMS FELLOWSHIP SUB-SAHARAN AFRICA

Nominations are invited from Presidents of eligible Colleges for the above Fellowship.
The objective of the Fellowship is to establish and maintain educational development programmes in sub-Saharan Africa.

The disciplines of medicine eligible for the South African Sims Fellowship are the same as those eligible for the Sir Arthur Sims Commonwealth Professorship, ie Anaesthesia; Cardio-thoracic Surgery; Medicine; Neurology; Neurosurgery; Ophthalmology; Orthopaedics; Otorhinolaryngology; Paediatrics; Plastic Surgery; Surgery (General) and Urology.

The nomination must be submitted with the CV of the nominee, a motivation from the President of the College (as above) and an outline of the proposed visit.

The closing date is May 2021

Further information regarding the fellowship can also be obtained from:

Mrs Nelisha Govender
Tel +27 31 261 8213
Tel +27 31 261 8518
E-mail: nelisha.govener@cmsa.co.za

Medallists and Events

Dr B Korda
Janssen Research Foundation Medal
Glaxosmithkline Medal

International Liaison of Pathology Presidents Cape Town, October 2019

Front Row, left to right: PROF L BURKE (Dean, Faculty of Pathology, Royal College of Physicians of Ireland), DR R LIEBMANN (Vice-President, Royal College of Pathologists UK), DR C ROSS (President, Canadian Association of Pathologists), MRS L HAYES (CEO, The Colleges of Medicine of SA), PROF J MAHLANGU (President, College of Pathologists, CMSA), MS E PROPPER (Secretariat, International Liaison of Pathology Presidents), PROF T PILLAY (College of Pathologists, CMSA)

Middle Row, left to right: DR J BURTON (Chairman of Council, Association of Clinical Pathologist UK), PROF A RYSKA (President-Elect, European Society for Pathology), DR M DRAY (Vice-President, Royal College of Pathologists of Australasia), MR S MYERS (CEO, College of American Pathologists), DR G SIEGAL (President, American Society for Clinical Pathology), DR D GRAVES (CEO, Royal College of Pathologists of Australasia), DR I CREE (WHO Representative Pathology), MS S ZIEMNIK (Vice-President, CPD, American Society for Clinical Pathology)

Back Row, left to right: DR P GODBEY (President, College of American Pathologists), PROF B LATHAM (President, Royal College of Pathologists of Australasia), PROF SK CHEONG (President, College of Pathologists, Academy of Medicine of Malaysia), MR G NEL (Financial Director, CMSA), MS H DOW (Executive Director, Canadian Association of Pathologists), PROF L MARTIN (College of Forensic Pathologists, CMSA)

List of Medallists: 2019

Janssen Research Foundation Medal
FCA(SA) Part I
Dr Koji WAKABAYASHI
October 2019

Abbott Medal
FCA(SA) Part I
Dr Koji WAKABAYASHI
October 2019

Hymie Samson Medal
FCA(SA) Part I
Dr Koji WAKABAYASHI
October 2019

Glaxosmithkline Medal
FCA(SA) Part I
Dr Pieter Schalk ODENDAAL
October 2019

Crest Healthcare Technology Medal
FCA(SA) Part II
Dr Lieze GELDENHUYS
May 2019

Jack Abelsohn Medal and Book Prize
FCA(SA) Part II
Dr Lieze GELDENHUYS
May 2019

Peter Gordon-Smith Award
FC Derm(SA) Part II
Dr Gwyneth ARENDORF
May 2019

Dr Johann DE WET
May 2019

Campbell MacFarlane Memorial Medal
FCEM(SA) Part I
Dr Margaret Penelope FITCHETT
May 2019

Resuscitation Council of Southern Africa Medal
FCEM(SA) Part II
Dr Suma RAJAN
May 2019

The Kloeck Family Medal
FCEM(SA) Part II
Dr Suma RAJAN
May 2019

The Tim Quan Medal
FCFP(SA)
Lauren Nicole HUTTON
October 2019

Threnesan Naidoo Medal
FC For Path(SA) Part II
Dr Laura Dawn TAYLOR
May 2019

Sigo Nielsen Memorial Prize
FC Neurol(SA) Part I
Dr Bhavin BHAGWAN
May 2019

Dr Salvatore SSEMMANDA
May 2019

Novartis Medal
FC Neurol(SA) Part II
Dr Kireshnee NAIDU
May 2019

Dr Lenon GWAUNZA
October 2019

GP Charlewood Medal
FCOG(SA) Part IA and IB
Dr Maliha KHAN
October 2019

Daubenton Medal
FCOG(SA) Part II
Dr Charlene Adjoa Adobea ANNOR
May 2019

Neville Welsh Medal
FC Ophth(SA) Primary IA
Dr Viola Lydia MASHAAH
May 2019

Ophthalmological Society Medal
FC Ophth(SA) Intermediate IB
Dr Ingrid WALTERS
October 2019

Justin van Selm Medal
FC Ophth(SA) Final
Dr Anna STEYN
October 2019

JM Edelstein Medal
FC Orth(SA) Final
Dr Jeannie Katharine MCCAUL
October 2019

Leslie Rabinowitz Medal
FC Paed(SA) Part I
Dr Kim WHITEHEAD
May 2019

Robert McDonald Medal
FC Paed(SA) Part II
Dr Anne Lauren ARMOUR
May 2019

The Simon Nayler Medal
FC Path(SA) Anat Part I
Dr Suzanne KOTZE
October 2019

AM Meyers Medal
FCP(SA) Part I
Dr Mkhacani Simon BALOYI
May 2019

Dr Gordon Hamilton Ian ROBERTSON
October 2019

Suzman Medal
FCP(SA) Part I and Part II
Dr Constance Sandra ADAMS
October 2019

Dr Raeesa Ismail BHORAT
October 2019

Asher Dubb Medal
FCP(SA) Part II
Dr Raeesa Ismail BHORAT
October 2019

Penn Medal
FC Plast Surg(SA) Final - Jack
Dr Mosadi MAHOKO
October 2019

Lynn Gillis Medal
FC Psych(SA) Part I
Dr James Willoughby BURGER
October 2019

Novartis Medal
FC Psych(SA) Part II
Dr Nicolaas Jacobus VAN DER MERWE
May 2019

Rhône-Poulenc Rorer Medal
FC Rad Diag(SA) Part I
Dr Hendrik Christiaan LABUSCHAGNE
May 2019

Frederich Luvuno Medal
FCS(SA) Primary Anatomy
Dr Andrea K GEORGIOU
May 2019

Trubshaw Medal
FCS(SA) Primary
Dr Stefanus Petrus OOSTHUIZEN
October 2019

Brebner Award
FCS(SA) Intermediate
Dr Nolitha Tisetso Makapi MORARE
May 2019

Douglas Award
FCS(SA) Final
Dr Ian Roy GRANT
May 2019

Lionel B Goldschmidt Medal
FC Urol(SA) Final
Dr Danelo Estienne DU PLESSIS
May 2019

Eugene Weinberg Medal
Dip Allerg(SA)
Dr Reratilwe MPHAHLELE
October 2019

SASA John Couper Medal
DA(SA)
Dr Junaid Yusuf AJAM
May 2019

The Paediatric Management Group Medal
DCH(SA)
Dr Linesri THAVER
May 2019

The HIV Clinicians Society
Dip HIV Man(SA)
Michele PERKS
May 2019

Valmy BRUWER
October 2019

YK Seedat Medal
Dip Int Med(SA)
Dr Shaheed Salim SORATHIA
October 2019

Connor Farrel Medal
Cert Pulmonology(SA) Paed
Dr Lore Maria Bertha VAN BRUWAENE
October 2019

CMSA Admission Ceremony
List of Successful Candidates
October 2019

FELLOWSHIPS

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

ABRAHAM MEERA	WSU
ASMAL IMRAAN ISMAIL	UKZN
BEZUIDENHOUT EMILY MATHILDA	Wits
BIESMAN-SIMONS TESSA	UCT
BOBAKER SALEM .A. SULIMAN	UKZN
BORETTI LORENZO GIOVANNI	WSU
CLOETE NADIA DANIELLE	UFS
CROWTHER MARCELLE	UCT
DAL LAGO ALEXA JOSLIN	Wits
DU TOIT MICHIEL ADRIAAN	UCT
ELHOUNI ALI ABDALLA TAHER	UKZN
FOUCHE ELOUISE PATRICIA	WSU
HENDRICKS NICOLE EMALINE	Wits
HOLLMANN CARYL	UCT
HOUSTON CELESTE	UKZN
IMIOLO BRUCKMANN KLAUDIA	Wits
INDIVERI LAURA	Wits
JAYRAJH SHAKTHI ANAND	UKZN
LOTZ THERESIA	US
MAHOMED MISHKAH	Wits
MAJA RAPHAEL NTLHANE	Wits
MAMOOJEE ANISAH ISMAIL	Wits
MATSANE LEBOGANG MARTIN	Wits
MOTSHABI NOMSA ELIZABETH	SMU
MUKUCHA GABRIEL SHAWN	Wits
NOVEMBER VUYOKAZI JOY	WSU
PEGU KYLESH DEVNARAIN	Wits
SCHOEMAN DOREEN	US
SEHLAPELO MATHABE	Wits
SHEAD DANIELLE CLAIRE	US
SIMPSON GARY CHRISTOPHER	UKZN
SIRRALS WAYNE	UP
SWART REINIER	UFS
VAN BILJON WILBUR	UFS
VAN DER STOCKT KAREN	UP
VERMEULEN DEWALD	UP
VILJOEN EBETH	UP

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

BHIKA SHARMEL	Wits
HABIBI REZA	Wits

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

ALENAZI KHALED R S S	UWC
CARIM RIDWAANA	UWC
JOUBERT PIETER GIDEON	UWC

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

BUTHELEZI S'LINDILE OMEGA	Wits
DAS SWETA	Wits
KUNENE MNDENI LINDOKUHLE	WSU
MUPUNDU BISMARCK CHIHATA-MIDZI	Wits
O'KENNEDY JEREMY DAVID	UFS

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

BESKYD PETER MARK	Wits
CHADINHA LOUIS PAUL CALDEIRA	Wits
FURSTENBURG PHILLIP PIETER	UCT
GIBSON JOSHUA GLYNN	UCT
HART JEDD CRAIG	Wits
LAI KING LAUREN VERONICA	US
MASINA JOHN	Wits
MAYET MOHAMMED	UCT
MCCREESH NICOLA	UCT
MILTON MAXINE	UP
NAIDOO ANTOINETTE VANESSA	UCT
NDADANE NQOBILE	UKZN
NONDE JAMES	Wits
OJIFINNI KEHINDE ABRAHAM	Wits
ZOGHBY MATTHEW GABRIEL	Wits

Part A of the Final of the Fellowship of the College of Family Physicians of South Africa FCFP(SA) Final Part A

BOKILA MAMBAKATALA EUGENE	Wits
BROWNBRIDGE JOSHUA CHRISTOPHER LUKE MICHAEL	US
CHUEU MATJATJI MACHUENE	UP
FREDERICKS KELLY JADE	UKZN
HUTTON LAUREN NICOLE	US
MABATHOANA MAKAFANE CYRIL	Wits
MAHOLE GOITSEONE LESLEY	Wits
MOCHAOA MAMPHO JUNIA	UKZN
NAIDOO ESTHER RUTH	US
OGUNWALE OLAOLU ISAAC	UKZN
OMED ALI RIDWAAN	UKZN
RABE MAREIKE	Wits
SADANAND ANEETH ASHOKNAND	UKZN
WILLIAMS DORESHA LIZE-MARIE	US

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

BOKORO ARLETTE ILALI	Wits
BROWNBRIDGE JOSHUA CHRISTOPHER LUKE MICHAEL	US
FADAHUN OLUWAFOLAJIMI OLUSESI	Wits
HUTTON LAUREN NICOLE	US
IGHODARO OSASUMWEN	SMU
ITAKA MAKANDA BOB	Wits
NASHED KAMELIA KAMEL	SMU
OLAYIWOLA AKINTUNDE	Wits
PHUKUTA NYUNDU SIMON JUNIOR	Wits
RAHIMI AMIR	UP
STEYN ALETTA CATHARINA	SMU

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

MATLALA MALEKGOPO MOLOGADI	UL/SMU
MPHATJA TEBOGO WILHEMINA	UL/SMU
ONOYA ERIC DJUNGONYO	SMU

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

ABDOOLA IRSHAAD	SMU
ALHARBI ABDULAZIZ ABDULLAH N	Wits
BARNARD NIEL	UWC

HIRA PRIYESH GUNVANT	Wits
RANCHOD SANJAY	UWC

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

AHMED MOHAMED ABDELRAHMAN KHIDER	UFS
GWAUNZA LENON TONDERAYI	US
KOUFOS ANNITA	Wits
NAIDOO LAVANYA	UKZN
PHIRI TIWONGE	US

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

BOUNGOU-POATI PRINCE DARSI	Wits
SADIKI TSHILIDZI ORECIOUS	SMU
TROMP SEAN ANDREW	UCT
VICTOR JOHANNES IGNATIUS	US

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

ISAH AHMED RUFAI	UCT
JOOMA JEFFREY ADAM	US
MEKONNEN BETHELHEM WORKU	US
MOMODU JALEELAT IMOITSEME	Wits

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

ARMATAS DENISE	US
ARTHUR-BAIDEN EMMANUEL	UCT
ASHNAF DARIN ALI OTHMAN ALI	Wits
CHAMUNYONGA FELIX	UCT
CHUKWU OBINNA PETER	SMU
ETWARO ARVIND CHETAN	UKZN
GANATHI XOLILE	UFS
GOVINDASAMY SUVESHNI	UCT
HABINEZA JOHN PAULUS	UKZN
HESSEN MOHAMED E ALMABROUK	UCT
IMOGIE SUNDAY AFEMIKHE	UKZN
JENNEKER MARWAH	UKZN
KLASSEN THALIA	UCT
MAHARAJ ASHLYN KIM	UKZN
MAKHEDA NKHANGWELENI COLBERT	Wits
MANANA NKOSINATHI EMMANUEL	UP
MANDAHA MOSES VHUTSHILO	WSU
MANYERE NGATENDWE ROSEMARY	Foreign
MHLARI BUSHY	SMU
MOHLALA NORMAN BOYMAN	SMU
MOLEFI KGOTLAETHATA AARON	SMU
MONTGOMERY COLIN JACO	UCT
MPEHLE CATHERINE SIBONGILE	WSU
NTSHANGASE NOMPUMELELO PAMELA	UKZN
ONWUGHARA CHIDEBERE EDWIN	UKZN
PAULSEN CARRIE ANNE	UCT
PHELP JULIETTE JANE	Wits
RABOTHATA TSHEPO RASODI JOEL	UP
SEEVNARAIN DIVALKA	UKZN
SOOKNUNDEN BHAVNA GAWSMITHI	UKZN
SUBRAYAN MARISE	Wits
TAKARINGWA-HONDONGA ELLEN	Foreign
TEMENU ADEBOWALE VICTOR	Wits
VAN WYNGAARD BIANCA	UFS
ZIKI ENESIA	Foreign
ZULU SIYANDA MLUNGISI JOSHUA	Wits

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

BASSON ALBERTUS WILLEM	US
BONI ANTHONIA OLAOMOJU	SMU
MBELWA SAMKELO LEON	UFS
MTHETHWA SIBONGILE CONSTANCE	UP
NKOMBYANI LUCKY	SMU
PROXENOS CHARLES	UKZN
SEBOGODI KABELO	UP
STEYN ANNA	UCT
VAN DER MERWE PIETER JACOBUS STEPHANUS	

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

ANTOS OLIVIA	Wits
BASSON TINUS RENIER	US
DESAI YUSSUF MOHAMMED	UKZN
DICKINSON GWYNETH-ASHLEY	Wits
DLAMINI SANELISIWE HLOB'SILE	SMU
GERICKE ENGELBERTUS	UKZN
HARTZENBERG FERDINAND	UFS
MARAIS DIETER	SMU
MCCAUL JEANNIE KATHARINE	UCT
MEIJER JOHANNES GERARD	UP
MERCURE CHRISTOPHER IAN-ANTHONY	UKZN
MUGLA WALID	UCT
NAICKER DHARSHEN	Wits
NGCAKANI ANATI	Wits
NKOMO WOYISILE BULELANI	UCT
O'CONNOR MEGAN	UKZN
ORJIAKO LIVINUS OBIORA	Wits
SPANGENEBERG HENDRIK CHRISTOFFEL	Wits
STEYN IAN JAMES COLIN	UP
TYUMRE NTSIKELELO	UFS
VAN ZYL RAINHARD DANIEL	US
VELDMAN FREDERIK JOHANNES	UKZN
ZONDO ZWELIBANZI WILLIAM	Wits

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

GONCALVES NICHOLAS	UCT
MATIMBA ABONGILE	UFS
MUANZA DIKAMBA	SMU
NIENABER MANUS	US

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

CHANG CHIH-LUO	Wits
DARWICHE KAMAL	UKZN
ELKHATIALI EMHEMED ELHAMRONI	UKZN
GABRIELS CINDI	UCT
GEDDARA NAGIB	UKZN
GHU PUMZA SAMANTHA	WSU
GOM SIMON-PETER TERUMBUR	Wits
GREYBE LEONORE	US
HBLOUS HAIFA MOLOUD AHMED	UKZN
KADER NAUSEEN	UKZN
KETSHOTSENG OTENG	Wits
LEVIN CANDYCE	UCT
LISHMAN JUANITA	US
MABUSA RAMADIMETJA TEBATJO	UFS
MAHMOOD SHAHID	Wits
MAHOMED RIZWAANA	UKZN
MAKGATHO EUPHRASIA	Wits
MATABOGE KABELO	SMU
MATLHADISA MATAKALA MOSES	Wits
MOYO DOMINIC ZALIRO SAMU	UCT
MTSETWENI POELO FLORENCE	SMU
MWAMBENU BILEMA	UP
NCANYWA ZOLEKA JOSEPHINE	Wits
NCUBE ZOLA ZILUNGILE	Wits
NDHLOVU LESEGO	Wits
NDLOVU NONJABULO XOLILE	SMU
NOTUNUNU SINOYOLO NAMHLA QABAKAZI	WSU
NUCKCHEDEE DOOKHONY LUVINA DEVI	US
OSMAN TABASSUM	UFS
PHIKO SINAZO	Wits
PILLAY LARISHA	UKZN
SEEFANE DITHEKO JUSTOLINE	SMU
SEKGABO NIGHTINGALE	US
SHAPAKA JOHANNA T	UCT
TSHAMISWE MBILAELO	UL/SMU
VAHED ANISA	UCT
VAN DER NEST ALISON	Wits
VAN NIEKERK MARGARETHA SUSAN	US
YUNIS NUREA A	UKZN

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

BATKA-MAKWINJA KAGISO	UP

HAMUNYELA KONDJELA	US
SOLOMON ZUBRINA JOAN	Wits

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

ALDERA ALESSANDRO PIETRO	UCT
BAPELA MOTJIDIBANE MAMPHO	SMU
BRUCE-BRAND CASSANDRA	US
KASHAMBA THANOLO	Wits
KHATHALI LERATO CLAUDIA	UKZN
MADLALA SIPHELELE CLIFFORD	UCT
MCCUSKER CASEY JULIA	Wits
MUDINI WASHINGTON	Wits
MWAZHA ABSALOM	UKZN

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

KRUGER ELSIE CATHARINA	US
RUSCH JODY ALAN	UCT

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

CERFONTEIN WARDAH	US
PRETORIUS MELANIE	Wits

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

MASEMOLA KGAOGELO RANGOAKOANA	UP
MASEMOLA QUEEN NHLANHLA	UP
MZIMELA NTOKOZO	UKZN
SHEIK ABOO KHATHIJA BIBI	UKZN

Fellowship of the College of Pathologists of South Africa - Oral Pathology FC Path(SA) Oral

SCHOUWSTRA CISKA-MARI	

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

KHOSA MELLICENT TINYIKO	UKZN

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

ADAMS CONSTANCE SANDRA	Wits
ADEBIYI JOSEPH ADEMOLA	SMU
ALIMIA SHINNY ESKANDER	Wits
ASIEDU GLORIA ANIBEA	Wits
BAHEMIA IMTIAZ AHMAD FAROUK ISSOP	Wits
BANDA TAYANJANA CECILIA	UCT
BERMAN RYAN EVAN	Wits
BHORAT RAEESA ISMAIL	UKZN
BOER ETIENNE HERBERT	US
BOY DARRYL BOY	US
BRETT SIMON	US
CLAASSEN DIRK JOHANNES JACOBUS	US
DINTWE MMABATHO NGOANANOKA PORTIA	Wits
DRAU MICHAEL	Foreign
DRMESH MUSTFY NAGUIB	UCT
DU PLOOY DANIËL FRANCOIS	UCT
ERWEE DANIEL FRANCOIS	UCT
ETWATI OSAMA ALI MOHAMED	US
GIGI NKULULO ALLAN	WSU
HIRI ONKARABILE	UCT
HLATSHWAYO NTSHIELE RUTH	SMU
HOOSEN MUHAMMED ZAID	UKZN
JACOB JOSE	Wits
KARIV SARAH	UCT
LAUDIN GARRICK EDOUARD	UP
MANDRY DINESHREE	Wits
MARAIS SHELDON	US
MHLANA NONTEMBISO APHIWE	US
MOHALE MALEKHETHO	UFS
MOLAOA THABANG TIEHO	UFS
MORAPEDI BERNARD	UCT
MOSENYE SANDY MPHO	US
MOSHANE PETER	SMU
MTESHANA ZININGI CHARITY	UCT
NASHANDI JUNO MAHEVO	UCT
NIENKEMPER MARISAN	UFS
PILANE THABO	SMU
POTGIETER ANDRE NICHOLYN	WSU
REICHE SAMANTHA JAYDE	Wits
RUKARWA RUTENDO YVONNE	Wits
SHABANGU PHUMLANI	Wits
SHANGE KWENZAKWENKOSI SIYABONGA	UKZN
SHIVUTE ROSALIA REE NDIKUHOLE	Wits
SMITH MPUMELELO SHADRACK	Wits
STOFFBERG KEVIN HAROLD	UCT
SUNNYRAJ MICKY	Wits
TADZIMIRWA GAMUCHIRAI YEUKAI	UCT
VORAJEE NADIA	UCT
ZHAO YING	UCT
ZWANE NOMTHANDAZO LYNN	UKZN

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

KENOSHI BOITUMELO	UP
KOONIN SHEREE DEBBIE	Wits
MADZHIA MAHLOHONOLO PURITAN	Wits
MAHOKO MOSADI	US
NOGAGA VIWE	Wits

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

BEATH NATALIE	US
CHETTY SHREN	UP
FAKROODEEN ADAM ABDUL KADER	UCT
GONDWE SAULOS KALIZGA	UCT
HECTOR MARC	UCT
JUBY VIDETTE MEGAN	UKZN
LETHOLE JULIA SDUDUZILE	SMU
LUDIDI NOZUKO NOLWAZI YANDISWA	SMU
MAKHOBA NOMBULELO LEBOHANG	UFS
NGCOBO NTOKOZO NOKUKHANYA	UKZN
NKHAHLE S'BONGILE	UP
NKUSHUBANA ONKE THANDISIZWE	WSU
SCHOLTZ LINDSAY	WSU
VAN DER WALT SAREL JACOBUS	UCT

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

CHISALE MABOTJA MANTWA CHRISTINA	Wits
HARRICHANDPARSAD AVASHRI HARRICHANDPARSAD	UKZN
MOLOKOMME CHE	Wits
ROOS HELEEN	UP
TSHABALALA KHANYISILE MAUREEN	Wits

Fellowship of the College of Public Health Medicine of South Africa - Occupational Medicine FCPHM(SA) Occ Med

IYALOO SAMANTHA	Wits
MAGOMBO MOLLEN	Wits

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

ELKHARBASH ABDURAHMAN	UKZN
FISCHER HATTY GERTRUDE	UP
GEORGE TALITA	Wits
HLWATIKA PILASANDE	UKZN
MESSIAHS BRADLEY CLINTON	US
MUZENDA VENGESAI	UCT
NELL TAMARIN CHANTAL	Wits
PRINSLOO ERICA	SMU
RICHARDS-EDWARDS WILLIAM HEATH	UCT
SHIVAMBA DESMOND DEE	UL/SMU
SOOD VISHESH	UCT
TIMOL NASR	UKZN

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

BHAGALOO VISHAM	UCT

BHIM NAZREEN	UCT
BUTHELEZI THANDEKA	UFS
DZIVHANI NDIVHUWO	UL/SMU
PILLAY PRINITHA	Wits
ROTHMAN MARIETTE	UFS

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

ALMAHROUG ABDULWHAB. M. ABULGASEM	Wits
BARAKZAI NAZIA	UKZN
BOOLAKY KURT NIRISHAN	UKZN
BOTES STEFAN NICOLAAS	US
BUDGE MELISSA	US
BUNDHOO GIRISH	UKZN
GOVENDER TRACEY	UKZN
GXOBOLE ASANDA ZANDILE	UKZN
HARICHUNDER PRASHTI	UKZN
HIRJEE ADARSH	UKZN
KADWA MOHAMED HAROUN	UKZN
KALENGA NKOMBA CHRISTOPHE	SMU
MONGALE ONKABETSE EULLET	SMU
MOUTON HENDRIK PIERRE	US
PALMER HENRY ARTHUR WINSTON	UKZN
PERUMAL NEVILLE	UKZN
RAMASAWMY DIROUVARLEN	UKZN
SHERSINGH MANISH JAIKARRUN	UKZN
UMAR MOHAMED TAAHIR	UKZN
ZULU NOZIPHO GINA	UKZN

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

EVANS CHRISTOPHER NEAL BRUCE	UP
FOURIE JOHANNES LODEWICKUS	UFS
JOHN JEFF THADATHILANKAL	WSU
MOUTON DAWID JOHANNES JACOBUS	UP
NAIDOO DHESIGAN	UKZN
PILLAY SHAUN	UKZN
SINGH AVIKAR	UKZN

CERTIFICATES

Sub-specialty Certificate in Allergology of the College of Paediatricians of South Africa
Cert Allerg(SA) Paed

DE WAAL PIETER JOHANNES	UFS

Sub-specialty Certificate in Cardiology of the College of Paediatricians of South Africa
Cert Cardiology(SA) Paed

JIYANA SAMKELO JIYANA	WSU
NKYA DEOGRATIAS ARNOLD	Foreign
PILUSA JANE HLOLOGELO	UP

Sub-specialty Certificate in Cardiology of the College of Physicians of South Africa
Cert Cardiology(SA) Phys

DU TOIT HENDRIK RUDOLF	US
EPAFRA EMMANUEL	Wits
JOUBERT LLOYD	US
KOMAPE KWENA BEBSY	Wits
LEVIN MENACHEM ZVI	Wits
MOSES PORTIA	UFS
NAIDOO DARRIN RYAN	UKZN
RAMACHANDRAN DEYA	UKZN
XANA ANDILE	UFS

Sub-specialty Certificate in Clinical Haematology of the College of Pathologists of South Africa
Cert Clin Haematology(SA) Path

GEORGE GEM ELIZABETH	US

Sub-specialty Certificate in Critical Care of the College of Paediatricians of South Africa
Cert Critical Care(SA) Paed

CAWOOD SHANNON KIM	Wits
OOSTHUIZEN KARLIEN	Foreign

Sub-specialty Certificate in Critical Care of the College of Surgeons of South Africa
Cert Critical Care(SA) Surg

GRABOWSKI NICOLA	UP

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

LLALE SIBONGILE	Wits

Sub-specialty Certificate in Endocrinology and Metabolism of the College of Paediatricians of South Africa
Cert Endocrinology and Metabolism(SA) Paed

KARSAS MARIA	UP

Sub-specialty Certificate in Forensic Psychiatry of the College of Psychiatrists of South Africa
Cert Forensic Psychiatry(SA)

GOVENDER NAVANTHREE	Wits
MELAPI TANDO ABNER SIVILE	Wits

Sub-specialty Certificate in Gastroenterology of the College of Paediatricians of South Africa
Cert Gastroenterology(SA) Paed

RADEBE LINDOKUHLE THOBILE	US

Sub-specialty Certificate in Gastroenterology of the College of Physicians of South Africa
Cert Gastroenterology(SA) Phys

ALMRADI AHMED KHALIFA MOHAMED	UCT
ALSHMANDI MOHAMED ALMOKHTAR MOHAMED	Wits
DABAH RAMADAN MUFTAH NASAR	Wits
GASIM GASIM IBRAHIM MOHAMED	Wits

Sub-specialty Certificate in Gastroenterology of the College of Surgeons of South Africa
Cert Gastroenterology(SA) Surg

ABD ELRAHMAN AHMED ABD ELRAHMAN ABDALLA	Wits
NAIDOO VENESHREE	Wits

Sub-specialty Certificate in Gynaecological Oncology of the College of Obstetricians and Gynaecologists of South Africa
Cert Gynaecological Oncology(SA)

BIRUNGI JULIET BIRUNGI	UCT
MBODI LANGANANI	Wits
NAIDOO ANUSHA	UP

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

NGONGANG SANDRA CHRYSTELLE	UCT

Sub-specialty Certificate in Medical Oncology of the College of Paediatricians of South Africa
Cert Medical Oncology(SA) Paed

NKABI THANDEKA UNATHI	UP

Sub-specialty Certificate in Neonatology of the College of Paediatricians of South Africa
Cert Neonatology(SA)

MAHARAJ SUBASHNI	WSU

MOODLEY PRAVEN MORGAN	UKZN
SEAKE KARABO PERTUNIA	Wits

Sub-specialty Certificate in Nephrology of the College of Paediatricians of South Africa
Cert Nephrology(SA) Paed

AUJO JUDITH CAROLINE	UCT
IRUSEN SHAEGAN	Wits
OGBE PATIENCE BIFAMNA	Wits

Sub-specialty Certificate in Nephrology of the College of Physicians of South Africa
Cert Nephrology(SA) Phys

AMIRALI MAZHAR	US
MEEL SWATI	Wits
MOABI ROSEMARY MAUD	Wits
ROCHE NATALIE JANE	UP
SINGH MITESH	UKZN
THAPA SANTOSH	US

Sub-specialty Certificate in Neuropsychiatry of the College of Psychiatrists of South Africa
Cert Neuropsychiatry(SA)

ELOFF INGRID GEESKE	UCT
THELA LINDOKUHLE	UKZN

Sub-specialty Certificate in Paediatric Neurology of the College of Paediatricians of South Africa
Cert Paediatric Neurology(SA)

NABORN BERNICE	Wits

Sub-specialty Certificate in Pulmonology of the College of Paediatricians of South Africa
Cert Pulmonology(SA) Paed

VAN BRUWAENE LORE MARIA BERTHA	UP

Sub-specialty Certificate in Pulmonology of the College of Physicians of South Africa
Cert Pulmonology(SA) Phys

BENNJI SAMI MHAMED	US
PERUMAL RUBESHAN	Foreign
WILKEN ELISMA	US

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

DIALE QINISILE PATRICIA	UP
SHAREEF OSAMA ORO	Foreign

Sub-specialty Certificate in Rheumatology of the College of Paediatricians of South Africa
Cert Rheumatology(SA) Paed

FUSEINI YANINGA HALWANI	UCT

Sub-specialty Certificate in Rheumatology of the College of Physicians of South Africa
Cert Rheumatology(SA) Phys

ALAMIN SHARAFELDIN MOHAMMED	
ALHASSAN ALBASHEER	UKZN
BRIJLAL URISHA	UCT
PALALANE ELISA ASSIS	UCT
VAN ROOYEN GISELA	UP

Sub-specialty Certificate in Trauma Surgery of the College of Surgeons of South Africa
Cert Trauma Surgery(SA)

YAHYA FADHL HUSSEIN GHALEB	UKZN

Sub-specialty Certificate in Vascular Surgery of the College of Surgeons of South Africa
Cert Vascular Surgery(SA)

BAITCHU YADHIR	US
NSHUTI RICHARD	Wits

PART I, PRIMARY AND INTERMEDIATE EXAMINATIONS

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

BELASYSE-SMITH PETER BARTHOLOMEW	
BLOMERUS RIKUS	
BOTHA NATALIE	Wits
BROWN MAGDALEEN	
CHAUKE TINTSWALO MERCY	
CRUICKSHANK GRANT RONALD	
DIPPENAAR LORI	US
DLADLA SINENKOSI	
DUBE NOKUKHANYA ZAMANTIMA	
FERREIRA GUIDO	
GANGEN SOGENDRIN BALAN	US
GILES DANIEL	
GOVENDER VIVEN	
HARMSE LEANI	US
HOOD KIRSTEN ANNE	
HOSKING BRETT RANDALL	
HOYI NOMVUYO PATRICIA	Wits
ISSAADI HISHAM MOHAMED K	Wits
JANSE VAN RENSBURG HENROE	UP
JANSEN KLARA	
KEMP RHONA	SMU
KHESWA NDUMISO AYANDA	
MVUSELELO	UKZN
KRIEL INGE	
KUMALO NTHABISENG JACQUELINE	
LE ROUX JOHANNES JACOBUS	
LINDT RUTH JENNILEE	US
MADONSELA SPHIWE EUNICE	UP
MAEPA DIALE MAHLAKO	UP
MALL RAISSA	
MAMETJA KGOTHATSO AUDREY	
MANTLAKA THOZAMA	WSU
MASHAIRE GODKNOWS KUDZANAYI	
MATHEW ROBIN GEORGE	WSU
MDZINWA NASIPHI	UP
MEINTJES JEANNE MARIE	
MFEKA NTOMBIZABANGUNI GLORY	Wits
MKHIZE SISALINDELE ZAMAKHIZE	
NAIDOO LAVINIA	
NAOBEB JUANITA BLOMMETJIE	UCT
NCANA LESEDI	US
NERUPFUNDE GODFREY	
NGEMA LORRAINE SIPHIWE	
NKOSI NOBUHLE BONGEKA	
NOMATHOLE YOLANDA	
ODENDAAL PIETER SCHALK	
OGUNJIOFOR ASINOBI CYRIL	Wits
PETERSEN ASHRAF	
PIETERSE JENNI	
RAMTOHUL VERA BOGDANOVNA	UKZN
RANGAI KARUSHA	
SABONA NCUMISA	
SALLIE ALLISON CLAUDETTE	UKZN
SEPHEU LETSHOKGE	
SEYMOUR LISA	
SMIT CHARL PIERRE	
SUKWANA ABONGILE	
SYMONS MEAGAN	UP
TABANE TEBOGO MOKOTONG-MOSEKAMA	
TARLTON THOMAS MARK	
TSHITETA PABLO SAMUEL	
VAN DE MERWE ETIENNE	
VAN WYK NATALIE JEAN	Wits
WAGHMARAE SWEEKA	Wits
WAKABAYASHI KOJI	
WILSON KYLE EMERY	

Part I of the Fellowship of the College of Clinical Pharmacologists of South Africa
FC Clin Pharm(SA) Part I

BANDA CLIFFORD GEORGE	UCT
MONDLEKI ENKOSI	UCT
PILLAY-FUENTES LORENTE VESHNI	US
VAN RENSBURG ROLAND	US

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

KARIMATSENGA VIMBAINASHE	SMU
KONYANA STEPHEN PUMELELE	
PUMLANI	WSU
MAIMANE MONI DESIREE	UL/SMU
MOKWATLO KAISHA MARY	Wits
MOLAPO RAMOLAPO ANTONY	UP
MOSOJANE KAREN ITUMELENG	Wits
PARKAR SAMINA PARKAR	US
THOBYE REFENTSE WILHEMINAH	
ZWANE NKOSINATHI OWEN	UKZN

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

AKUAAKE LEMBI MAGANO	
BIRD HOLLY ANNA	
HORN JAN JOUBERT	
JARGHON SAEB A. M.	Wits
JERE SOLOMON MOFFAT KANYAMBO	
KHALAOMBA	UCT
KANNAI JERISHA	
KENNY LLEWELLYN PATRICK	UKZN
KHANYI HALALISIWE BRIDGETTE	UKZN
MAHARAJ AKESH BHAIRONATH	UKZN
O'MEARA RYAN MARK	
OSOGI BASSEY USANG	Wits
RAGHUBEER NISHEN	
SITTMANN JOHANN CHRISTIAN	
SONO SYLVIAH TINAH	
TONKIN GREGORY MATHEW	

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

MOKOKA MADINANE	UL/SMU
NKOSI THULANI LANCELOT	UFS
RAMELA MALERATO	

Primary of the Fellowship of the College of Maxillo-Facial and Oral Surgeons of South Africa
FCMFOS(SA) Primary

GHAZIASGAR MAZIAR	
SALLIES MOEGAMAT	
XOKI BUNTU	

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

BASANT RAI BHUVANESHLAL	
COLLATZ WILLIAM	
GREEN WESLEY SHANE	
GULE MANQOBA VUSUMUZI	
JONKER KARELI	
MOTHAPO KHUTJO PETER	
NGELE BONGANI BRILLIANT	UP
STRAUB ISOLDE ARIADNE	
TSHIBANG KABET JIMMY	

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

BUCKSON ESTHER	
DANSO KEITH ANDERSON	
DE GOUVEIA MELISSA INES FARINHA	
HOMEM	
FIELIES MATTHEW LAURENCE	
HAJI-JOANNOU TIMOTHY	
HATUTALE JASON NATANGUE	
KHUMALO SCELO	
LAMBAT SUHAIL	
LAMPRECHT MATTHYS EDWARD	
LEOLA KELETSO	
MONGANE TSHEGOFATSO	
MOYO ELIAS	Wits
MUTHINJA MARTIN KIRIINYA	UCT
SCWEBU BABALWA NONCEBA	
TSHITE BOIPELO ANTONETT	
WEBB HENTIE	

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

HASHALN MOHAMMED	UCT
LIFSHITZ GABRIELLA CHANA	Wits
THOMAS JOHNSON	Wits

Part IA of the Fellowship of the College of Obstetricians and Gynaecologists of South Africa
FCOG(SA) Part IA

ALI SAIDA JAMALUDIN	US
AMANIAMPONG KAREN	UCT
ASSUMANI BASEMENANE JUSTIN	SMU
BAFFOUR-DUAH KENNEDY	Wits
BOMVU MNELISI GIDEON	
BOUANGUI-BAZOLANA SUCCES	
BREGE ALBERT	
CHEUNG TIK SHAN	US
DAZA PAUL FENNER	
DUTYWA AFIKILE	
EMSLIE MEIKLE	
ESAU JADE MONIQUE	
FETI MULEMA NOEL	
GERARDO RONIA HENDRINA	
GILBERT ANEMANA	WSU
GONESE FARAI	
HANCKE ELLEN	
HASSIM TASLEEM	
HLAKO TEBOGO CLIVE	
JOBARTEH KINNEH	
KHAN MALIHA	
LEDWABA PANKIE KINGSLEY	
LEGOABE ZANDILE LULAMA	UKZN
MANXEBA ZANELLA	
MAPHIRI GIDIMISANI CANDICE RAEL	
MAY LUNGA GOODMAN	
MAYOSI S'VUYILE	
MBOENKAKE ANTOINE	
MDLALOSE NTUTHUKO	UKZN
MJULEKA PUMZA	
MOHAMED SHAFEEQAH	
MULOMB KAVUL	
NDALA KAMBOLA ELIE	Wits
NELSON RONWYN	
NGWENYA CYNTHIA ZANELE	
NTUNJA SIVE LOVEMORE	
OKAFOR CHUKWUEMEKA	
RAJCOOMAR RAVI CHANDRA KHUSHAL	
SITHOLE SHANE KING	UKZN
SWANEPOEL MARCO CLINT	
VAN ROOYEN AMY	
ZONDO LEOD	

Part IB of the Fellowship of the College of Obstetricians and Gynaecologists of South Africa
FCOG(SA) Part IB

AMO -TACHIE JEMIMA	UKZN
APOLLOS CAYLIN PIA	US
BUHOBE SEELE	
BURNS LUCINDA CARMEN	US
BVUMBI RAYMOND	Wits
CHEUNG TIK SHAN	US
CHUENE SEKEDI YVETTE	Wits
DAZA PAUL FENNER	
DIKGALE BUSISIWE MORARE	UP
GILBERT ANEMANA	WSU
HANCKE ELLEN	
JAHN GERALDINE	UP
JEEANA SUNDEEP	UKZN
KAMBA NGUNZA	
KAMMIES JO-ANN DESIREE	US
KAZADI KASONGO	Wits
KGOLOKO STAN NGWANATSOMANE	
KGOLOKO TSHOLOFELO MOROESI	
KHAN MALIHA	
LAMFEL RANDY VALANCIA	
MACASSANE KATIA ALEXANDRE	UP
MACHIWANA NYAMAPFENE TAPIWA	
MAGWABENI RINAE BONITA	
MAHASHA MAPULA MARRY	
MAKUTA ABETINA	
MAKWAMBENI ISHEUNESU LEONARD	
MANSOOR FATHIMA	UCT

MANXEBA ZANELLA	
MAPHIKANA SAKHUXOLO	
MASIYE NDALUZA	UCT
MATABATA THEMBANI	
MBAMBU TIVANI	
MDLALOSE NTUTHUKO	UKZN
MORAPEDI MOTLHOKOMEDI	
MWAMBI MWAMBA K. CHRISTOPHE	
NABELA LINDIKAYA	
NDALA KAMBOLA ELIE	Wits
NGATIANE LOGIC SHINGIRIRAI	UKZN
NIYIBIZI ALINE AURORE	US
ODUNZE SAMUEL UCHENNA	
OKAFOR CHUKWUEMEKA	
PAKATI YOLANDA NANDIPA	UKZN
PETER CHERISSA	UKZN
RAMARUMO KESENTSENG PROMISE	
SEDABADI LEATILE	
SEWMUNGAL PAYAL	UKZN
SHEEHAMA ILONA NDAPEWA	US
SIQANA MONGEZI JAMES	Wits
SITHOLE SHANE KING	UKZN
TANASE BABALWA	
UBISI BRIAN SIBONISO	
VAN ROOYEN DONEE	US
VORSTER MILIÇA	
ZONDO LEOD	

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

ALASHHAB ZAKARIA
GUNTER LOUISA HENRIETTE ISABELLE
JANSEN ESTELLE
KABOYO-KISORO AMANDA MUNKOMBWE
KOMUKYEYA
KHAN MOHAMMED
LUTCHMAN UZZIEL SHERESH
MABAKA TSHEGOFATSO TINY
MNISI TSHEPISO LYDIA
NTLOU LINTLE ETHEL
SWAMINATHAN SRIHARI
VAN WYK NADINE KAY

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

HLAZO APHIWE
KILIAN DOMINIQUE MICHELE
MAPIPA SOLETHU AFRIKA
NAIDOO SHAVINA
NTSULUMBANA NOLUTHANDO
NONZALISEKO
OGONOWSKI MIESZKO MATEUSZ
OGONOWSKI BIZOS AGATA KAROLINA

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

BUSGEETH MOHAMMAD ASRAFEE	
JAMEEL	US
BUXTON-TETTEH NAA AKYERE	
GANESAN ANIKA	
GODANA-MZIMKULU FUZOKUHLE	
PERSEVERANCE	WSU
HADEBE DUDUZILE GLADYS	UKZN
HOGARTH LAURA GAIL	
KALIDAS SHAISTA	
KASHIRAM AVANI ASHOK	
KHANYILE NOKUKHANYA	
LE ROUX LIESL	
MABUNDZA SINGITA DECORATE	
MAFANA TATENDA LOYCE	
MAHLALELA GCEBILE	
MAKIWA FARAI	
MAPHUMULO NONHLE PRINCESS	
MAPHUMULO SILINDOKUHLE QINISILE	
MASIKANE XOLISILE ELIZABETH	UKZN
MCDONALD HENDRIKE	
MKHIZE NONDUMISO	
MOPELI NKONE BELENDA GLADYS	
MUAVHA LUSANI PATIENCE	
NAMBAHU MARY TUYAKULA TEKULA	
NDLOVU NOKUBONGA NOMFUNDO	UKZN
NEL GABRIEL SEAN ADRIAAN	
NIEUWOUDT MARELI	
NKATLO MADISEBO MAKGAHLISO	
LYDIA	WSU
NONKONYANA NOMSA EDITH	UL/SMU
OSMOND EMMA	
PHASHA MASELLO	
PILLAY CHANTAL RUTH	
ROMAN CHRISENDA MELONY	
SAFLA SALEHAH	
SIKAKANE NOMTANDAZO SINDISWA	
SONI KHUSHBU PRADEEPKUMAR	
SWARTZ JULIANA	
THERON GENEVIEVE ALEXA	
THOTTEKKAT KRISHNA	
VAN DER MERWE JEAN SARAH	
VAN NIEKERK TANITA	
VLANTIS BLAINE VLANTIS	
WONG KELLY	

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FC Path(SA) Anat Part I

DE BRUIN JANA SOPHIA ADRIANA	Wits
DU PREEZ MICHELLE	UFS
GEYER MARCUS GEYER	Wits
KOTZE SUZANNE	Wits
NTULI THATO HERMAN	UP
SAVAGE-REID MICHAEL JOHN	Wits
SHANDU NONTOKOZO	Wits

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FC Path(SA) Chem Part I

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REDDY THANUSHA	UKZN
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FC Path(SA) Haem Part I

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SHANDU SENZO JULIUS	UFS

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BAMPOE GIBSON KOFI	
BASSETT JASON MARK	
BECKWITH PETER GAVIN	
BEGG SARFRAZ	
CLOETE ESTELLE	
DANIELS NASREEN	
DUKHI NETISHA	
DULLABH DIXIT ANIL	
EREBOR OSAHON DANIEL	
ERWEE CHRISTIE	
FAKUDZE SANDILE VUSUMUZI	
FATHUSE THANDAZILE	
FORTES NEVES VARELA SEMEDO	
LENISE ELIANE	
GEORGE REFILWE	
GROBLER ROCHELLE MARLENE	
HANEKOM CHRISTOF	
HLAWE DELISA MLANDVO	
ISMAIL IBRAAHEEM	
JANSEN VAN VUUREN ANE	
JOHN MIDHUN THOMAS	
KASUMBA JOSEPH	
KATOTOLA NDABYO	
LETHO PHOMOLO JUSTICE	Wits
MAEPA SIMON	
MAHARAJ YASHEEN	
MAKELENI WENDY	
MANGA JAISHIL	
MANGENA HOSEA LEBOGANG	
MANICHUND KASHMEERA	
MANILALL TRISHKA	
MATHENJWA NONTOBEKO NOXOLO	
MATSHAKENI FUNEKA	

MAVURU ANDREW
MBUYAMBA RAISSA
MEDUPE DITHAPELO
MOAGI DAVID MORAKE
MOGOBA LEENETJE LENNY
MOGONEDIWA KEOIKANTSE MPHO
MOLOTO MAPHEKO BLANTINA
MOSIME BOTSANG
MOTLHAEDI GAOLATLHE
MOTUBATSE MOTLOKWE BARNARD
MPANZA MBONGI VICTER
NAIDU RENUSHKA
NAIDU YASHIKA
NANABHAY SADIYA
NARISMULU SARISHA
NDABA LINDOKUHLE
NEL MARCEL LEON
NKAMBULE HAPPY PHAKISO
NSASI OLIVIER BONGA
NZIRAMASANGA KUNDAYI Wits
ODUBANJO OLUREMI ABIODUN
PARSOO AMAN
PAWSON MARNA
PILLAY PREYANKA
PRICE NICOLA JANE
QWABE NAMUHLA
RAMDUKHI AVNEETA AVIKSHA
REDDY AVANITA
REID JOANNA THANDIWE US
ROBERTSON GORDON HAMILTON IAN
ROOKNOODEEN ZAID
SEEDAT UBAID FEROZE
SHAIK YUNUS SHAIK
SIMPSON NICHOLAS COLIN
SINGH SHARISE
STEYN NICKIETTA FRANCINE
STONESTREET LUKE
SURDUT SAMUEL PERES
VALERA PRATIKSHA
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HARIPERSAD DIPIKA
HLONGWANE NOMTHANDAZO UKZN
MOKGATLE BOITUMELO ROSE SEIPEI Wits
MWENDA JONES MURITHI Wits
PHETO BOTHO PILEDIWA Wits
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ENECHI PAULETTE ONWANYI
FORD WAYNE DAVID
GOGA SHUAIB
HAVINGA DESIRE CISKE
HUYZERS MARISA MARTIE
JEEWA YUSUF EBRAHIM
JOOSAB EBRAHIM
MABONA REBECCA MMAPHIRI UL/SMU
MAGODORA ARAMU
MAHAFFEY JACLYN
MAWELA MINGA
MINTY RADHIYA
MOLAOA TUMELO WINTERS Wits
MPHEPHU PHUMUDZO EMONT
MTHOMBENI MUSAWENKOSI
MTHOKOZISI Wits
MTHUPHA TSITSO OBED
MUKUMBUZI CHENAI
OSMOND RODGER Wits
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RABADA KHATHUTSHELO FREEDOM UL/SMU
SEWNARAIN AJMEEL
SINGH ACHITA
SLADE GRETCHEN
SONDEZI MARARA NONTYATYAMBO
STAVROU STRATOS
STRIMLING BARRI
TEUTEBERG NOLENE
TSHAMANO TUMELO JACQUELINE
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SCHNEEBERGER DANIELCLARENCE Wits
TSHOEU PHEMELO Wits
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BAGGOTT CHARLES
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BARLOW TAMSYNNE
BARNARD JOHANNES PETRUS
BENCE RAINIER
BORNMAN BAREND JACOBUS MARX
BOSCH JOHANNES HERMANUS
BOSMAN CHARL
BOTHA THEUNIS JACOBUS
BUSSIO HANNAH THANDIWE
CHAKRABORTY BODHISATYA
CHETTY MERISHNI
CHETTY SRIKESH
COETZER PHILIPPUS HENDRIK
CONNOR SEAN
DAWOOD THAAKIRAH
DE BEER MARIUS DIRK
DE KLERK CECELIA
DE VILLIERS FRANSUNEL
DEHALOO SERENNA UP
DLAMINI YENZIWE
DOCRAT YAHYA CASSIM
DU PLESSIS HENDRIK JOHANNES
DU PLESSIS JAN GABRIEL
DUMANI SIBUYISELWE
ELS MARISKA
FOKANE MANONO
FOURIE NADIA MARLIZE
GANSAN THASVEER
GELDERBLOEM GILLIAN
GERATY KYLIE
GILES TIMOTHY BARRY
GORDHAN PRIYESHA
GOVENDER SIVAKUMAREN
GOVINDASAMY AVAAN
GQADA KAYA JOSHUA
GROBLER DIRK COETZEE
GUMEDE NONDUMISO
HAN PYE MAUNG
HARIBHAI KHAVISH DINESH
HOOGENBOEZEM HENDRIK GRIFFIOEN
HOSANEE SAKEENA
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HUMAN DYLAN JOSEPH MARIO
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KOEKEMOER JACOBUS HENRY
KORTJE RENALDO MARTIN
LAMINA ABIODUN YOMI BASHIRU
LEWELE MMATHAPELO MIRANDA

LOKO EMMA MUENDO
MAENETJA SEWELA RAHAB GWENDOLINA
MAHLATJIE ALBERTINA MELODY MATŠIE
MAKENA MAAPILE TRYPHOSA
MAKHUBELA MATIMU TIMOTHY
MAKONDO MANINGININGI TINTSWALO
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MALEPFANA NTSHUXEKO
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MPHOLEFOLE JEANETTE NIKELA
MTSHABE LWANDILE THABANG WSU
MULAUDZI NTHAMBELENI PRISCILLA
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NAIDOO VISHEN NAIDOO
NAIDU KANISHKA
NAUDE LOUW GELDENHUYS PAULUS
NELWAMONDO PFANO
NYALUNGU MZWANDILE ZONDI
OJEWOLE ADEBAYO AKINBODE
OLUWADAMILARE
OJUR CHARLES
OKORO ZELATUS CHIDI
OMAR AMAAN
OOSTHUIZEN STEFANUS PETRUS
PARTAB AMITH
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PILLAY SERESHAN
PRETORIUS JUANNE
QUVANE SIBUSISIWE NOKWANDA
RACHOENE THABANG THOMO
RADEMAN PIETER JACOBUS
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ROSE DAVID MORRIS
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SEKOPA CALVIN
SIBIYA JAMES
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SIMPSON JUSTIN
SKOSANA SALELENI BELLABRACIA
SONDOVANA KHANGELANI
THABIT SWALEH HASSAN UKZN
THANI THABO
TSHIKULUILA BEYA
UYS JERNELLE
VAN DER WESTHUIZEN STEFAN
VAN ZYL JOHANNES LODEWIKUS
VOSLOO WESLEY ALLAN
WELMAN ILONA MARISSA
ZIMU XOLANI PELICAN
ZNAMEROVSKYI SERHII
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FC Neurosurg(SA) Intermediate

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KGOSI TSHEPHO UKZN
MOHALE DIAPO GERALD
MOON DONGJOON
MTETWA OCTEVIA MAGDALINA UKZN
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KAMFFER GERHARD
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LINDE LEANDRI UCT
NARAYAN AJMEEL
SITHOLE PRECIOUS BONGI Wits
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VAN DER WESTHUIZEN DIAN PETRUS
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FC Orth(SA) Intermediate

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DU TOIT FREDERICK JOHANNES SMU
EBRAHIM MAHOMED ANEES
FOXCROFT WILLIAM DONNAVAM US
GAMIELDIEN HAMMAAD
HANSRAJ KAJAL
LANEY WEZLEY
MALAZA MTHOBISI INNOCENT
MBATHA SANDILE THULANI UKZN
MFAKU SIPHAMANDLA SEBASTIAN
MUKIIBI WINIFRED
NCOBELA NDOYISILE,LUNGISA
NCONGWANE SIYABONGA EDWARD ELLIAS
NKOSI COLLEN SANDILE
NOGELA BABALWA
TSHISIKULE RIHANGWELE CHRISTOPHER
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FCORL(SA) Intermediate

OPPERMAN JACOBUS BENJAMIN UP
VAN STADEN SAREL LOMBAARD
WEST JOSHUA MICHAEL WSU

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FCS(SA) Intermediate

ALLOPI NABEEL
AWASTHI NEHA UCT
BELLOMO ALESSANDRO NICOLA Wits
BEZUIDENHOUT HENDRIK LACENIUS WSU
BOOYSE KARIEN UCT
CHEN WEI-HAN
DELPORT JOHANNES EDUARD
DUBE-ZVIRIKUZHE TAFADZWA
DUMAKUDE NJABULO MSIZI
ELSENBROEK CHRISTIAAN FREDERIK UP
GONDO WASHINGTON US
GORRY DAVID LAURENCE ASHWYN US
GOULD ALAN NICOLAS Wits
JATILENI DANIEL SAMUEL US
JEERAZ MOHAMMUD ALASHRAF
KARIEM NAZMIE
KARIMBOCUS MOHAMMAD NAWAAZ UCT
KASHASHA MARC MWENDA LUBO UKZN
KAWONDERA TARIRO
KOBESE BATHANDWA

KOEN JOHANNES GERHARDUS US
KRUGER HENDRIK JOHANNES
LANEY ESTELLE Wits
MAHARAJ SANVIR
MAISTRY NIVESHNI
MARTIN STEPHEN-JOHN
MATARUKA GERALD TATENDA
MATENCHI MAHLODI WINNIE
MAZOMBE JOHNSON TAKURANARWO UP
MBATHA SIPHESIHLE
MGIQIKA TANDAZWA UP
MOTHA MESHACK NKOSINAYE Wits
MTHETHWA ANELE NTOMBENHLE UKZN
MULDER WIKUS WESSEL UFS
MUSHAYABASA TAKUNDA
NAIDOO CLINTON UKZN
NAUHAUS HELGA MARGRET
NGWISANYI WELUDO Wits
NKOMO SIPHIWOSETHU RUPERT UP
NYATSAMBO CHIDO Wits
PAPE JAMES
PELSER SAREL CHRISTOFFEL BEKKER SMU
PIENAAR ZANDRI
PIETERSE COENRAAD FREDERIK SMU
PILLAY PAVALINI
PILLAY SHAYLIN UKZN
POOE PHUTI
POTGIETER TERTIUS NICHOLAS
RAMAWELA MPHO OBED UKZN
RAMTOHUL KRISHNADASS JAYPRAKASH
RATTRAY DARREN RAY Wits
RETIEF HENDRIK JACOBUS UFS
STEYN HENDRIETHA CORNELIA UFS
TEYANGESIKAYI GILBERT UCT
VAN DER WESTHUIZEN NICOLE BERNADETTE UP
WITBOOI LEROY BERTRAM SMU

HIGHER DIPLOMA

Higher Diploma in Family Medicine of the College of Family Physicians of South Africa
H Dip Fam Med(SA)

BADAT ZAKARIYA UKZN
KUBHEKA AMOS BONGINKOSI
OMED ALI RIDWAAN UKZN
SRIRAM THIPPA GOPALSWAMY UKZN
TSEBE KELETSO KAREN

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

MWELASE SANDILE MZIMKHULU UKZN

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

BUITENDAG JOHANNES JACOBUS PETRUS US

DIPLOMAS

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

DEETLEFS MARIA ELIZABETH CATHARINA
HOOSEN SAFIA UKZN
MPHAHLELE RERATILWE
NDLOVU SIBUSISO
PITSO BOITUMELO

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

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ALHADEFF SAMANTHA LAUREN
BADENHORST JACOBUS JOHANNES
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BLOMERUS RIKUS
BOSHOFF MARTHA MARIA JACOBA
BOSMAN DANIELLE MARGUERITE
BOUWER PETRA JOHANNES
BULBULIA HUMAIRA
BUTHELEZI ZANDISWA CHARLOTTE
CHACKO MICHAEL JOHN MEDAYIL
CHAPPEL PATRICK LOUIS
CILLIERS MARK
CLOETE MARIUS
CLOETE NADIA
DE BRUIN CATHARINA PETRONELLA
DHILRAJ DEEPIKA
DU PREEZ WERNER JOHAN
DU TOIT NICOLAI PIERRE UP
EKSTEEN EZET
FERREIRINHA DAVID PAUL
GRIESSEL SIMONE
GUNPATH RANDHIR RAMNATH
GWALA ELETHU SINENHLANHLA
HAFFAJEE ZUBAIR
HOY CHANTELLE CARINA
ICELY ANDREA CATHERINE MARY
JAICH ROBERT WILHELM
JAMBAYA MUNYARADZI EDWIN
KATO-KALULE NALUKENGE JOYCE
KHAN NAADIR
KHATIB FAHMEEDAH KHATIB
KILLINGBECK TERRI ANNE
KLEYN STEPHAN
KOHLER NATHALIE
KUUN ENGELA
LAÄS DANIËL JACOBUS
LINDE CATHERINE
MADIGA-TSEBE KHOLOFELO
SCHOLASTICAH WELHEMINAH
MAKINTA MPHO WILLIAM
MALADZE-TSANWANI THIRABELI PORTIA
MASHIGO BOITUMELO ESTHER
MAWJEE BHAVIC
MAZIBUKO-TSEOLE MBALI THANDIWE
MBHELE ZIBUSISO
MCELENI AVELA
MEINTJES JEANNE MARIE
MHLANGA DANAI LLOYD
MOKADDAN IRSHAAD
MOLOTSI CAIPHUS KGATLHISO
MOOSA KHALID
MOTLOUNG SELLO GOODENOUGH
MULAUDZI VHONANI
NAIDOO ALISHKA
NGEMA SIZWIWE VANGELI
OSMAN RAEESA
PENFOLD BRETT GERALD
PIENAAR ELDIE
PRESTON ANNA JOHNOVNA
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REDDY SANUSHA
RICHARDS-EDWARDS CHRISTOPHER LLOYD
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SCHEEPERS RUAN JOHANNES JACOBUS
SCHOEMAN HEIN
SENKOTO SHWESHWE
SENYAHALE WAZHA ANDREW
SITHOLE PROSPERITY ANNA Wits
SONI AAYESHA JALALUDDIN
STANDER JACOBUS LUKAS
STEYL CHARLE SMU
STRUWIG ESTEE
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THERON ELMI
VAN NIEKERK MINETTE
VAN RENSBURG LIVIA
WEYERS CARMEN ZENDA

Diploma in Child Health of the College of Paediatricians of South Africa
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BERGMAN CATHERINE ELIZABETH
BOTHA ESTE
BRINK ANJANE

BRINK FERUSKAH
BUTHELEZI PHILILE FORTUNATE
CHAUKE KATEKANI MERCY
COETSEE-VAN SCHAIK LIZANI
DA COSTA RIFDAH
DEMPSTER MEGAN
DESAI RENISHA
DLAMINI SIPHELELE CEBISILE
DOMONEY ARIANNA CABOT
DUBE SENELISIWE INNOCENTIA
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KEAL JOSEPHINE IRENE
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KHATLE LERATO
KHOZA MARIANA MAKHANANI
KRITZINGER TRUDIE
LALA-MOHAN LARISSA
LINDEQUE MEGAN
LUBISI KATE JENETH
LUTHULI SAMUKELISIWE OTTENSIA
MABE REATILE CARVIN
MAGUGU PATIENCE DUDUZILE
MAHLAKO KGAHLISO
MAKGOPO MOLATELO THAPELO
MAKHEDA PETUNIA
MAPANGA KUNDAI CHRISTABEL
MEHTA PUJA
MHLONGO NDUMISO PLEASURE
MKHWALO SIPHOKAZI MARGARET
MNGUNI THANDA THELMA
MOHOBELA MATSELISO FELICITY
MOKHOTHU REFILWE
MOOSA SABEEHA
MSWELANTO YOLISA
MUKHACWA TSAKANE PRECIOUS
MULDER CHRISNA
MUSHIANA LWELANI MUSHIANA
MYAKA AYANDA
MYBURGH MARLI
NAIDOO KERISSA
NDLELA GUGU SIBONINHLANHLA
NGUBENI BONGANI
NHLAPO MUSA PERPETUA
OELOFSEN SIOBHAN MONICA
OGUNJIOFOR SAMANTHA ADAOBI
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PARRY JASON
PICKUP VICTORIA
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PILLAY SAYURI
RAYNER SIMONE MEGAN
RYKLIEF AYESHA
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SHOZI THAKASILE KHONZEKA
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SIKHOSANE RUTH SIBONGILE
STEVENS MARY-JOE
STOFILE ATHENKOSI
TEKLEBRHAN NEAMEN YOHANNES
TLADI NTEBATSE ROSETTA
TSOLO TSHEGOFATSO NYEKO DINEO
VAN DER MERWE MARTINÉ
VAN NIEKERK CARA
VENKATESAN ANNETTE
VORSTER LAURINDA
ZONDI NTOKOZO SABELO

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

NDAMASE ZINHLE ABIGAIL

Diploma in Forensic Medicine of the College of Forensic Pathologists of South Africa - Path
Dip For Med(SA) Path

CHOKWE MAPITSI STEPHINA
COOK TRACY LEANNE UCT
HLALELE OUMAKIE SANNAH
JACOBS SHAWN US
MSIZA ZANELE PATIENCE
MUKHARI MUNENE VIRGINIA UL/SMU

Diploma in Geriatric Medicine of the College of Physicians of South Africa
DGM(SA)

MADELA YOLISWA

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

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BARNARD ELMI
BASTERFIELD JESSICA MARY
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BRUWER VALMY
CHACKO ANNA JOHN MEDAYIL
CHANG CH CHIECH
CHEN JIAN-HONG
COETZEE JEANNE
COLLY JAMIE LYNN
DANIELS CANDICE LISA
DARJI MOHINIBEN
DESAI ANJANI
DOBSON SARAH KATHERINE
DULLABH DIXIT ANIL
EBRAHIM NABILAH
ELENJICAL RANI JOHN
ESAU MIKAYLA WARDEN
ESSAME JENNA TAMSIN
FERREIRINHA ANDREW EDWARD
FOUCHÉ JENNIFER JOY
GATHERCOLE HOLLY GERALDINE
GERBER ANRI
GOVENDER ADELE ROXANNE
GURKE CHLOE ROSE
HARISHUN SAYURI
HATTINGH DANIEL WILHELMUS
HATTINGH ELZETTE
HORAK JACO
HUANG DAVID
JACOBS GABBY ANNE
JOHN SIMJI DEENA
KANA NIMITHA
KEENE ABIGAIL MARRIOTT
KHAN RIAASAT
KINGWILL MICHAELA KINGWILL
KIRKBY JULIA KATE
KORA JODIE ELLEN
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LEE MICHELLE
LUSU SIPHOSETHU
MAKHUNGA ASANDE
MALUSI SITYHILELO WSU
MANGA JAISHIL
MARQUES DANIELLA SA
MASEKO TSHEPISO NTHUTUOA
MASHILO MANOKO PORTIA
MASHIMBA JOHN
MATAMBA MUAMBA FRANCIS
MATHEW NEELU SUSAN
MATHIR MATHEENA
MBOKAZI PHINDOKUHLE NOMPUMELELO
MC INTYRE MONIQUE
MELKI EP EL ALAM SAMIRA
MICHELL JOHN DAVID
MKATSANE SERIALING ANGELINE
MOLOI MOKOPI BRIAN HECTOR SMU
MOTUMISI NTHABISENG
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Guidance Documents For Public Health Approaches To Managing COVID-19

The College of Public Health Medicine established a Task Team to develop guidance for public health approaches to managing COVID-19.

It has produced three guidance documents using evidence-based methodologies to produce rapid reviews on key questions for policy interventions.

The three reviews include:

1. Preventing COVID-19 transmission on public transport
2. Use of cloth masks in community settings
3. Use of medical masking in community and household settings

The reviews provide guidance which policy makers can consider in making key decisions on strategies for control of the epidemic.

Reducing the Transmission of COVID-19 When Using Public Ground Transport Informing Public Health Recommendations

RAPID REVIEW OF RESEARCH EVIDENCE[1]

- COVID-19 spreads from person-to-person through respiratory droplets produced when an infected person coughs or sneezes, and from touching contaminated surfaces.
- WHO declared COVID-19 a pandemic on March 11, 2020 and in South Africa President Ramaphosa announced that the COVID-19 outbreak had been declared a national state of disaster in terms of the Disaster Management Act.
- Interventions implemented include international travel bans, school closures, encouragement to work from home, bans on large social gatherings and events over 100 persons, and social distancing, where the public is recommended to avoid contact with other individuals.

RISK OF TRANSMISSION OF RESPIRATORY VIRAL INFECTIONS IN PUBLIC TRANSPORT

A barrier to achieving social distancing is the widespread use of public ground transit such as buses, taxis, and trains. Large numbers of people are in close proximity to each other, often in over-crowded conveyances. The risk of transmission is associated with:

- seating proximity to an index case
- duration spent aboard
- inadequate ventilation and the consequential recirculation of virus droplets in air

REDUCING RISK OF TRANSMISSION OF RESPIRATORY VIRAL INFECTIONS IN PUBLIC TRANSPORT

The rapid review of the current research evidence (up-to-date on 21 March 2020) on interventions for reducing the risk of viral infection while using public ground transport, included four studies (one systematic review, one case-control study and two modelling studies). It found that:

- The use of public transportation in the 7 days prior to symptom onset was associated with a significantly higher frequency of influenza A (H1N1) in 2009.
- Rail transport was important in accelerating the spread of influenza to new areas in the 1918 Influenza A (H1N1)

pandemic and transmission to persons in previously unaffected destinations from arriving long-distance rail passengers was observed in China during the Influenza A (H1N1) 2009 pandemic.

- From modelling studies, filtering air being circulated within a bus can reduce transmission of influenza between passengers and improving ventilation to a train can decrease risk of influenza infection.
-

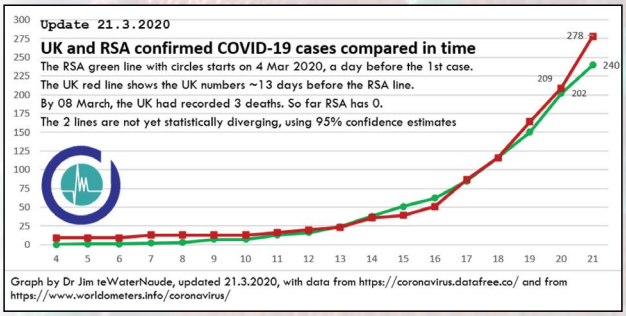
RISK REDUCTION STRATEGIES FROM INTERNATIONAL AND NATIONAL GUIDANCE

- Minimize the use of public transport.
- If sick, do stay at home.
- Where using public transport is unavoidable:
  - Environmental control: Surface cleaning, avoid touching handrails, doorknobs and touching face, and ensure adequate ventilation.
  - Respiratory etiquette: When coughing and sneezing cover mouth and nose with flexed elbow or tissue.
  - Hand hygiene: Hand washing or use of hand sanitizers, if water and soap not available, as often as possible before, during and after using public transport
  - Masks are not useful for those who are healthy.
- Active communication and information sharing to ensure the public is informed.

RECOMMENDED INTERVENTIONS TO REDUCE THE RISKS OF TRANSMISSION OF COVID-19 WHEN USING PUBLIC TRANSPORT – SOUTH AFRICA

Due to the high volume of citizens who travel in minibus taxis, buses and trains, we can infer that transmission of COVID-19 is likely to be rapid within communities once local spread increases. Using other country epidemic profiles as guidance, South Africa will transition to widespread community transmission within the next two weeks.

See graph below:
The rapid review has informed the suite of options and combinations of options outlined below:



1. Minimize use of public transport

- *Complete closure of workplaces and public transport*
  - Industry and workplaces are closed. This could be implemented for a 2-week period to coincide with nation-wide school closures.
  - All citizens to be strongly encouraged to stay at home and to reduce all non-essential travel and to only leave home for shopping or medical needs.
  - May require government to promulgate new regulations and enforcement capacity.
- *Social distancing measures*
  - Industry and workplaces are strongly encouraged to transition to work-from-home (remote work) where this is possible; where this is not possible, staggered work shifts to be implemented to permit citizens to travel on public transport avoiding peak traffic periods (this will reduce crowding).
  - Workplaces and industry to ensure all employees over 60 and those with comorbidities are working remotely or released from duties (ideally facilitated under special leave coverage to reduce income disruption).
  - Citizens to stay at home if sick, and to call NICD hotline or healthcare provider if displaying symptoms of COVID-19 (cough, fever, shortness of breath)

2. Infection prevention and control measures

- *At public transport hubs*
  - Widespread information-sharing via public address system regarding hygiene in all modes of public transport and in bus stations, train stations and at taxi ranks: wash hands or sanitize before and after travel, avoid touching handles and rails, cough and sneeze etiquette
  - Community healthcare workers or similar (e.g. Non-government organization staff) to be deployed to central taxi ranks, bus stops and train stations to advise passengers:
    - Queuing strategies (passengers to stand in staggered lines so that no-one is closer than 2 m from another person)
    - Advise passengers to board vehicle while clasping hands together to avoid touching handles and rails
    - Provide information regarding hygiene practices
    - Screen passengers for COVID-19 symptoms and advise against travel if any symptoms present, and facilitate referral to designated healthcare provider for COVID-19 testing; if temperature checks are done with scanners, these should use no-contact techniques. Screening especially important for long-distance travel to avoid sick passengers travelling and possibly spreading the virus to unaffected areas
    - Disseminate graphic information leaflets with text translated to appropriate language. Include the NICD hotline number or local provincial hotline
  - Mobile hand-washing and hand sanitizer to be available at all transport hubs and designated staff to ensure adequate supplies and refill constantly
  - Trains, taxis and busses to be cleaned overnight according to NICD guidelines (sodium hypochlorite – bleach solution)
  - All surfaces in stations and waiting ranks (e.g. rails) to be cleaned hourly with soap and water

- *In the taxi, bus and train*
  - Ventilate – regulations required to ensure windows on both sides of vehicle or conveyance are open to allow air to ventilate through
  - Regulate for no more than 50% of carrying capacity for vehicle
  - Provide adequate quantities of hand sanitizers in the vehicle for passengers to use
  - If possible, hourly cleaning of window ledges, handles and backs of seats
  - Conductors of conveyances which have manual doors (e.g. taxis) to open and close doors to reduce passengers touching handles

A note on masks and gloves: There is no evidence on the usefulness of face masks worn by healthy or asymptomatic persons as a mitigation measure, therefore it is not recommended. Gloves are not effective unless discarded after each use, and should not replace regular hand-washing. In resource-constrained settings, masks and gloves should be retained for healthcare workers and those caring for those who have COVID-19.

3. Monitoring implementation of interventions

General principles of epidemic surveillance should accompany the implementation of any interventions during this period. We therefore recommend that a repeated random cross-sectional survey of passengers travelling through central transport hubs is immediately conducted to identify passengers with the presence of symptoms or ideally with COVID-19 test-kits to provide the prevalence of the disease in the commuting population (which is a likely good representation of the majority of people living in South Africa).

Such a survey, repeated at regular intervals, will give us the best means to monitor the epidemic, to evaluate the success of implemented interventions, and to inform when we implement further restrictions or lift these. There is good epidemiological evidence to suggest that the South African experience will be similar to, or worse than, other countries due to underlying vulnerabilities in our communities. For this reason, it is likely that we will need to make decisions regarding interventions for several months into the future and repeated survey data will be informative. The Ethics approval and funding for this can be expedited if testing kits are available.

SUMMARY STATEMENT

The rapid review of evidence-based interventions provides practical guidance for reducing transmission in public transport by using mitigation measures. These include reducing the need for travel by workplace closure and social distancing measures such as remote working and staggering work shifts. When travel is required, infection prevention and control practices at transport hubs include regular cleaning of surfaces and provision of facilities for hand-washing and sanitizers, and social distancing practices such as staggered queuing; in vehicles, ventilation and prevention of over-crowding are key to reducing viral transmission, as is regular cleaning and limiting opportunities for passengers to touch surfaces.

Implementation of the above recommended measures will require inter-sectoral collaboration with engagement with public transport organizations, municipalities, taxi operators and community health workers. Implementation of any interventions aiming to reduce transmission should be monitored by conducting repeated cross-sectional surveys of the prevalence of SARS-CoV-2 to evaluate effectiveness and to guide future decisions.

Released by:
The College of Public Health Medicine COVID-19 Evidence-based Guidance Task Team

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"In the midst of movement and chaos, keep stillness inside of you."
DEEPAK CHOPRA

Reducing the Transmission of COVID-19 When Using Cloth Face Masks Informing Public Health Recommendations

RAPID REVIEW OF RESEARCH EVIDENCE[1]

- COVID-19 is caused by the SARS-CoV-2 virus and spreads from person-to-person through respiratory droplets produced when an infected person coughs or sneezes, and from touching contaminated surfaces.
- Close contact with infected people should be avoided, and the risk of transmission mitigated using infection prevention and control measures, including personal protective equipment (PPE) such as face masks
- The pandemic has led to a global shortage of PPE, including masks and respirators. Masks are critical in healthcare settings to protect healthcare workers from becoming infected, and are being widely promoted in community settings to prevent transmission in the general population. This is particularly relevant with SARS-CoV-2, since transmission prior to symptom onset is thought to be important
- Homemade or cloth masks have been used in several settings prior to the COVID-19 pandemic, and have been suggested as a stopgap in community settings in order to save medical masks for use in healthcare workers. The evidence for their effectiveness, however, is unclear.
- Guidance from global oversight bodies varies. See Table overpage.

RISK OF COMMUNITY TRANSMISSION OF SARS-COV-2 IN SOUTH AFRICA

As South Africa went into its Covid-19 lockdown on March 27, confirmed cases climbed above 1,000, and the outbreak was now reaching the stage of local transmission and of clustered and community transmission where it is no longer a majority-imported disease.
The World Health Organisation (WHO) categorises the coronavirus and the disease it causes (COVID-19) into four categories: Stage 1 - imported by travellers; Stage 2 - clustered transmission; Stage 3 - local transmission, and Stage 4 - widespread community transmission.

At 1,000 positive tests, South Africa is on the boundary of community transmission.

Community transmission is of particular concern in densely populated informal settlements with limited water supply and sanitation where engineering and administrative infection prevention and control measures are challenging.

Panel: Recommendations on face mask use in community settings

WHO[1]
If you are healthy, you only need to wear a mask if you are taking care of a person with suspected SARS-CoV-2 infection.

China[2]
- People at moderate risk* of infection: surgical or disposable mask for medical use.
- People at low risk** of infection: disposable mask for medical use.
- People at very low risk*** of infection: do not have to wear a mask or can wear non-medical mask (such as cloth mask).

Hong Kong[3]
- Surgical masks can prevent transmission of respiratory viruses from people who are ill. It is essential for people who are symptomatic ()even if they have mild symptoms) to wear a surgical mask.
- Wear a surgical mask when taking public transport or staying in crowded places. It is important to wear a mask properly and practice good hand hygiene before wearing and after removing a mask.

Singapore[4]
- Wear a mask if you have respiratory symptoms, such as a cough or runny nose.

Japan[5]
- The effectiveness of wearing a face mask to protect yourself from contracting viruses is thought to be limited. If you wear a face mask in confined, badly ventilated spaces, it might help avoid catching droplets emitted from others but if you are in an open-air environment, the use of face mask is not very efficient.

USA[6]
- Centers for Disease Control and Prevention does not recommend that people who are well wear a face mask (including respirators) to protect themselves from respiratory diseases, including COVID-19.
- US Surgeon General urged people on Twitter to stop buying face masks.

UK[7]
- Face masks play a very important role in places such as hospitals, but there is very little evidence of widespread benefit from members of the public.

Germany[8]
- There is not enough evidence to prove that wearing a surgical mask significantly reduces a healthy person's risk of becoming infected while wearing it. According to WHO, wearing a mask in situations where it is not recommended to do so can create a false sense of security because it might lead to neglecting fundamental hygiene measures, such as proper hand hygiene.

** People at moderate risk of infection include those working in areas of high population density (e.g., hospitals, train stations), those have been or live with*

*somebody who is quarantined, and administrative staff, police, security, and couriers whose work is related to COVID-19. ** People at low risk of infection include those staying in areas of high population density (e.g., supermarket, shopping mall), who work indoors, who seek health care in medical institutions (other than fever clinics), and gathering of children aged 3 to 6 years and school students. *** People at very low risk of infection include those who mostly stay at home, who do outdoor activities, and who work or study in well-ventilated areas.*

Source: Feng, 2020, published on 20 March 2020 [2]

EVIDENCE OF EFFECTIVENESS OF CLOTH MASKS FOR PREVENTING COMMUNITY TRANSMISSION

The rapid review of the current research evidence (up-to-date on 31 March 2020) assessed the effects of cloth masks for preventing transmission of SARS-CoV-2 in the community setting. A single cluster trial of 15 hospitals conducted in Hanoi, Vietnam was included. This was not a trial in the community setting, but a trial of healthcare workers, and we have interpreted the evidence as indirectly related to the general population. The review found that:

- Clinical and laboratory-confirmed respiratory infections may increase approximately 1.5 times when wearing cloth masks compared with medical masks
- 28 more people per 1000 may develop clinical respiratory infections if they wear a cloth mask compared to a medical mask. This could be 0 fewer to 71 per 1000 more infections
- 22 more people per 1000 may develop laboratory confirmed respiratory infections if they wear a cloth mask compared to a medical mask. This could be 2 fewer to 63 per 1000 more infections
- There is very low certainty evidence that influenza-like illness is increased approximately 1.6 times when wearing cloth masks compared with medical masks.

In summary, there is moderate evidence that cloth masks increase the risk of acquiring infection compared to medical masks. The evidence for the effects of cloth masks in the general population compared to not wearing a mask remains unknown. Review of ecological studies on widespread use of cloth facemasks versus not using any form of facial covering is still required.

ADDITIONAL FACTORS TO CONSIDER FOR THE POSSIBLE USE OF CLOTH FACEMASKS FOR PREVENTING COMMUNITY TRANSMISSION

Considering the limited evidence for the use of cloth facemasks in the reduction of community transmission the following were also taken into account in developing the guidance:

- We develop guidance using the overriding ethical principle of "first do no harm"
- Most single intervention measures will be insufficient to contain the spread of Sars-Cov-2; but combinations of measures may reduce the reproduction number below 1[3]
- Subversion of other measures of prevention of transmission including hand hygiene, respiratory hygiene and physical distancing may occur, should facemask use become widespread
- Water, sanitation and hygiene are not equally accessible and social distancing measures are not feasible in many communities, thus alternative additional options would be important to consider in these communities
- Cloth facemasks may be considered for high-risk transmission settings where physical distancing is difficult, such as public transport, queuing (such as for shopping and grant collection) and waiting areas (such as at health facilities)
- Societal norms and possible stigmatisation with use or not of facemasks[4]
- Consideration of presymptomatic and asymptomatic transmission, which may or may not be prevented by the wearing of facemasks
- Studies which indicate that cloth masks become saturated due to breath condensation which may increase the porous nature of the cloth

RECOMMENDATIONS REGARDING CLOTH FACE-MASKS TO REDUCE COMMUNITY TRANSMISSION OF COVID-19 – SOUTH AFRICA

The rapid review has informed the suite of options and combinations of options outlined below:

1. Cloth masks must NOT be used as Personal Protective Equipment (PPE)

- Cloth masks must NOT be used by health care workers.
- Cloth mask usage only as a last resort and must not be used as Personal Protective Equipment (PPE).

2. Medical Masks and N95 respirators must be reserved for particular categories

- This is particularly imperative in resource-constrained settings, where there is a shortage of medical masks.
- N95 respirators should only be used by health care workers
- Medical masks should only be used by frontline workers (e.g. police, military) and those caring for those who have COVID-19, when faced with limited resources. This is to protect those at higher risk of infection.
- Medical masks should be used by those already infected with COVID-19. This is to prevent further infection of those around them by droplet spread, whilst in self-isolation

3. General Infection prevention and control measures must continue

- Hand-hygiene (regular hand washing with soap and water for 20 seconds)
- Respiratory hygiene (sneeze and cough into your bent elbow away from other people)
- Physical distancing (no physical contact, remain 2 arms-lengths away from other people)
- Isolation for positive cases
- Quarantine for contacts of positive cases
- Reduction in gathering and congregation of people
- Disinfecting and sanitisation of surfaces

4. Cloth masks, home-made masks and/or facial coverings for community use cannot at this stage be recommended based on uncertainty of the evidence

- There is uncertainty of the evidence as to whether the benefits outweigh the harms of cloth facemasks and if wearing, especially prolonged, may increase risk of acquisition of infection.
- Should cloth facemasks be advised for community use, it would be imperative to be implemented only in conjunction with particular and clear messaging around design, production, and safe-use, including donning, doffing, not touching your face / mask while wearing, cleaning, disinfecting and disposal, as well as rigorous emphasis on other hygiene measures. In other words "Masks + Message".

5. Further Research

- It is recommended that urgent research to determine the benefits and harms of cloth masks in a community setting is undertaken. This may be prudent to combine with the current rollout of widespread community screening and testing intervention.

SUMMARY STATEMENT

- Cloth masks must not be used as Personal Protective Equipment (PPE) for Health Care Workers.
- Medical Masks and N95 respirators must be reserved for particular categories, viz. health care workers, frontline workers, persons tested positive with COVID-19 and those caring for them.
- Cloth masks, home-made masks and/or facial coverings for community use cannot at this stage be recommended, based on uncertainty of the evidence as to whether they reduce or could even increase the risk of transmission.
- Should cloth facemasks be advised for community use, it would be imperative to be implemented only in conjunction with particular and clear messaging around design, production and safe-use, as well as rigorous emphasis on other hygiene measures. In other words "Masks + Message".
- Based on current evidence, there is potential that cloth masks are worse than no masks, just as the opposite could be true. Further research is therefore recommended to determine the benefits and harms of cloth masks in a community setting.

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Reducing Community Transmission of COVID-19 Through Medical Masking: Informing Public Health Recommendations

BACKGROUND

- COVID-19 is caused by the SARS-CoV-2 virus and spreads from person-to-person through respiratory droplets produced when an infected person coughs or sneezes, and from touching contaminated surfaces.
- Close contact with known infected people should be avoided, and the risk of transmission mitigated by using infection prevention and control measures, including personal protective equipment (PPE) such as face masks.
- The pandemic has led to a global shortage of PPE, including masks and respirators. Masks are critical in healthcare settings to protect healthcare workers from becoming infected, and are being widely promoted in community settings to prevent transmission in the general population. This is particularly relevant with SARS-CoV-2, since transmission prior to symptom onset is thought to be important.
- Guidance from global oversight bodies is not consistent at this

stage[1], and is in flux. In recent weeks, guidance has changed in some instances from "avoid wearing masks for people who are well", across the spectrum of "use cautiously", to advocating mask use for the general population[2].

RISK OF COMMUNITY TRANSMISSION OF SARS-COV-2 IN SOUTH AFRICA

The South African epidemic is reaching the stage of local transmission and of clustered and community transmission where it is no longer a majority-imported disease.

The World Health Organization (WHO) categorises the coronavirus and the disease it causes (COVID-19) into four categories: Stage 1 - imported by travellers; Stage 2 - clustered transmission; Stage 3 - local transmission, and Stage 4 - widespread community transmission. At 2,272 individuals with confirmed infection (13th April 2020), South Africa is now between Stage 2 and Stage 3 transmission.

Community transmission is of particular concern in densely populated informal settlements with limited water supply and sanitation, where engineering and administrative infection prevention and control measures are challenging.

EVIDENCE OF EFFECTIVENESS OF MEDICAL MASKS FOR PREVENTING COMMUNITY TRANSMISSION

A rapid review[3] of the current research evidence assessed the effects of medical masking for preventing transmission of SARS-CoV-2 in the community and household settings. No trials of preventing SARS-CoV-2 were identified. Indirect evidence from trials of influenza-like illnesses, found:

In Community Settings:

- Two cluster trials evaluated the effectiveness of medical masks versus no masks for protecting wearers from acquiring influenza-like infection among university residence students
- Together these trials provide evidence that medical masks may make little or no difference to the chance of acquiring infection compared to no masks (RR=0.98 (95%CI 0.81-1.19) (low certainty evidence). This effect may range from a reduction of 19% to a 19% increased probability of infection.

In Household Settings:

- Five cluster trials evaluated the effectiveness of medical masks versus no masks for protecting household members from acquiring infection from a household member who was ill with influenza-like illness. The member who was ill wore a mask in all trials and in two trials, both the ill household member and the healthy household members wore masks.
- Together these trials provide evidence that medical masks worn by an ill household member may slightly reduce the chance of other household members from acquiring infection by 19% compared to no masks (RR = 0.81 (95% CI 0.55- 1.20) (low certainty evidence)). This effect may range from a reduction of 45% to a 20% increased probability of infection.

In summary, there is low certainty evidence that using medical masks may make no difference in transmission when in community settings ("my mask protects you, your mask protects me") but these results are specific to university settings and may not reflect broader community settings. When worn inside the household by individuals who are ill ("my mask protects you"), medical masks may provide some protection to other household members. None of the trials evaluated masks in combination with eye protection.

ADDITIONAL FACTORS TO CONSIDER FOR THE POSSIBLE USE OF MEDICAL MASKING FOR PREVENTING COMMUNITY TRANSMISSION

Considering the low certainty of the evidence for the use of medical masking in the reduction of community transmission, the following were also taken into account in developing the guidance:

- We develop guidance using the overriding ethical principle of "first do no harm".
- Overarching benefits vs harms are assessed whilst also taking into account uncertainties and unknowns.

Combination Interventions:

- Most single intervention measures will be insufficient to contain the spread of SARS-CoV-2; but combinations of measures may reduce the reproduction number to below 14, i.e. <1 additional case of a disease each infected person will cause during their infectious period, which would bring the epidemic to an end.
- Should facemask use become widespread, there may be a de-emphasis of other measures of prevention including hand hygiene, respiratory hygiene and physical distancing

Specific Population Or Setting Challenges:

- Water, sanitation and hygiene are not equally accessible and social distancing measures are not feasible in many communities, thus alternative additional options would be important to consider in these communities
- Other high-risk transmission settings where physical distancing is difficult include public transport, queuing (such as for shopping and grant collection), and waiting areas (such as at health facilities and in public transport hubs). See our CPHM Guidance on Public Transport https://www.cmsa.co.za/view_news_item.aspx?NewsID=149

Cultural And Behavioural Factors:

- Societal norms and possible stigmatisation with use, or not, of facemasks[5] is an important consideration and may operate in both directions, i.e. may increase or decrease stigma.
- Incorrect use of masks (such as mask not covering nose, worn inside-out, worn when wet or moist, repeated touching of the mask) would not only reduce the potential benefits, but may cause harm in being a nidus of infection when worn by those with confirmed or asymptomatic infection.

Transmission Factors:

- Consideration of pre-symptomatic and asymptomatic

transmission, which may or may not be prevented by the wearing of facemasks6.

RECOMMENDATIONS REGARDING MEDICAL MASKING TO REDUCE COMMUNITY TRANSMISSION OF COVID-19 – SOUTH AFRICA

The rapid review has informed the suite of options and combinations of options outlined below:

1. Medical masks and N95 respirators must be prioritised for particular categories

- This is particularly imperative in resource-constrained settings.
- N95 respirators should only be used by health care workers.
- Medical masks should be primarily used by frontline workers (e.g. police, military) and by those caring for those who have COVID-19. This is to protect those at higher risk of infection.

2. General infection prevention and control measures must continue

- Hand-hygiene (regular hand washing with soap and water for 20 seconds)
- Respiratory hygiene (sneeze and cough into your bent elbow, away from other people)
- Physical distancing (no physical contact, remain 2 arms-lengths away from other people)
- Isolation for individuals who are confirmed COVID-19 positive
- Quarantine for contacts of individuals who are confirmed COVID-19 positive
- Reduction in gathering and congregation of people
- Disinfecting and sanitisation of surfaces

3. Medical masking for community use may be implemented with caveats

- Masks alone are unlikely to have significant effect in interrupting the spread of respiratory viral illnesses. However, when used in conjunction with other infection prevention and control measures in high-prevalence environments and in scenarios with limited access to water and sanitation, and where physical distancing measures are not feasible, there may be some benefit.
- Medical masks may be slightly beneficial in preventing the transmission from individuals who are ill in the household setting and consideration should be made for provision of these, without reducing PPE resources to healthcare workers.
- Medical masking should only be considered if sufficient supplies are available for all healthcare workers and frontline workers such as community health workers, cleaning staff, persons with COVID-19 and persons caring for those with COVID-19. Equitable access to all communities, especially vulnerable communities, must be ensured.
- Should medical masking be advised for community use if resources permitted, it would be imperative to be implemented only in conjunction with particular and clear messaging around obtainment and safe-use, including donning, doffing, not touching your face / mask while wearing, cleaning, disinfecting and disposal, as well as rigorous emphasis on other hygiene measures. In other words: “Masks + Message”.

4. Further Research

- Urgent research to determine the effectiveness of medical masking to prevent transmission in a community setting, and to quantify the protection of medical masks in a household setting under pandemic conditions, should be undertaken. Additional measures such as provision of eye protection and hand-sanitisers should also be tested in combination with masks.

SUMMARY STATEMENT

- There is low certainty evidence that medical masks worn by an ill member of a household may slightly reduce the chance of other household members acquiring infection when worn inside the household (“my mask protects you”).
- There is low certainty evidence that using masks may make little to no difference to reducing transmission in community settings (“my mask protects you, your mask protects me”).
- Medical masks and N95 respirators must be reserved primarily for particular categories, viz. all healthcare workers and frontline workers such as community health workers, cleaning staff, persons with COVID-19 and persons caring for those with COVID-19
- Medical masking may have benefit when used in conjunction with other infection prevention and control measures in high-prevalence environments and in scenarios with limited access to water and sanitation, and where physical distancing measures are not feasible.
- Medical masks may be slightly beneficial in preventing the transmission from individuals who are ill in the household setting and consideration should be made for provision of these, without reducing PPE resources to healthcare workers.
- Further research to determine the effectiveness of mass medical masking in a community setting and in households under pandemic conditions is recommended.

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Fair And Equitable Benefit Sharing for the COVID-19 Pandemic

The College of Public Health Medicine recently signed on to a call for the United Nations to work with WHO to secure binding commitments from pharmaceutical and other manufacturers to support the needs of developing countries.

Under international law, commercial utilization of genetic resources is meant to ensure that benefit-sharing is mutual and allows for equitable sharing of benefits such as vaccines or treatments.
This is critically important to ensure that vaccines developed for COVID-19 are accessible to developing country populations, including those countries who contribute genetic materials that are used to develop such vaccines or treatments.

This includes:

1. Binding commitments from corporations for the rapid supply of existing and future medical products, especially diagnostics, therapeutics and vaccines to developing and least developed countries at an affordable price
2. Open platforms for the widespread and unconditional sharing of technology and knowledge that enable development of diagnostics, therapeutics and vaccines
3. Coordination of Research and Development through an open innovation platform for the rapid public sharing of all research outcomes
4. Ensuring intellectual property rights do not hinder efforts to curb the COVID-19 outbreak

Anyone wishing to sign on can do so at
https://forms.gle/DtWeuqSbp8vLJ2dN9

Operationalizing Fair and Equitable Benefit Sharing for the COVID-19 Pandemic

The Convention on Biological Diversity (CBD) and its Nagoya Protocol on Access and Benefit Sharing are binding international instruments. The CBD has 196 Parties while the Nagoya Protocol has 116 Parties.

The foundation of these instruments is that States have sovereign rights over their own natural resources and that access to genetic resources is subject to prior informed consent (PIC) of the State providing the resources, and further requires fair and equitable sharing of benefits arising from the commercial and other utilization of genetic resources with the State providing such resources. Access and benefit sharing should be on mutually agreed terms (MAT). Pathogens such as COVID-19 are within the scope of these instruments.

The sharing of pathogen samples and sequence information is crucial for the rapid development of diagnostics, therapeutics and vaccines. In 2011, the World Health Organization adopted a historic landmark agreement known as the Pandemic Influenza Preparedness Framework (PIP Framework) that sets out international rules in WHO with regard to access to influenza viruses of pandemic potential (IVPP) and fair and equitable sharing of benefits arising from their use. For the first time, access to IVPP was linked on an "equal footing" to access to vaccines and other benefits.

The PIP Framework is a multilateral instrument built on CBD principles of access and benefit sharing with commitments on access to medicines, vaccines and diagnostic kits to enable treatment in developing and least developed countries.

With this Framework, WHO has entered into binding contracts with biopharmaceutical manufacturers securing firm commitments to deliver diagnostics, anti-viral products and vaccines during the time of a pandemic.i According to WHO, through 13 signed Standard Material Transfer Agreement (SMTA) as at May 2019, it has secured approximately 420 million doses of pandemic vaccine and 10 million treatment courses of antivirals that it would be able to send to countries in need at the time of a flu pandemic.ii The SMTA also provides the option of manufacturers providing royalty free licenses to manufacturers in developing countries for the production of pandemic influenza vaccines, adjuvants, antiviral products and diagnostics needed in a pandemic.

The scope of the PIP Framework is limited to influenza viruses of pandemic potential and would not extend to COVID-19. Notably, however, the discussion on sharing of other pathogen samples and digital sequence information as well as fair and equitable benefit sharing was well underway in WHO, before the COVID-19 outbreak stalled the discussion.

The international binding obligation of fair and equitable benefit sharing of the CBD and its Nagoya Protocol and its operationalization by securing binding commitments from relevant manufacturers are very relevant and valid in the context of COVID-19.

In January 2020, China rapidly shared the sequence information for COVID-19. Since then, the sharing of COVID-19 samples with reference laboratories for rapid confirmation and analysis, as well as the sharing of digital sequence informationiii has continued. It is this sharing that is enabling the research and development of diagnostics, medicines and vaccines across the world.

However, the concern is that this sharing of samples and digital sequence information is not reciprocated equitably, as seen by the scramble for medical supplies globally with developed countries, especially the United States and European states leveraging their political and financial clout at the expense of developing and least developed countries.[iv]

Hence the call on the United Nations to work with WHO to secure binding commitments from pharmaceutical and other manufacturers with the aim to support the needs of developing and least developed countries.

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COVID-19: An Unprecedented Pandemic but an Historic Opportunity For South Africa and The World

Authors: Dr Tracey Naledi, Professor René English, Professor Leslie London

On 11 March 2020 the World Health Organisation (WHO) Director-General Dr Tedros Adhanom Ghebreyesus declared the COVID-19 outbreak a pandemic, after having received its first report of unusual pneumonia of unknown cause in City of Wuhan, Hubei province, China on 31 December 2019. As we now know, the causative agent was identified as a novel coronavirus (subsequently named SARS-CoV-2) which the WHO had warned on 10 January 2020 carried high risk of human-to-human transmission. Two months after this warning, the Director-General cited "the alarming levels of spread and severity and… alarming levels of inaction" as the reason for declaring this as a pandemic. The WHO noted that even though the novel coronavirus infects all ages there was increased vulnerability in older persons and those with underlying medical conditions. At the time of declaration of the pandemic, there were 118 319 cases and 4292 deaths in 113 countries/territories/areas affected with China experiencing the greatest impact accounting for 70% of all cases. Fast forward to a month and half later and there were over 2,5 million cases and over 175 000 deaths in the world, and fewer than 2% were from South East Asia Region (1). In this article we highlight why this pandemic and its response is historic for the world and South Africa.

THE SCALE OF THIS EPIDEMIC IS UNPRECEDENTED IN RECENT YEARS

Previous epidemics of Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS), both caused by other strains of novel coronavirus, did not reach this scale nor spread so quickly. When the WHO declared on 5 July 2003 that the SARS outbreak was contained, about four and half months after the first case was reported, there were an estimated 8000 SARS cases and nearly 800 deaths across 26 countries with an overall Case Fatality Rate (CFR) of 9.6% (2,3). MERS has not as yet been contained, but from September 2012 to November 2019 the WHO reported 2494 cases and 858 deaths across 27 countries with a CFR of 34.4% (3,4). With this emerging pandemic commentators have drawn comparisons with the 1918 Spanish Flu that is estimated to have infected half a billion people (about a third of the population at the time) and killed about 50 million people. McKibbin and Fernando have modelled seven scenarios of how the COVID-19 pandemic could evolve in the coming year and they estimate deaths of 15 million in the their lowest pandemic scenario and 68 million in the highest pandemic scenario (5). In South Africa their models estimate that there will be in the range of 75 000 to 337 000 deaths due to COVID-19 in contrast to the approximately 20 000 deaths due to influenza and pneumonia reported annually by StatsSA (6). Others have been much more guarded on their predictions of expected

cases and deaths citing the heterogeneity of population profiles and contexts (7). There could also be an offset of total mortality rates due to the potential reduction of deaths from limited movement of people resulting in lower deaths related to environmental causes like road traffic injuries (8). The WHO however has reported that currently mortality for COVID-19 is between 3-4% compared to approximately 0,1% for the seasonal influenza (9). The mortality for COVID19 could therefore be about 30 – 40 times higher than of the seasonal flu. This however must be noted with caution as these figures might be revised if the antibody surveys confirm that 80 to 90% of infections are asymptomatic or inconsequential and not reported. These cases would have not been included in the denominator of the calculation of current mortality rates thus over-estimating them.

GLOBAL COORDINATION AND LOCKDOWN

Bootsma & Ferguson, in their analysis of the impact of interventions on the 1918 Spanish Flu have shown the importance of the timeliness of actions, not only to implement non-pharmacological interventions as early as possible, but also to avoid prematurely ending these interventions (10). This crisis and the need for timely action has facilitated unprecedented coordinated action at both global and local levels. The coordination of the global response by WHO is to be commended. They continue to provide regular data updates, technical support and guidance to countries and mobilisation of resources such as personal protection equipment. Importantly they have advocated for countries to respond urgently and comprehensively to this pandemic, repeatedly citing the seriousness of this pandemic. In turn numerous countries have responded, albeit at various rates and levels of intensity. The aim of these actions is to protect immunologically naïve populations against this novel coronavirus for which there is no confirmed treatment nor vaccine. This relatively fast and coordinated response is much better than the response to the Ebola Epidemic when it took the WHO five months from the first Ebola notification in West Africa to declare a public health emergency (11).

The coordinated lockdown to reduce transmission of COVID19 of nearly the entire world in such a short space of time is completely unprecedented. This rapid and far-reaching response can be partly attributed to the connectedness of the world, readily available information and global experiences seen and felt via technology. However, the rates, intensity, timing and range of interventions has varied widely across countries. Measures have included public information campaigns, closing of schools and workplaces, cancelling public events, closing public transport, restrictions of internal and international movement of people, fiscal and monetary measures, emergency investment in health systems and commodities like vaccines (12). Hale and colleagues developed a score for the stringency of country responses to the pandemic over time, with the aim of assessing and comparing the impact of these responses by country (12). In their first publication, 77 countries who had implemented these measures were included with more to come. Unfortunately, the global coordination role of WHO is under threat right in the middle of the global response. The United States of America (USA) which contributed approximately $400m of the WHO's $6bn budget for 2018-2019 has decided to stop this funding for 60 to 90 days to investigate allegations of mismanaging and concealing of the emergence and spread of the virus (13). This unilateral action has been widely condemned by world leaders. The USA has a history of withholding its assessed contributions from the WHO, a strategy some have criticised as a long-standing USA strategy to weaken the central stewardship role of the WHO in global health governance. (14)

WEAK HEALTH SYSTEMS - AN OPPORTUNITY FOR UNIVERSAL HEALTH CARE

Minister Zweli Mkhize is to be commended for his leadership in ensuring that there is an evidence-based response to the pandemic, which is in stark contrast to the response displayed by prior administrations to HIV. There are already indications that the lockdown in South Africa has succeeded in postponing the COVID19 curve and bought us time to prepare the health system for the potential Tsunami of COVID19 admissions. Provincial health departments have been procuring addition ventilators, personal protection equipment and setting up temporary field-testing sites and hospitals sites. It can however be argued that the already overburdened, under-resourced and under-funded health system is at risk of further deterioration. There have already been anecdotal reports of provincial departments diverting existing health resources to the COVID19 response and limiting primary health care services including sexual reproductive services and services for chronic conditions. Civil society health organisations such as Treatment Action Campaign launched a Covid-19 survey to assess the veracity of claims of limited access to antiretrovirals (15). These reports could be true based on previous experiences in South Africa of mass campaigns displacing primary care services in the health system. For example, Vergeut and colleagues have shown that during the month of the national supplemental immunisation activity (SIA) of 2010, coverage of children under 1 year who were fully immunised decreased by 29%; contraceptive use decreased by 7–17% and antenatal visits reduced by 10% (16). President Ramaphosa has, however, pledged an additional R20billion to the health sector and it remains to be seen if this will limit a diversion of health services to respond to COVID19 as was the case during the SIA.

The inequitable distribution of resources between the public and private sector is a key challenge that has been widely discussed in the context of the imminent National Health Insurance legislation in South Africa. Alex van den Heever, a professor of social security and management studies at the Wits School of Governance has reported that there are currently 4 957 critical care beds in the private sector with 50% occupancy rate serving less than 20% of the population in South Africa compared to 2 238 in the public sector at around 80% occupancy serving more than 80% of the population. Public and private collaboration has been promoted by the Minister as a response to the increased need for critical care beds and other health services. It is, however, unclear what the nature of this collaboration would be. It would be a true indictment on us as a nation if public sector resources will be used to "buy" services from the private sector at private sector prices. This could empty the public purse even faster and stand to increase the private sector profits even more.

We can learn from some countries like Spain and Ireland who have commandeered private health services to respond to the COVID19 pandemic. If South Africa does the same, it might simultaneously help catalyse the development of a universal health system in South Africa by showing all of us that universality is indeed possible.

Challenges with adequate human resources for health are likely to be exacerbated during COVID19. Health worker maldistribution between public and provide sectors in South Africa is a major constraint where approximately 70% of all doctors, especially specialists, work only in the private sector serving 16% of the population (17). The protection of health workers, including community health workers, is a critical issue as this is an essential element of the health system response. There has been concern about the health and safety of workers with some health facilities closing due to lack of personal protection equipment. Community Health Workers have sometimes not been able to go out for community screening due to the lack of or limited PPE. There have been attempts to provide guidelines on the stratification of health workers on the basis of their health risk factors and level of risk of health tasks. Stratification by risk aims to keep workers at higher risk out of the workplace whilst allowing younger, lower risk workers back to work. According to the South African Nursing Council data from 2017, I in 5 nurses were 60years or older (18). Prevalence of diabetes in South African adults aged 60-69% is estimated to be about 10% (19). This implies that there will be part of the health worker force that should not be exposed to COVID19 thus further limiting health worker availability. To make matters worse, better resourced health systems in northern countries like the UK have relaxed immigration procedures to allow easy migration of qualified health professionals to fill their short fall of health workers (20). This when high-income countries have nearly 12 times as many health workers per population compared to low-income countries (21). These challenges could however be an opportunity for innovations that make better use of lay workers and telemedicine. The publication of the telemedicine guidelines by the Health Professional Council of South Africa is a welcome facilitator for this. There are already services such as the online General Practitioner like the “Hello Doctor” service in South Africa. Reproductive health care online platforms are already used in other countries to increase availability of particular services for key populations that often find health services difficult to access.

A further weakness is that our health information systems and outbreak response systems that are not sufficiently integrated across health facilities, across levels of care and across the public and the private health systems. The President has announced that there would be an integrated data centre at the Council for Scientific and Industrial Research (CSIR) to capture all COVID19 cases. He also announced the justice-system supervised use of GPS coordinates from mobile phones to track potential contacts of cases. This provides an opportunity for the country to grow an integrated comprehensive information system that could be used for the COVID19 pandemic to provide monitoring and planning data for future outbreak response and to improve access to normal primary health care services. It is imperative that South Africa and the world use the COVID19 pandemic to strengthen health systems to progressively move towards universal health care.

SOCIAL DETERMINANTS AND HEALTH INEQUALITIES AS SIGNIFICANT RISK FACTORS

South Africa, like many low- and middle-income countries with high levels of inequality, is plagued by urban overcrowding, malnutrition, high communicable and non-communicable disease burdens and weak health systems, and will likely be hardest hit by this pandemic. Africa does not yet have the large numbers of infections to provide empirical evidence for this. However, it is unlikely to escape the exponential rise of cases experienced in other countries as recent reported infections and deaths suggest. The impact of Hale’s stringent measures, even though appropriate from a public health perspective to suppress the epidemic, have hit the poor and the vulnerable very hard. Some of these vulnerable groups include people with limited regular income, short term daily or weekly income; people with limited space to self-isolate and people with limited opportunities for keeping children safe and engaged or keeping themselves safe from perpetrators of gender-based violence. Reports from the United States show the unequal distribution of the impact of COVID19 on the poor. In Chicago, African Americans made up 70% of all COVID19 cases in the City and 50% of cases in the state yet they are only 30% of the population. This is largely due to dense urban environments and inability to limit exposure as many of in this population are essential workers.

Across a range of dimensions (e.g. economically, assets, wealth, labour), South Africa is one the most unequal countries in the world. South Africa is thus undoubtedly extremely vulnerable to the socio-economic and other effects of the national lockdown measures. The economic impacts are particularly significant in South Africa and around the World. The World Economic Forum has estimated that there would be a 20% income drop as a result of COVID19 resulting in an additional half a billion people around the world pushed to poverty (22). We have already seen civil unrest, looting of shops and food delivery trucks around the country with desperate people demanding food. Furthermore, due to the HIV and AIDS burden and the prevailing migrant labour system, many children are raised by their grandparents, many of whom have underlying medical conditions, which increase their risk for severe COVID-19. The failure of social distancing between younger people with higher rates of infection but milder disease and old people who suffer worse disease is said to have contributed to high mortality in Italy. South Africa can ill-afford this disparate impact on older age groups with underlying medical conditions and the concomitant potential social impact on those children dependent on grandparents for care.

SOCIAL SOLIDARITY

This COVID19 pandemic that sees no colour, race, gender and class is our time for reckoning. There has never been a better time for the world to deal with inequality and strengthening the health systems than the present. Scientists and commentators have been appealing to the world to stop carbon emissions, to address inequality and poverty and warning of zoonotic outbreaks. It is likely more pandemics are to come and if COVID-19 is anything to go by, the impact of these global outbreaks will outstrip the capacity of governments, private

and social sectors to respond. Despite the aforementioned, at this historic time, numerous positives have emerged.

President Ramaphosa has now announced a R500bn economic and social support package that includes: growth-enhancing economic reforms, public spending to support job creation, establishment of an Infrastructure Fund, investments in in education, health and municipal social infrastructure and providing an addition amount to the social grants for the next 6 months. The President has further called for a new Social Compact across all sectors that is aimed at collaboration and partnership to transform the South African economy such that it is inclusive and transforms people's livelihoods. Many other countries have similarly implemented economic interventions to protect workers' jobs, people's livelihoods and their national economies. The public, civil society and private sector have also acted in social solidarity with multiple donations, sharing of tips on social media, innovating social media concerts and parties or just offering to call a neighbour. Solidarity Funds with potential for crowdfunding have been set up internationally and in South Africa (23–25). Locally, two billionaires pledged $1billion each to the SA COVID19 Solidarity Fund. But South Africa is a country of huge economic inequality – the two donors are amongst 3 individuals who own as much as do the poorest 50% of the entire population of the whole country. So, donor contribution from billionaires are laudable but the expectation is that others in the top 10% in income and wealth will follow suit. Meaningful redistribution of some wealth will not only provide services and support during crisis but transform people's lives in preparation for inevitable future epidemics. The inequity in South Africa where more than 80% of the population earns R5000 or less per month is unsustainable. The world has 10 years to meet the Sustainable Development Goals for eradicating poverty identified by the United Nations as "an indispensable requirement for sustainable development". This crisis can work in our favour to once and for all transform our lives to be slower, more connected to our families and communities, more compassionate for those who have less than us, reflecting more acts of solidarity with others, with less consumption to reduce the demand on finite resources and impact climate positively. Ultimately, this historic moment gives governments and citizens an opportunity to right the wrongs of the past, further promote redress, equity and equality, and work towards strengthening the health systems as we prepare to move towards the ultimate goal of universal health care.

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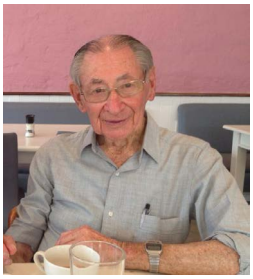
Obituaries



DR BERTIE GOLDSTEIN
17 January 1925 - 23 June 2019

Dr Bertie "Bobby" Goldstein MB B Ch (Wits) FF Path (SA) passed away in Johannesburg on Sunday 23rd June 2019 aged 94. Born on the 17th January 1925 in Bethal Mpumalanga, to Jacob Julius and Rose May Goldstein, he attended the local Primary School starting at age 7 in 1932 and later the Hoogenhout High School in Bethal where he completed Matric in 1939.

In 1943 Bobby started his medical career at the University of the Witwatersrand. He trained at Wits and unfortunately took ill whilst in 4th year Medicine. This forced him to have to interrupt his studies for a few years and subsequently completed his MB B Ch in 1951 and studied further to specialize in Pathology.

Dr Goldstein joined the South African Institute for Medical Research in Braamfontein in December 1955 where he worked in the unit dealing with pathology of the lungs and heart and research on the dust related diseases contracted in asbestos coal and gold mines. He was also later involved in research into occupational diseases and this unit eventually became known as the National Centre for Occupational Health. Bobby is quoted to be part of the team that "made valuable diagnostic and research contributions" working with the Miners' Medical Bureau and the SAIMR. He was admitted as a Fellow of the College of Pathologists in South Africa in 1966 and in 1967, during a long sabbatical, toured Europe where he visited several medical laboratories that were involved in similar work. In subsequent years he often attended and presented papers at local and international conferences dealing with dust related diseases in miners. He authored and co-authored several journal articles in his field of research. As a member of the South African Society of Pathologists, he was also affiliated to the International Society of Pathologists and regularly attended and participated in their congresses locally and sometimes overseas.

Bobby officially retired at age 63 in 1988 but continued to assist and to complete and publish research work voluntary basis until he moved to the Rand Aid Elphin Lodge retirement village near Sandringham, Johannesburg.

People who knew him describe him as a very special person - very quiet, polite, respectful and humble with a vast knowledge of information that spanned medical knowledge to gardening to physics and the like. He spoke 4 languages - English, Afrikaans, Zulu and some German.

Having never married, Bobby had no children of his own but was very close to his late brother Cyril and his family. He is survived by nieces Professor Michelle Slone and Associate Professor Chyrisse Heine and their families - "we thought of him as much more than an Uncle - more like a second Father". MHDSRIP

RAYMOND GLYN THOMAS
7 August 1930 - 23 August 2019

Professor of Radiology, University of the Witwatersrand, Johannesburg
With the passing of Raymond Glyn Thomas on 23 August 2019, at the age 89, the radiological fraternity lost a colleague who made a sustained and seminal contribution to our discipline, both nationally and internationally.
After matriculating at Parktown Boys High School in 1946, Raymond graduated MBChB from the University of the Witwatersrand in 1952. He was awarded the Diploma in Radiodiagnosis from the Royal College of Physicians of London, and the Royal College of Surgeons of England, in 1957.

He was our country's leading authority on the imaging of industrial lung disease, serving as the Chief Radiologist of the Chamber of Mines, in a highly distinguished career spanning two decades.
Throughout his professional career he held a teaching appointment at the University of the Witwatersrand, culminating in ad hominem promotion to Visiting Professor in 1998.
Raymond leaves a legacy of absolute commitment to the College of Radiologists, which he served with dedication for almost forty years. He was an Associate Founder in November 1965, served two terms as a Councillor, two terms as Secretary and two terms as President. In October 1995, he was awarded Life Membership and in October 2001, Fellowship by Peer Review.
Professor Glyn Thomas also had the rare distinction of achieving high office in both the College of Radiologists and the Radiological Society of South Africa, which he served as Vice-President for one term.
He was a Fellow in Radiology at Harvard University and Beth Israel Hospital, Boston in 1964, a Chamber of Mines Fellow at the University of California, San Francisco, in 1984, and Visiting Professor at the Chinese University of Hong Kong in 1987.

The following moving tribute was penned by his long-time friend and colleague, Professor Elaine Joseph It was with great sadness and a feeling of loss, that I heard the news of Raymond Glyn Thomas's passing. It seemed as though, because of his enthusiasm for work and play, he would live forever.

I first met him as my examiner, for both the first and second parts of the Radiology Fellowship examinations, on both occasions with real terror in my heart due to his fearsome reputation of being a quiet, gentle, weeder (out) of incompetents.

The awe with which I regarded him in no way diminished when I accepted his invitation to work with him, for the Chamber of Mines, at the Rand Mutual and Cottesloe Mine hospitals. His guidance allowed passage to an insight into trauma, and respiratory radiology, which I would have received nowhere else.

Looking back at the time I spent with him what jumps to the fore is the generosity and enthusiasm with which he shared his formidable knowledge and experience. Each image was fresh for him, and new technologies and techniques delighted him. Considering the huge and rapid advances in Radiological imaging which happened during his lifetime, it is quite remarkable that he should have become as adept as quickly as he did. His modesty hid a very astute mind. Together we supported one another through new techniques, and my memory is of learning and a lot of fun.

He was a great teacher, as generations of registrars, now consultants, would confirm, and it was thanks to his encouragement that I also began to teach and became an active member of the College of Radiology. It was again through his mentorship that I became an examiner.

The great loves of his life were his wife, his profession, his daughters, his dogs, his dinghy, good wine and books.
For me, his passing brings an end to an era of highly professional and dignified consultants who were not only superb radiologists but also superb role models.

He was one of the best.

Professor Elaine Joseph

"Satisfaction lies in the effort, not in the attainment.
Full effort is full victory."
MAHATMA GANDHI

John and Madelaine Lownie Annual Lectureship 2019
Africa: A Window on the True Frontier in Head and Neck Cancer

Delivered in Cape Town, South Africa on 25 October 2019 at *Joint Congress of South African Society of Maxillofacial and Oral Surgeons, British Association of Oral Maxillofacial Surgeons, Australia New Zealand Association of Oral Maxillofacial Surgeons, and the African Division of the International Association of Oral and Maxillofacial Pathologists.*

Johannes J Fagan MBChB, FCS (ORL), MMed
Professor and Chairman
Division of Otolaryngology, University of Cape Town
Cape Town, South Africa
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INTRODUCTION

By 2030, 85% of the world's population will reside in developing countries [1]. Cancer of the head and neck is a Developing World disease: 67% of head and neck cancers and 83% of head and neck cancer deaths occur in developing countries [2]. The incidence and mortality relating to cancer in Africa is expected to almost double between 2010 and 2030 [3]. Yet only 5% of global cancer resources are spent in developing countries, and there is a 30% difference in cancer case fatality between highest- and lowest-income countries [4].

A correlation exists between the specialist surgical work force per 100 000 people and head and neck mortality-incidence ratios [5]. However, a specialist workforce to deal with head and neck cancers is in very short supply in developing countries, with <5% of patients in Africa and South Asia having timely access to safe, affordable surgery *(Figure 1)* [6]. A survey published in 2017 revealed a tremendous shortfall of ENT surgeons and services in Sub-Saharan Africa (SSA), and a worsening of the ratio of ENTs to population over the preceding 6 years due to rapid population growth [7]. Twenty eight of 54 countries in Africa do not have radiation therapy, and where it is present, waiting times may be almost a year, and technology is often outdated [8].

So, clearly the major challenge to address head and neck cancer for the vast majority of the world's population is not high-cost, high-technology medical and surgical care, but simply, **access to care**. In this presentation I focus on four interventions I have been involved with to improve access to head and neck cancer care in Africa and beyond, to hopefully embolden and inspire others to do the same.

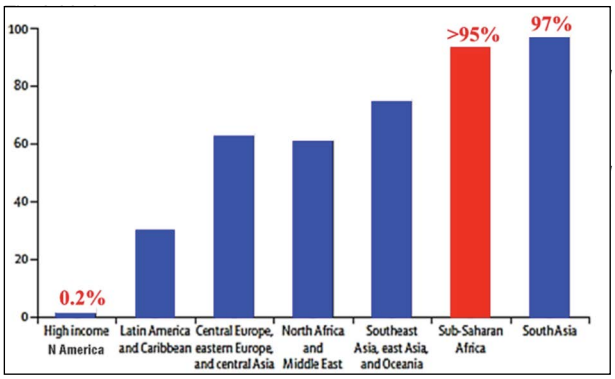

Figure 1: No access to timely, safe, affordable surgery (Adapted from Alkire [6])

1. OPEN ACCESS PUBLISHING

Accessing educational and scientific material is key to improving head and neck cancer care in developing countries. Yet many trainees, practitioners and researchers cannot afford textbooks or pay-to-view journals and cannot afford to pay-to-publish their research. In 2003, the World Health Organization (WHO) reported that of 75 countries with a GNP per capita per year of <US$1,000, 56% of medical institutions had no subscriptions to journals over the previous 5 years; 34% of countries with a GNP between US$1 and US$3,000 had no subscriptions, and 34% had an average of two subscriptions per year [9]. Many ENT trainees in developing countries are not salaried, and specialists in some African countries earn as little as US$400 per month, and hence cannot afford major textbooks, the content of which is also often inappropriate for limited resource settings. Initiatives such as *HINARI* (World Health Organisation) make journals available in low-income countries, but trainees and doctors in middle-income countries in Africa (Algeria, Botswana, Egypt, Gabon, Libya, Mauritius, Morocco, Namibia, Nigeria, Tunisia) and elsewhere coming from disadvantaged backgrounds have restricted access [10]. South Africa, even though ranked by the World Bank as an upper middle-income country, is experiencing an economic meltdown, and being the most unequal society in the world, has many specialist trainees coming from disadvantaged backgrounds who are excluded from accessing journals through *HINARI* [11]. However, ENT trainees and specialists in developing countries have internet access. Consequently, open access internet-based publishing presents a wonderful opportunity to disseminate knowledge to surgeons and trainees in developing countries.

I self-publish two free, open access textbooks, *Open Access Atlas of Otolaryngology, Head and Neck Operative Surgery,* and *Open Access Guide to Audiology and Hearing Aids for Otolaryngologists*. More than 130 authors from >20 countries have contributed, and >100 European colleagues have translated chapters into Spanish, French and Portuguese. The Open Access Atlas of Otolaryngology, Head and Neck Operative Surgery (http://www.entdev.uct.ac.za/guides/open-access-atlas-of-otolaryngology-head-neck-operative-surgery) provides detailed, step-by-step descriptions of surgical procedures. Most senior authors are international authorities and volunteered to contribute. It includes some surgical procedures no longer performed in developed countries such as hammer and gouge mastoidectomy which would not be included in modern textbooks. Being in electronic format, chapters are very detailed with numerous photographs and videoclips. Chapters are still being added, and existing chapters are edited from time-to-time. This illustrates an important advantage of electronic textbooks i.e. they do not have to be completed before being published, as chapters can be added over a time. In terms of the copyright licence selected, readers may use material as they wish provided it is referenced. Hyperlinks to individual chapters are maintained on the *IFOS Developing World ENT* website (www.entdev.uct.ac.za.guides/).

Figure 2 illustrates the growing popularity of the "Atlas" as additional chapters and translations are added, and it becomes better known. Compared to "Big ENT Textbooks" that sell only about 4000 copies, chapters of the two textbooks have been downloaded >2.4m times, currently at a rate of 2100 downloads per day, i.e. a download every 41 seconds. Though intended for developing countries, many visitors to the website are from developed countries. This probably reflects the number of ENTs rather than the percentage of users. Editors usually have little idea what readers would wish to read when planning a textbook. However, we are now able to rank the popularity of topics according to downloads, and surprisingly, pectoralis major flap is the most popular chapter. *Figures 3* illustrates that younger doctors (likely trainees) are the principal users, and Figure 4 shows the importance of open access resources being mobile-friendly. The textbook received *The Open Education Consortium (OEC)* 2017 *Award for Open Education Excellence*, a tribute to all its contributors (http://www.oeconsortium.org/projects/open-education-awards-for-excellence/2017-oe-award-winners-oer-categories/).

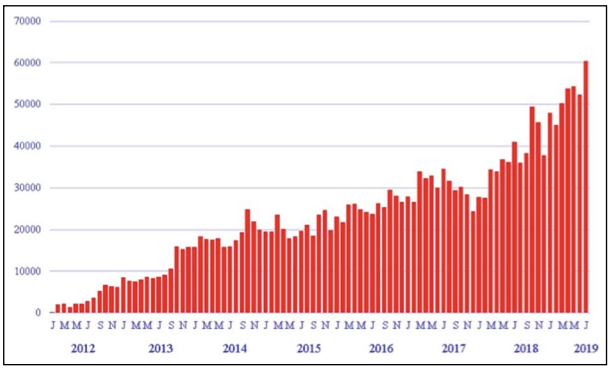

Figure 2: Monthly downloads of "Atlas" chapters

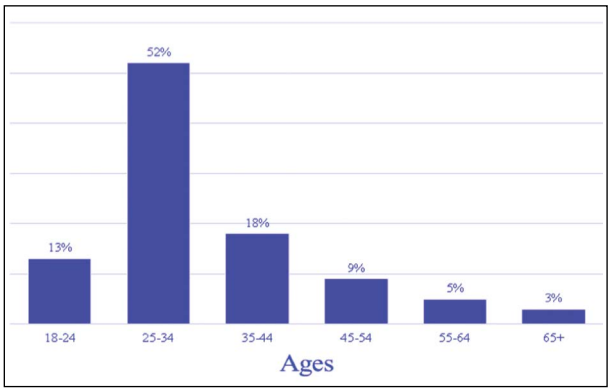

Figure 3: Age groups (%) of users of website

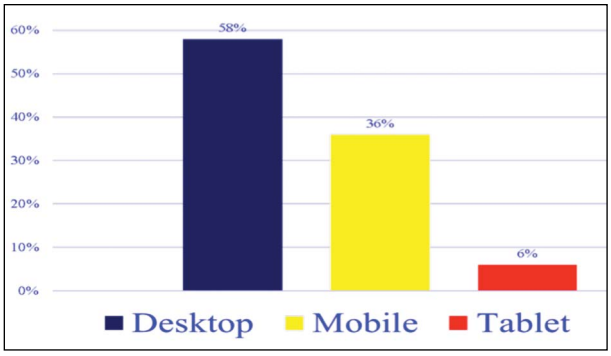

Figure 4: Devices (%) used to access website

Apart from the benefits already described, I believe that societies and individual authors should adopt an open access policy for all educational material for the following reasons:

- Cost: our open access texts have not cost a cent to produce
- Authors retain copyright
- Publishers cannot discontinue publications
- Chapters can be edited/updated anytime, even on a mobile phone
- Reaches most remote areas, including conflict zones, where textbooks are inaccessible
- Niche topics e.g. hammer and gouge mastoid surgery, can be included
- Can be read on a mobile phone
- Electronic texts will become translatable into many languages
- Open access publishing is a great leveller across developed and developing worlds
  - Makes educational material equally available
  - Empowers doctors and researchers to bypass established publishers and institutions

Open access publishing however also brings new challenges. The pay-to-publish model creates yet another barrier for authors from developing countries. Concerns also exist about the quality of peer review of predator journals. Therefore, just as governments are starting to discuss means to regulate social media, medical societies should step in and advise its members what are reputable YouTube videos, textbooks and journals to watch, to read and to publish in.

We also need to encourage diversity of opinions, and I hope that the *Atlas*, being a free, convenient online resource, will not discourage others from publishing other surgical atlases.

2. UNIVERSITY OF CAPE TOWN KARL STORZ FELLOWSHIP IN ADVANCED HEAD AND NECK SURGERY

In 2005, there were no trained head and neck surgeons between South Africa and Egypt for >1 billion people. An audit of ENT services in SSA published in 2009 revealed that even basic head and neck operations such as parotidectomy, neck dissection and laryngectomy were not/poorly available in many countries, and patients were dying from potentially curable tumours [7].

As there were no formal opportunities to train surgeons in head and neck surgery in Africa, I established the *University of Cape Town Karl Storz Fellowship in Advanced Head and Neck Surgery* at the *University of Cape Town (UCT)* in 2005.

The fellow's salary is paid by Karl Storz Endoskopie, a German manufacturer and distributor of specialised surgical equipment, and the fellowship is based at Groote Schuur Hospital in Cape Town. Fellows are either ENT or general surgeons, and spend a year getting hands-on clinical training in head and neck surgery. Its format is identical to American fellowships. It is a 12-month clinical fellowship and surgical exposure compares favourably with programs in the United States [12]. The first 12 fellows from Uganda, Kenya, Senegal, Ghana (2), Nigeria (2), Rwanda, Malawi, Tanzania, Zimbabwe, and Ethiopia all returned to teaching hospitals in their home countries to train others. A Pan-African Academy of Christian Surgeons (PAACS) - Cameroonian Baptist Convention (CBC) - Hopkins Head and Neck Fellowship program at the Mbingo Baptist Hospital in Northwest Cameroon is an outreach-training model with training provided by volunteer head and neck surgeons from the United States and a resident ENT surgeon. The first fellow from Kenya qualified in 2017 and was followed by fellows from Ethiopia and Madagascar. These two fellowships are the only head and neck fellowships in SSA, but the 2nd fellowship has regrettably been suspended due to political unrest in Cameroon.

We have reported the clinical and teaching benefits of these two fellowships, and that Africa-based fellowship training is an excellent model to improve access to head and neck cancer care[8]. The next phase is to introduce more such fellowships in Africa under the auspices of the AfHNS and run by graduates of the Cape Town and Cameroon fellowship programs to accelerate provision of head and neck services and ensure sustainability.

3. ESTABLISHMENT OF THE AFRICAN HEAD AND NECK SOCIETY (AFHNS)

The *African Head and Neck Society* (www.afhns.org) was established in 2016 in Rwanda by the first 14 African-trained head and neck surgeons. Its primary mission is to improve outcomes of patients with diseases of the head and neck in Africa through prevention, clinical excellence, teaching, training and research, and by promoting the highest professional and ethical standards; to coordinate and advance training and education of those engaged in the management of patients with diseases of the head and neck in Africa; and to promote friendship and collaboration among those engaged in the management of patients with diseases of the head and neck in Africa. The *AfHNS* has since held three annual scientific meetings in Mombasa, Accra and Harare, and a "teaching-the-teachers" workshop in Cape Town that focused on ultrasound, a head and neck dissection course and establishing resource appropriate thyroid guidelines. It has been rewarding to witness how the *AfHNS* has brought surgeons from all over SSA together and how it has already forged educational and research collaborations with American, British, European and Indian partner organisations and individuals. The next phase is to broaden its membership to include all those with an interest in diseases of the head and neck, including maxillofacial surgeons and oncologists, and to create *AfHNS* clinical fellowships in several African countries to accelerate access to cancer care.

4. AFHNS CLINICAL PRACTICE GUIDELINES FOR HEAD AND NECK CANCERS IN DEVELOPING COUNTRIES AND LIMITED RESOURCE SETTINGS

(https://developingworldheadandneckcancerguidelines.com/)

International management guidelines for head and neck cancers are generally inappropriate for limited resource settings due to lack of access to reliable cytology, ultrasound, CT, MRI, PET, (chemo) radiation therapy, complex surgery, and even the ability to monitor and treat thyroid and calcium deficiency after thyroidectomy. Some international bodies e.g. the NCCN are promulgating regional adaptations of their guidelines for low- and middle-income countries [13]. However, clinicians who reside and work in developing countries know best what the challenges, limitations, and possibilities are to deliver cancer care to their own communities. It is therefore time that countries in the "Global South" take the lead to develop resource appropriate guidelines for LMICs rather than to be guided by institutions in the "Global North".

The AfHNS recently embarked on promulgating management guidelines for cancers of the head and neck that are adapted to limited resource settings to assist clinicians to provide appropriate best care that will benefit patients with head and neck cancers living in developing countries. They are being formulated by African head and neck surgeons and oncologists in consultation with American and European colleagues. The guidelines are precisely tailored to the availability of specific diagnostic investigations, to surgery and (chemo)radiotherapy availability and expertise, and to availability and affordability of e.g. thyroid replacement therapy. The first guidelines for thyroid, parotid and submandibular salivary gland, larynx, hypopharynx, oral and oropharynx cancers are available as an open access resource https://developingworldheadandneckcancerguidelines.com/), and additional guidelines will be released for other head and neck cancer sites.

Africa and other countries in the Global South need to be encouraged to assume such leadership and to take responsibility for developing guidelines for their regions, of course by harnessing the expertise

of organisations such as the NCCN and individual experts in developed countries. The process of developing guidelines also presents an excellent teaching and learning opportunity for *AfHNS* members during the discussions around clinical scenarios, as well as for developed world experts unfamiliar with resource constrained settings.

CONCLUSIONS

With 83% of head and neck cancer deaths occurring in developing countries [1], and the extreme shortage of head and neck specialists and oncology services in Africa and in developing countries, there is little doubt that expanding head and neck services in developing countries should be a global priority, because, to quote of Nelson Mandela: "A nation should not be judged by how it treats its highest citizens, but its lowest ones".

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"If there is at least one person you've helped in life, then your life has been worthwhile."
L SYDNEY ABEL

Report Back Eponymous
January - June 2020

MTHATHA EDUCATIONAL DEVELOPMENT PROGRAMME 2019

UPDATE ON ONCOLOGY

Date: Wednesday 23 October to Friday 25 October 2019
Speakers: Professor Molaoa
Professor Lusawana
Dr Ford
Dr Thomas
Dr Jafta
Dr Giyose
Venue: Mthatha Health Resource Centre Auditorium

AWARDS 2020

MAURICE WEINBREN AWARD IN RADIOLOGY 2019

The recipient of the 2019 Award is:
Dr D Govender

MS BELL AWARD IN PSYCHIATRY 2019

This congress took place on 20 – 23 September 2019 Congress in Cape Town.

The recipients of the award are as follows:
Dr T Naidoo
Dr B Bhengu

LECTURESHIPS 2020

FP FOUCHÉ LECTURESHIP 2019

Mr R Maxwell presented his lecture entitled "Diversity in Orthopaedics – a 21st century approach" at the SAOA Congress on 02 September 2019 in Durban.

JOHN AND MADELINE LOWNIE LECTURESHIP 2019

Professor JJ Fagan presented his lecture entitled "Africa: a window on the true frontier of head and neck surgery" at the SASMFOS Congress on 25 October 2019 in Cape Town.

EDUCATIONAL ROBERT MC DONALD RURAL PAEDIATRIC PROGRAMME 2019

The College of Paediatricians Registrar MCQ Workshop took place on 23 November 2019 in the Eastern Cape.

ARTHUR LANDAU LECTURESHIP 2020

Professor A Motala presented her lecture entitled "A backpackers travel through the galaxy of diabetes: a trilogy in four parts" at the Annual Physicians Conference on 20 February 2020 in Cape Town.

The next lecture will take place at the Medicine Update at UKZN in August 2020.

THE COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS HONORARY LECTURESHIP 2020

Professor KM Chu presented her lecture entitled "Global Surgery: Improving Surgical Access for All" at the SASOG Congress on 10 March 2020 in the Drakensberg.

"The difference between something good and something great, is attention to detail"

CHARLES R. SWINDOLL

The Diploma in Primary Emergency Care Dip PEC(SA): A Description of its Graduates and Their Motivation Over a Six Year Period

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ABSTRACT

Background: Emergency Medicine (EM) is a relatively young specialty in South Africa (SA). The Diploma in Primary Emergency Care (DipPEC), from the Colleges of Medicine of South Africa (CMSA), aims to prepare non-specialist physicians in managing urgent and emergent patients, thereby indirectly elevating the practice of emergency care in SA. Over the last 6 years the popularity of this diploma has increased dramatically. It is not known who applies for the DipPEC, why they applied, what training they received prior to entry or how the qualification has influenced their career paths.

Objectives: To quantify and describe the demographics of DipPEC graduates, including their motivations and perceived benefits regarding the qualification, in order to understand the current role in the SA health care setting. Secondary aims included reviewing graduates' perceptions of EM training both at an undergraduate and postgraduate level; as well as providing the CMSA with insight for future planning.

Methods: Following ethical approval from Stellenbosch University and the CMSA, an e-survey was distributed to the DipPEC graduates from 2012-2017. The quantitative and qualitative data collected, were analysed with simple descriptive statistics and scrutinized for common themes. The CMSA Transactions publication was used to collate numbers of graduates from 2012-2017.

Results: Two hundred and ninety three responses out of 526 graduates were received. Annual graduate numbers increased from 28 in 2012 to 133 in 2017. 89% of participants were less than 35 years of age and 81% obtained the DipPEC within 5 years of completing their internship. 80% spent 6 months in an EC during their community service year to qualify to sit the examination. Seventy six percent of graduates felt their undergraduate training prepared them inadequately to treat emergent patients and 72% sat the DipPEC primarily to improve their EM knowledge.

Conclusion: The DipPEC has dramatically increased in popularity, and comes highly recommended by its graduates. The main driving force behind sitting the examination is to increase EM knowledge, and there appears to be an overt dissatisfaction by many health professionals with the EM training received at a junior level.

INTRODUCTION

Emergency medical care is a basic human right in South Africa (SA)[1] and emergency medicine (EM) is a fairly new, recently recognised specialty in the country, being registered in 2003[2]. The discipline continues to grow in SA and the advanced level of EM training parallels that offered by higher income countries[3,4] The spectrum of the training itself is fairly diverse ranging from accredited short courses, to diplomas, masters degrees and specialist physician training. The diploma in primary emergency care (DipPEC), which for a long time was the only postgraduate training available in the country[5], is currently the largest diploma with a clinical component offered by the Colleges of Medicine of South Africa (CMSA). In terms of popularity, it is only surpassed by the diploma in HIV management (a written only diploma), and in recent years its popularity has increased dramatically[6] – from 21 graduates in 2012, to 136 graduates in 2017.

The CMSA recognises that in many areas of SA, access to doctors with EM expertise is lacking and there is an urgent need for such training, in order to raise the standard of practice of emergency care. The DipPEC aims to indirectly achieve this goal by encouraging education of non-specialist physicians.

The study's primary aim was to evaluate the role of the DipPEC in South African EM training and practice from the perspective of the graduates. This was done through quantifying and describing the characteristics of these DipPEC graduates – more specifically, their motivations and perceived benefits regarding the qualification. This was completed in conjunction with the CMSA in order to provide insight into features of the diploma itself for future planning.

METHODS

Survey design

Since no similar studies existed, the questions were developed de novo by reviewing the literature and gathering input from the

council of the College of Emergency Medicine to identify the relevant domains. The 27 survey questions focused on: the demographics of the candidates; their past formal as well as informal EM training; their current and future career plans at the time of completing the diploma and their views on the DipPEC itself. This survey tool was piloted on emergency medicine registrars for usability and alignment with identified domains. The survey included both closed and open ended questions, the latter were utilized to describe candidates' motivations.

Data Collection

An e-survey was designed using SurveyMonkey ® (Survey Monkey Inc., San Mateo California USA; www.surveymonkey. com)

The survey was distributed via email to the DipPEC graduates from the last 6 years. This was conducted electronically via the CMSA, and three requests for online survey completion were made, each spaced three weeks apart. Electronically-obtained, informed consent from each potential participant was required before they could proceed with the e-survey and this was included in the same email invitation. The survey could only be completed once per participant.

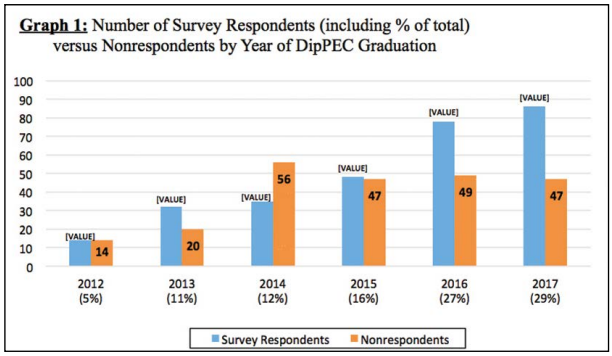
Data Analysis

Simple descriptive statistics were used to describe absolute numbers and range for the quantitative data. Themes were identified in the free text data and grouped in frequency.

RESULTS

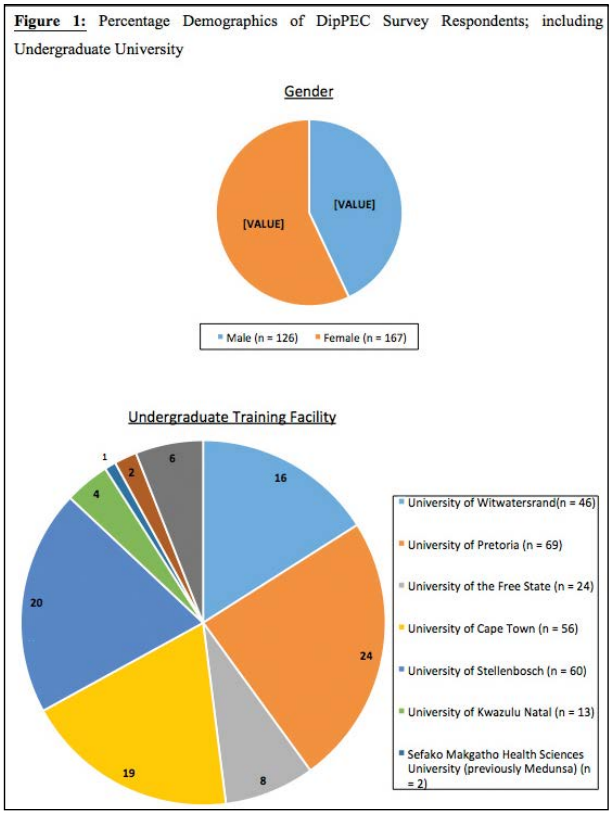
Demographics

A total of 526 graduates were identified between 2012-2017. 293 graduates consented to participate in the study. A 56% response rate was achieved. The sample represented well the individual graduation years, ranging from 5 to 29 percent (Graph 1).



The gender distribution amongst respondents showed a female predominance (Figure 1). The vast majority of participants fell between the ages of 25-35 with 136 (47%) aged 25-30 and 124 (42%) aged 31-35.

All South African medical schools except the University of Limpopo were represented. Eighteen (18) graduates had completed their undergraduate training abroad with 11 of these doing so in Africa (principally Malawi) and the remainder in the UK (3), Seychelles (1), Turkey (1), Belgium (1) and Cuba (1) (Figure 1).



Timeline

Fifty five percent of participants obtained this qualification within 2 years of completing their internship, 26% between 1 and 5 years post community service and the remainder from 5 years onwards.

Of the participants, 40% succeeded in obtaining the DipPEC in the 1st semester of the year, versus 60% who were successful in the 2nd semester.

Pre DipPEC Graduate Characteristics

Geography and Job Role

At the time of writing the DipPEC, the majority of graduates were practising domestically with 74% working in the public sector, 21% in the private sector, 5% in both and 1 graduate was unemployed. Geographically, 119 were working in the Western Cape, 77 in Gauteng, 30 each in Kwazulu Natal and the Northern Cape, 11 in Mpumalanga, 9 in the Eastern Cape, 5 in the Northwest Province, 3 in the Free State, and 1 in Limpopo. The remaining 8 graduates were practising abroad, with 3 on cruise ships and 5 working in other countries.

Of the study participants, 82% were working in the field of EM when they wrote the DipPEC; A smaller number (9%) were employed in a family medicine capacity with the remaining minority divided amongst various other disciplines (Figure 2). Of the graduates, 66% were working with an EM physician prior to the examination.

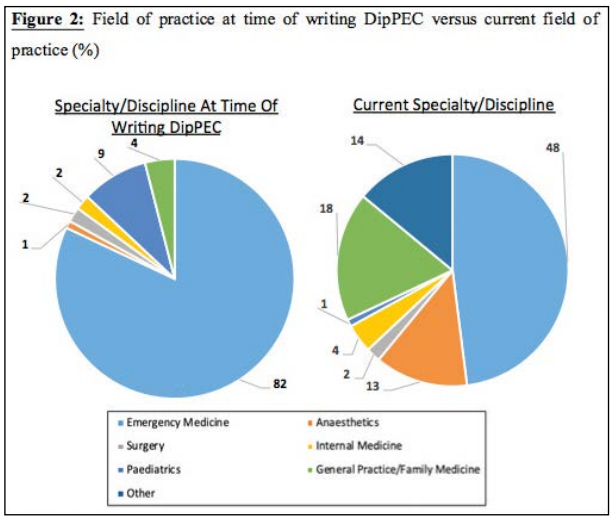


Figure 2: Field of practice at time of writing DipPEC versus current field of practice (%)

Training

In terms of advanced medical courses completed prior to completing the DipPEC, 91% had completed ACLS, 70% ATLS, 75% had collectively completed PALS and/or APLS. Other courses included AMLS, ACLS EP, ICU, burns, ventilation and ECG courses.

In terms of the three routes available to qualify to write the examination, 80% spent 6 months in an EC during their community service year, 9% utilised a portfolio of learning and 11% used their 2 years of internship and an 2 additional months supervised in an accredited emergency department. 88% felt that the training requirements for the DipPEC are sufficient.

Entry route to DipPEC

In terms of the three routes available to qualify to write the examination, 80% spent 6 months in an EC during their community service year, 9% utilised a portfolio of learning and 11% used their 2 years of internship and an 2 additional months supervised in an accredited emergency department. 88% felt that the training requirements for the DipPEC are sufficient

Post DipPEC graduate Characteristics

Geography and Job Role

At the time of writing the DipPEC, the majority of graduates were practising domestically with 74% working in the public sector, 21% in the private sector, 5% in both and 1 graduate was unemployed. Geographically, 119 were working in the Western Cape, 77 in Gauteng, 30 each in Kwazulu Natal and the Northern Cape, 11 in Mpumalanga, 9 in the Eastern Cape, 5 in the Northwest Province, 3 in the Free State, and 1 in Limpopo. The remaining 8 graduates were practising abroad, with 3 on cruise ships and 5 working in other countries.

Of the study participants, 82% were working in the field of EM when they wrote the DipPEC; A smaller number (9%) were employed in a family medicine capacity with the remaining minority divided amongst various other disciplines (Figure 2). Of the graduates, 66% were working with an EM physician prior to the examination.

Currently, the majority of graduates (165 or 56 %) work in the public health care sector with 80 (27%) working in the private health care sector, 25 (9%) working in both, and 8% working abroad. Regarding this last statistic, 15 out of 23 graduates now work on cruise ships and the remaining 8 are divided amongst the USA, Canada and Ireland.

In terms of their current field of discipline, 79% are currently practicing in EM related fields, with 141 (48%) involved in Emergency Medicine itself, and the next two highest tiers practising in the fields of anaesthetics (13%) and family practice (18%) (Figure 2).

The remainder are divided across almost all fields of medicine (paediatrics, radiology, anatomical pathology, surgery, ophthalmology, critical care, ENT, etc.). In terms of current rank, 221 are medical officers, 52 are registrars, 11 are specialists and of those remaining, 8 work on cruise ships and 1 is involved in hospital management.

Training

Subsequent to obtaining the DipPEC, 34 participants(12%) had completed FCEM Part one and 4 had completed FCEM Part two. This closely relates to the primary reason selected by 41% of graduates for sitting the DipPEC, namely 'pursuing a future career in EM' with the DipPEC stated as being advantageous in this regard. Graduates completed similar advanced medical short courses since obtaining the DipPEC, when compared to prior to sitting the examination, but in less numbers: ACLS 25%, ATLS 17%, PALS and APLS collectively 36%. Fifty seven percent had completed other courses – these included a wide variety but those commonly listed were emergency ultrasound level one, the Diploma in Anaesthetics (DA) and examinations related to other specialties.

Motivations

The primary reason for writing the DipPEC, noted by 72% of study participants, was to increase their EM knowledge. The majority stated that their undergraduate training did not prepare them adequately to treat urgent or emergent patients (Figure 3A); as well as noting some dissatisfaction with their internship and community service (Figure 3B). In terms of locations for internship and community service, these were widespread across all the 9 provinces of South Africa. Other reasons selected were: to obtain a further qualification (53%); in preparation for a future career in EM (41%), and to travel and work abroad (19%). Three percent noted monetary gain as a reason.

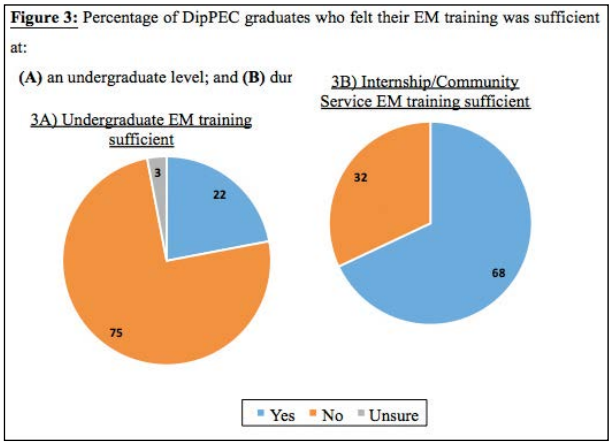


Figure 3: Percentage of DipPEC graduates who felt their EM training was sufficient at:
(A) an undergraduate level; and **(B)** dur

When asked to explain these reasons, common answers mirrored these selections (Table 1). In terms of future careers in EM, many regarded having the DipPEC as a competitive advantage in order to enter an EM registrar training program, whilst some simply noted the qualification improved their future employment prospects. Of the 19% that wished to use their DipPEC to work abroad, most of these graduates stated it as a prerequisite to work onboard cruise ships.

THEME	FREE TEXT EXAMPLES
Inadequate undergraduate training / preparation	*"University just didn't prepare me properly to work in an emergency department."* *"My undergraduate degree provided me with insufficient knowledge and skills."*
Inadequate training during internship and community service	*"We were poorly supervised as interns and wanted to learn more so that I could improve patient care."* *"I didn't feel 100% confident in treating emergency conditions I'd seen in my com serve and wanted to improve my knowledge."*
Gaps noted in EM knowledge	*"I recognized gaps in my knowledge in the management of urgent and emergent medical conditions, and there was a certain amount of fear in being facing those conditions."*
EM Skills improvement	*"I felt I didn't have adequate skills to treat emergencies."*
Confidence in EM	*"I did not feel adequately prepared to manage emergency patients. Studying for the DipPEC helped me to manage my patients with more confidence."* *"I wanted to become more comfortable treating acutely ill patients."*
Quality of EM delivered	*"To better my emergency care in the ER."* *"… in order to provide better care for my patients in a setting that was different from my UK training."*
Employment prospects	*"An undergraduate degree is no longer sufficient when considering further career prospects. Minimum requirements for posts now are including post graduate qualifications…"* *"It is a pre-requisite for working for at sea."* *"The DipPEC puts one ahead CV wise when applying for MO/reg posts."*
Patient safety	*"To make myself more qualified to be able to provide good care in the emergency center for my patients."* *"It is absolutely essential for any doctor working in an Emergency Center to know how to look after our patients when they need us most."*
Further qualification	*" To obtain further qualification, and having dippec will always be beneficial to my practice and my medical career."* *"I am a Family Physician who works in an Emergency Medicine environment. The DipPEC was a way of obtaining a formal qualification related to Emergency Medicine."*

Perceived benefits and Recommendations

Since obtaining the DipPEC, 89% confirmed an improvement in the patient care they provided, as well as an increase in their knowledge and confidence. Career progression was noted by 62% of the DipPEC graduates, with 20% stating a financial benefit. A larger number of graduates (36%) noted that the DipPEC had increased their ability to work abroad, when compared to the number of graduates that selected this as a primary reason to sit the examination in the first place (19%).

Recommendations for improving the diploma were fairly diverse and included: access to more teaching material in general and particularly for those practicing rurally (e.g. online material; mock exams) as well as additional recommended texts or websites; increasing the level of required short courses to enable one to sit the examination as opposed to the current requirement of basic life support alone; extending the requirement of 2 additional supervised months post internship (e.g. to 6 months); making the syllabus less broad; and making the overall examination more challenging.

DISCUSSION

The DipPEC has increased in popularity since its inception in 1986[5]. Our study indicates a steady and significant increase in the number of graduates from 2012-2017, and this has been sustained since our study's implementation with a record number achieved in 2018 of 138 graduates.6

The domestic interest in this field, and the continued growth of this discipline in SA, corresponds to many other countries who too have recognised the pivotal role EM plays and who continue to develop their own capacities to respond to acute illness and injury.2,8

South Africa's tremendous disease burden augmented by the high levels of unemployment; the inequalities between public and private sector resource allocation when compared to patient demand; and the exposure to the spectrum of medical, trauma-related and paediatric emergencies compounded by the high prevalence of the synergistic diseases of HIV and tuberculosis; make the need for effective emergency medical care in all health care sectors paramount.2,5

The DipPEC is a qualification that is viewed as highly beneficial in this regard, and unsurprisingly comes highly recommended by past graduates practising medicine at various levels, in various locations and even in different disciplines.

However, it is clear that many health professionals are dissatisfied with their undergraduate and junior doctor EM training. It appears

that the EM knowledge deficit is the main driver for individuals wishing to obtain the DipPEC.

This improvement in skills, knowledge and confidence echoes the primary aim of the DipPEC as promoted by the CMSA, but it stands to reason that preparation for, as well as the obtaining the qualification itself, should augment basic foundations formed as students and junior doctors – as opposed to forming the foundation itself. This would suggest that EM training at a junior doctor and undergraduate level is critical for South African Health care providers.

This study reviewed 293 DipPEC graduates, and we feel that this is representative of the general DipPEC graduate population.

A significant number of participants elected to pursue future careers in EM both domestically and abroad – the DipPEC appears highly valued in this regard.

Of respondents, 92% were working in South Africa. Regarding employment abroad however, many graduates noted the DipPEC as a distinct advantage in obtaining work onboard cruise ships. It could be postulated that since obtaining the DipPEC, graduates have considered immigration more closely. Moreover, there was an increased number of doctors working outside of SA since obtaining the DipPEC (8%) – primarily on cruise ships – when compared to the number of doctors at the time of writing the examination (1%). It was not asked in our study, whether the DipPEC graduates currently working outside of SA plan to return.

A recent study in 2015, noted that the percentage of physicians and other HCWs seeking migration information from professional sources, recruitment agencies and personal contacts is significant. 11 More importantly, the percentage of physicians in the same study 'very likely' to migrate from SA by 2020 was also high. Concerningly, when the numbers of those who responded 'somewhat likely' are added to this figure, it indicates more than half of all South African doctors participating in that study may have sought work abroad by that time (~208 generalists; ~324 specialists).

It is clear that South African EM continues to grow and be recognised both locally and internationally. However, these local EM doctors need to be nurtured and efforts should be made to address so-called 'push' or 'pull' factors influencing the country's healthcare worker brain drain. While exposing oneself as a doctor to foreign medical practices and further training should not be discouraged, doctors should be encouraged to do so for a finite period of time - retention of skilled physicians in a country with high disease burdens and already fragile health care systems is crucial.

The DipPEC's wide syllabus, including approaches to emergencies pertaining to all fields of medicine, together with the common sentiment noted that this qualification is highly recommended regardless of one's chosen field, may well explain its increasing popularity as a postgraduate degree.

Suggestions by the study participants in terms of adjustments to eligibility criteria, availability of additional study resources and guidance; and components of the examination itself will be forwarded to the CMSA for consideration.

ETHICAL AND LEGAL CONSIDERATIONS

Permission was granted by the CMSA and ethical approval obtained from the Stellenbosch University Health Research Ethics Committee. Anonymity was maintained throughout the study process and due process was followed with regards to consent (see Appendix).

LIMITATIONS

The contact emails for past graduates who failed to respond may have changed since they obtained the qualification. Furthermore, an element of selection bias may have existed with those graduates that did participate as they may value the College of Emergency Medicine of South Africa more than those who failed to do so.

CONCLUSION

The unique challenges faced in the SA healthcare system requires competent, knowledgeable health practitioners to deliver proficient, evidence-based emergency care. Participants expressed concern regarding the EM knowledge and confidence delivered by their undergraduate and junior doctor training. The DipPEC examination is sat by mostly junior health professionals primarily to improve their own EM knowledge; in order to pursue a career in EM with or without formal specialisation; and increasingly, to work abroad.

Disclosures. This article is part of DC's MMed in Emergency Medicine dissertation submitted to Stellenbosch University. HG is the President of the College of Emergency Medicine. Approval for this study was received from the Education Committee of the CMSA.

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Injury Survey at Chris Hani Baragwanath Academic Hospital Department of Maxillo-Facial and Oral Surgery

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ABSTRACT

Introduction: Globally injuries constitute a major public health problem.

In 2007, South Africa was listed as one of the most violent countries in the world, with more than 30 000 trauma-related deaths recorded annually.

Objective: Analysis of 5 371 trauma patients seen over a three month period at Chris Hani Baragwanath Academic Hospital's trauma unit was conducted. Objectives of the survey were to: Describe the patient's socio-demographic profile; Assess the frequency, distribution and types of injuries sustained; Determine the severity of injuries; Determine patient outcomes after initial treatment; and Determine factors related to traumatic injuries.

Methods: A cross-sectional study. Patients were admitted assessed and records were reviewed.

Results: A male to female ratio of 2:1 was recorded. Only 22.69% of the patients reported been employed. The median age was 28 years (interquartile range 14-40 years). The predominant mechanism of injury was due to falls (32.37%), followed by assault (27.44%). Transport-related injuries accounted 22.52%, while burn injuries accounted for 8.01%. Males were more likely to suffer any form of injury compared to females ($p<0.05$). Assault injuries were 4.23 times more likely to result in head and neck injuries compared to any other mechanism of injury (OR:4.23, CI 3.52-5.08, $p<0.00$). Upon initial admission to the unit, 43.04% of patients were discharged home after initial treatment, while 41.54% were transferred to the orthopedic unit.

Conclusion: Sex, employment status, age and area of residence influenced the pattern of traumatic injuries. Falls injuries and assault were the predominant mechanisms of injury. Males were more likely to suffer from any form of injury than females. Assault injuries were more than four times more likely to result in head and neck injuries than any other mechanism of injury. Therefore, ongoing surveillance and education campaigns are recommended.

Introduction: Injuries constitute a major public health problem and are a leading cause of years of potential life loss in both developed and developing countries (1). According to the World Health Organization (WHO), individuals die every five seconds due to injuries (2). Daily the lives of more than 154 000 people are lost as a result of injuries. Traumatic injuries may be intentional such as those resulting from blunt, penetrating objects used in interpersonal conflicts or even acts of self-harm. Alternatively, they may be unintentional, such as those sustained in motor vehicle accidents (2). Among the causes of injury are acts of violence (either against others or oneself), road traffic accidents, burns, drowning, falls and poisonings. More than 5 million people of all ages and economic groups die every year from unintentional injuries and violence (3). Injury is a disease; it has a host (the patient) and a vector of transmission (e.g. motor vehicle, firearm etc.), and the environment where it occurs (3). In 2007, South Africa (SA) was listed as one of the most violent countries in the world. The homicide rate was nine times more than the global rate in males aged 15-29. The trauma burden in SA is significant as the country experiences over 30 000 trauma related deaths annually (4). This figure is almost two-thirds of the 46 000 annual trauma fatalities recorded for the whole of Europe (5). Surveillance refers to 'on-going systematic collection analysis interpretation and dissemination' according to the World Health Organization (WHO), whilst survey is defined as a once-off event (2). Surveillance systems are monitoring tools that provide policy makers and public health practitioners with the necessary information for injury control. Internationally, ongoing established electronic injury surveillance systems include the National Electronic Injury Surveillance System (NEISS) and the Denmark Trauma Registry (DTR) (6,7). Surveillance is held as a key element in developing effective injury surveillance programs (8). Conducting such research in emergency rooms provides better estimates of the magnitude of the injury problem than mortality data alone. Furthermore, surveillance provides early warning of new hazards useful for program evaluation (8). The first 60 minutes after the occurrence of a major multisystem trauma, commonly known as the "Golden Hour", are critical (2). Many changes regarding training and Advanced Trauma and Life Support (ATLS) have improved care and outcomes for injured patients (9). Most traumatic injuries are referred to trauma units or hospitals where resuscitation and other forms of surgical and non-surgical emergency treatment are provided (9).

More severe and multiple traumatic injuries should be immediately transported to regional level one trauma centers as they provide

the required comprehensive multi-disciplinary care with optimal resources and capabilities (10).

Therefore, the aim of the study was to determine the profile and nature of injuries sustained by patients attending the trauma unit at Chris Hani Baragwanath Academic Hospital (CHBAH), over a three-month period from 1st August till 31st October 2017.

Methods: A cross-sectional study was performed where patients were admitted, assessed and records were reviewed. CHBAH is the largest hospital in Africa as well as a tertiary-level academic institution. The catchment population of the hospital is around 3 million people. It has more than 3200 beds and 6760 staff. Its facilities are housed in 429 buildings. Approximately 70% of all admissions are emergencies. Accident, emergency and ambulance are the busiest services, counting more than 350 patients daily (11). The hospital serves not only townships in the South of Johannesburg and the nearest districts but also serves as a referral for a large part of the country, including surrounding African states. Furthermore, although the majority of patients seen at the hospital are not on any form of health insurance, a minority whose health insurance is unable to cover specialized costs are referred to CHBAH.

Process of admission to CHBAH trauma unit: Before patients are admitted to the trauma unit at CHBAH, they have to be triaged. The South African Triage Score system is used at CHBAH. Patient prioritization is of utmost importance so that only patients with serious and life-threatening injuries are attended to. Patients presenting to the trauma unit at CHBAH after referral by their local clinic count as Priority 1 (P1) or Priority 2 (P2) category patients. Community health centers and local primary health care facilities should be well equipped to manage less seriously injured, Priority 3 (P3) category patients.

Quantifying injury severity is integral to the epidemiology of trauma and serves as a critical guide to appropriate resource allocation in trauma care (4). The survival of injured patients can be further improved by means of the objective calculation of patients' injury severity (12). The Injury Severity Score (ISS) is the most used measure world-wide in trauma patients. It is a simple numeric method summarizing multiple injuries by means of anatomical categorization (28). Currently, it remains the gold standard of injury severity scoring (13). The scoring of ISS implies the following: 1-15 is minor injury; 16-24 is a serious injury; 25-40 is a severe injury and 41-75 signifies a critical injury. The Trauma Revised Injury Surveillance Score (TRISS) is used to assess the severity of injuries as it gives a physiological and anatomical index of injury severity based on the Injury Severity Score (ISS), the revised trauma score (RTS), patient age and nature of injury i.e. blunt or penetrating. Combining these four parameters, the TRISS method is useful in quantifying probability of survival and evaluating the outcomes of trauma care (14).

Study sample and data collection: The total number of patient records accessed for the study was n=5371.The data collection process occurred over a three-month period. During weekdays, all records of patients seen were included in the sample. Over weekends and public holidays, due to the large number of patients attending, random patient reference numbers were selected. Using computer randomly generated numbers. The Random Integer Generator was used to sample the patients. The randomly selected numbers were then recorded and only those entries were added to the study sample. Assuming a daily attendance of 130 patients over the weekend, 60% incidence of traumatic injuries in the population with power of 80% and 5% of precision, 47 sample size for records were calculated. Thus, a minimum of 50 computer-generated numbers was selected over each weekend and each public holiday. A data capture sheet was created specifically for the study and used to collect socio-demographic data such as age, sex, residence, and employment status, and injury-related variables like injury diagnosis, type of injury, location of injury and cause of injury. Patient outcome was also recorded.

Data analysis: All information from the data capture sheets was entered into Microsoft Excel and later exported to Stata version 13 for statistical analysis. Data was analyzed for measures of central tendencies such as means, median and standard deviation where necessary. Association between independent exposure variables such as sex, and dependent outcome variables such as mechanism of injury, was calculated using chi-squared tests, and the level of statistical significance was set at 5%. Results for odds ratios were also calculated using logistic regression.

To determine the injury severity score/index (ISS), a random sample of n=116 triaged patients was selected. Further analysis using the TRISS calculator was later done with these patients.

Ethical considerations: Ethics approval to conduct this study was obtained from the WITS Human Research Ethics committee (HREC) prior to commencement and the clearance certificate number M170506 was issued. Additional authorization to conduct research in the trauma unit as part of CHBAH was obtained from the head of the trauma unit, the acting CEO at the time as well as from the Medical Advisory Committee of CHBAH.

Results: A total of 5371 patients were admitted to the trauma unit between July and October 2017. Male to female ratio of 2:1 was recorded. Majority of patients admitted to the trauma unit 3 168 (67.39%) were from the Soweto residential area. Stretford Clinic in the Johannesburg South area accounted for 1 295 (27.55%) admissions. Of the total patients, only 22.69% reported that they were employed. The median age was 28 years (interquartile range 14-40 years). Approximately quarter (24.15%) of the patients seen were in the 25-34 age group, followed by the 6-18 age group (see Figure 1). The anatomical distribution of injury sites (see Table1), reveled upper limbs 41.06 % (n=1 652) to be predominantly injured, followed by the lower limbs 29.38% (n=1 182) and then head and neck injuries 19.54% (n=786). Generalized soft tissue injury accounted for fewer than 3% (n=114). Patients generally report this type of injury when they are in shock following the trauma traumatic incident, they had experienced. The predominant mechanism of injury was due to falls 32.37%, followed by assault 27.44%. Transport-related injuries (combined MVA and PVA) accounted for 22.52% of injuries; and burns at 8.01% (see Figure2). Assessment of the frequency of assault injury among all participants reveled that 62.26% of traumatic assault injuries occurred in patients who were unemployed and 27.03% of the participants who were employed (see Table2).

Figure 1: Bar graph representing age categories and their corresponding percentages

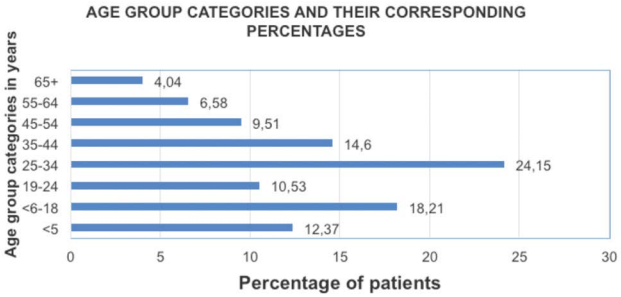
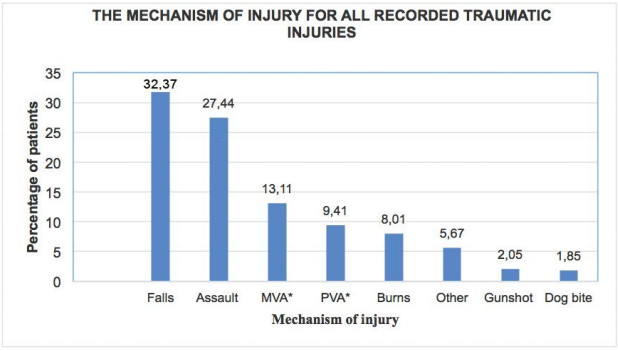


Table 1: Anatomical distribution of injury sites

INJURY TYPE	FREQUENCY	PERCENTAGE (%)
Upper limb	1 652	41.06
Lower limb	1 182	29.38
Head and neck	786	19.54
Thorax	227	5.64
Abdomen	62	2.83
Generalised soft tissue injury	114	2.83
Total	4 023	100.00

Figure 2: Bar graph depicting the mechanism of injury for all recorded traumatic injuries.



*MVA-Motor Vehicle Accident; * PVA-Pedestrian Vehicle Accidents

Table2: The frequency of the traumatic assault injuries sustained amongst all participants

EMPLOYMENT OR SCHOLAR STATUS	FREQUENCY	PERCENTAGE (%)
Unemployed	698	62.26
Employed	303	27.03
Scholar	103	9.19
Pre scholar	17	1.52
Total	1121	100

Using chi2 association tests, a significant difference in all forms of injuries sustained between male and female patients ($p<0.00$) was noted. Injury severity calculations showed that the majority (58%) of patients from the sample sustained severe injuries with ISS between 25-40, and only (13%) were scored as critical. None of the patients in the study sample presented with a minor injury severity score of 0-16. (Figure 3). The survival probability results between blunt and penetrating trauma using TRISS indicated that nearly all patients who sustained blunt trauma had a high survival rate score of 80-99%, accounting for n=71(97.26%), compared to n=39 (90.70 %) of patients who sustained penetrating traumatic injuries. Regardless of the type of trauma, a survival probability was good at the range of 80-99% score (see Table3).

Figure 3: Pie chart depicting distribution of the Injury Severity score amongst traumatic injuries

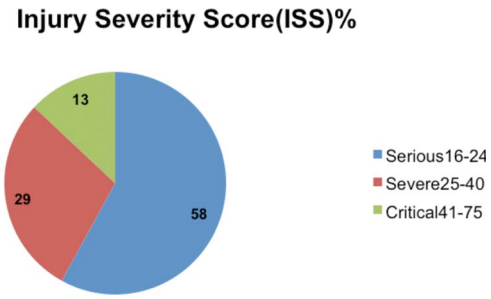


Table 3: The Trauma Revised Injury Severity Score (TRISS)

	BLUNT TRAUMA (n=73)		PENETRATING TRAUMA (n=43)	
	FREQUENCY	PERCENTAGE (%)	FREQUENCY	PERCENTAGE (%)
0-19	0	0	0	0
20-39	0	0	1	2.32
40-59	1	1.37	1	2.32
60-79	1	1.37	2	4.65
80-99	71	97.26	39	90.70
Total	73	100	43	100

Upon initial admission to the trauma unit, 43.04% of patients were discharged home after initial treatment, while 41.54% were transferred to the orthopedic unit (see Table4). Using logistic regression, calculations showed assault injuries were 4.23 times more likely to result in head and neck injuries compared to any other mechanism of injury (OR:4.23, CI 3.52-5.08, $p<0.00$).

Table 4: Destination/ Referral of patients after initial treatment at the trauma unit

DESTINATION AFTER INITIAL TREATMENT	FREQUENCY	PERCENTAGE (%)
Home	2 064	43.04
Orthopedic	1993	41.54
Ward(any)	390	8.14
Other	188	3.93
Resuscitation	161	3.36
Total	4 795	100

Discussion: The median age of the participants was 28years (Interquartile range 14-40 years). The results are similar to other South African cohorts that showed the young and active of our society to be most commonly injured (14,15,16,17,18,19).

The current study indicated a 2:1 male to female ratio of injuries. Comparing this ratio to the other South African studies of this nature, it indicates more females are involved in trauma than previously reported. Reasons for change in gender distribution of injuries ratios may be as a result of urbanization, resulting in immigration of females from rural to urban areas (20,21). Furthermore, recent SA crime statistics show that increase in interpersonal violence where females are the victims (22). Male behaviors is more aggressive in nature thus, further exposing them to injury (23).

Patients in the sample who were unemployed and presented with assault related injuries accounted for almost two thirds (62.26%) of all assault admissions. This is similar to the study in Mthatha that found more than half of their injured patients were also unemployed. Social dynamics supporting violence include unemployment (24). However, studies in Tehran (13) and Tanzania (25) showed contrary results regarding occupation status. Both studies showed that employed patients were more likely to sustain injuries especially at work.

About one in every 3 patients are referred to Stretford Community Health Centre (CHC) which is about 45 minutes away from CHBAH. Thus, upgrading Stretford CHC to a level 1 trauma a center will assist patients to be attended to in the “Golden Hour”.

TRISS results of the current study are similar to other studies in South Africa and internationally. Collectively, the majority of patients triaged had a greater than 50% survival probability (14, 17, 26). In contrast another study done in India resulted in a larger unexpected death range, despite their calculated survival probability. The above-mentioned difference was attributed to a lack of resources in their trauma centre (27). Regardless of the slight differences reported, in both developing and developed countries, the TRISS methodology has proven to be an acceptable method for evaluating the difference between predicted and observed mortality (26).

The study showed 48.03% of patients were discharged home on the day that they presented with their relevant trauma related injury. This figure is comparable to the 61.2% that were discharged to home in the study done at Johannesburg General Hospital (14). This similarity could be attributed to the fact that both CMJAH and CHBAH both are tertiary learning institutes and have very specialized consultants at their disposal, who also train doctors internationally on traumatology.

Upon analyzing upper and lower limb injuries, results reveal falls as statistically significant (p value <0.05). The odds of sustaining an upper or lower limb injury due to falling are twice as great (OR: 1.91, CI 1.70-2.28, p<0.00) and (OR:2.10, CI 1.79-2.46, p<0.00) respectively. The current study reveled that 70.44% of injures involved limbs/extremities. The results might explain the high number of falls related injuries in the study. The next anatomical area injured was the head and neck region with 19.54% of injuries. This finding was in accordance with other national and international studies of this nature (14,28,29). Assault also is shown to be statistically significant to upper and lower limb injury; however, the odds are less than 1. On the other hand, the odds of sustaining a head and neck injury after being assaulted are four times higher than falling resulting in a head and neck injury (OR: 4.23, CI 3.52-5.08, p <0.00).

Conclusion: Sex, employment status, age and area of residence influence the pattern of traumatic injuries. Falls injuries followed by assault were the predominant mechanisms of injury affecting the limbs followed with the head and neck injuries respectively. Males were more likely to suffer from any form of injury than females. Assault injuries were four times greater to result in head and neck injuries than any other mechanism of injury.

Recommendations: The study supports and recommends going surveillance and education campaigns.

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