

saMRC NEWS



Building a healthy nation through research and innovation

DECEMBER 2020



TOGETHER WE CAN!



SOUTH AFRICAN MEDICAL RESEARCH COUNCIL

Our leadership instrumental to the country's COVID-19 response

The SAMRC once again reiterated its indelible footprint as the country's leader in public health research and a major investor in healthcare infrastructure – this time in the fight against the COVID-19 pandemic in South Africa.

Prof Gray, the woman who led South Africa's sub-committee of COVID-19 pandemic research advisors



PROF GLENDA GRAY
SAMRC President and CEO

Earlier in the year, Health Minister, Dr Zweli Mkhize appointed the SAMRC President and CEO, Professor Glenda Gray to the Ministerial Advisory Committee on COVID-19 (MAC). The 50-member committee consisting of professionals from a diverse range of scientific and medical background was established to provide high level advice to the Minister and the National Command Council led by President Cyril Ramaphosa.

In addition, the committee, which was made up of various subcommittees was required to use its expertise, linkages, resources and influence to help the department in its response to the coronavirus epidemic.

As a Co-PI and Director of International Programmes for the HIV Vaccine Trials Network (HVTN), a global collaboration for the development of HIV/AIDS prevention vaccines, Gray has been campaigning tirelessly for South Africa to be included in vaccine development and trials.

"This will have huge advantages for the country in terms of getting early access to the vaccine" said Prof Gray, who is well-known proponent of vaccines.

Being one of the world's most respected scientists and HIV researchers, it came as no surprise that Gray was appointed as Chairperson of the Research Sub-Committee of the MAC, bringing together scientific evidence and wealth of experience to help strengthen the country's war on COVID-19

SAMRC Vice President appointed to the Ministerial Advisory Committee on Vaccines



PROF JEFFREY MPHAHLELE
SAMRC Vice President for Research

With the changing pattern of the pandemic, the department reconfigured this structure and formed the Ministerial Advisory Committee on Vaccines (MAC) to which SAMRC Vice President for Research, Professor Jeffrey Mphahlele was appointed.

This MAC advises the Health Ministry on all matters pertaining to the coronavirus vaccine development and rollout – from monitoring and reporting on progress on our candidate studies, to advising on purchasing options and capacity to potentially manufacture vaccines in future. This will ensure that the Department of Health and government are kept abreast on all critical developments internationally relating to the vaccine. “The world is nervous about equitable and fair access to COVID-19 vaccines. The COVID-19 vaccines should be treated as a global public good for the rich and poor countries alike,” said Prof Mphahlele.

** Many other SAMRC scientists and researchers have taken the lead in various bodies in the fight against Covid-19.*

SAMRC’s COVID-19 research, funding and innovations



The SAMRC has been at the forefront of South Africa’s COVID-19 response. Through our Intramural Research Units, we are engaged in a broad spectrum of studies looking into health impacts of COVID-19 and contributing to knowledge on COVID-19 with experts based at universities and collaborating Centres of Excellence. Local research must focus on surveillance, therapeutics and understanding the

local epidemiology and natural history of the pandemic. The SAMRC is funding research to increase surveillance of COVID-19 in hospitals and health settings. Our teams are also looking for traces of SARS-CoV-2, as part of a wastewater-based epidemiology, which is a way of monitoring the spread of diseases or chemicals through their presence in sewage.

Understanding the impact of COVID-19 and the lockdown on families: a study



DR PINKY MAHLANGU

Specialist Scientist from the Gender and Health Research Unit

Dr Pinky Mahlangu, a Specialist Scientist from the Gender and Health Research Unit, led (as Principal Investigator) a research project that was aimed at understanding the impact of COVID-19 and the lockdown on families.

Funded by the SAMRC and the DST-NRF Centre of Excellence in Human Development, the study explored the impact and link of COVID-19 to gender-based violence, mental health and livelihoods among men and women, and among front-line health care workers (FHCWs) in Gauteng. The preliminary findings from research with men and women were presented at a webinar hosted by Gender and Health

Research Unit (GHRU) late August 2020, which highlight contrasting experiences and impact of COVID-19 and the hard-lockdown contingent on a socio-economic status and employment sector.

According to the study, while the lockdown has had a positive impact on relationships in the home in some families, it has negatively impacted on livelihoods, mental health, with some participants reporting emotional and physical violence experiences during this time. Data suggest that COVID-19 has exacerbated inequalities in society, with possible long-lasting impacts which require intervention.

“We are currently completing data collection with men and women, in preparation to write-up the findings and we are in the process to commence data collection with FHCWs”, she said.

Moving forward, Dr Mahlangu says a policy brief highlighting the impact and recommendations on strategies to mitigate the impact of future pandemics like COVID-19 on South African families will be developed and shared with the Department of Health and other relevant departments and stakeholders in South Africa. She adds that the findings of the study will contribute to global literature on the impact of COVID-19 on families and provide insights on whether pathways of COVID-19 to violence against women, violence against children, mental health and livelihoods found in other contexts are similar or not to the South African context.



Our experts investigate the link between tobacco and COVID-19



DR CATHERINE EGBE

Specialist Scientist from the Alcohol, Tobacco and Other Drugs Research Unit (ATODRU)

There is substantial evidence that smoking negatively impacts lung health, inhibits the body's responsiveness to infections, and suppresses immunity. Sound epidemiological evidence that smoking increases the risk of viral lung and throat infections led researchers to posit that smokers are at increased COVID-19 risk.

Several early studies have pointed toward smokers' susceptibility to COVID-19 and in addition, the World Health Organization (WHO) has noted that the physical act of smoking – bringing fingers to the lips increases the possibility of hand-to-mouth virus transmission.

In summary, the hypothesis that cigarette smoking makes individuals more likely to contract COVID-19 needs to be supported by further evidence from epidemiological studies and laboratory data. This is what led Dr Catherine Egbe, a Specialist Scientist from the Alcohol, Tobacco and Other Drugs Research Unit (ATODRU) to undertake research on smoking and acquisition of COVID-19 and disease severity. Her research involved collating and interpreting the available evidence around how and why smokers are more likely to be susceptible to a worse disease outcome should they contract SARS-COV-2 compared to non-smokers and

the susceptibility of smokers to self-contamination due to their smoking behavior.

The findings were first presented at a webinar organized by the National Council Against Smoking on 22 April 2020 through a presentation titled: "The Science on Smoking and COVID-19" and later shared with Prof Salim Abdool Karim, chairperson of the Ministerial Advisory Committee (MAC) on COVID-19. These also formed the core of her three expert affidavits submitted in support of the government in the cases brought against the government by the tobacco industry.

In her Letter to The Editor published by the Tobacco Induced Diseases (TID) – a journal that encompasses all aspects of research related to the prevention and control of tobacco use at a global level, Dr Egbe describes why was it important that the government of South Africa took the precautionary steps to ban tobacco and nicotine products sales as a way to protect citizens and the health system from COVID-19. Egbe continues to be interviewed by several local and international media on this topic.

On a related topic, Dr Egbe says the SAMRC has recommended the elimination of the current regulation which allows for 25% of floor-space in indoor places, to be designated smoking areas.

"The SAMRC has called for the speedy passing of the new legislation, the Control of Tobacco and Electronic Delivery Systems bill which would eliminate designated smoking areas in indoor public places. This would reduce this percentage from 25% to zero. In a nutshell, the new bill is seeking 100% smoke-free policy, in indoor places."
– Dr Egbe

The SAMRC has continued to join other organizations to call for the bill to be passed as soon as possible, to protect people from second-hand smoke – this will include electronic cigarettes which she says remain largely unregulated.

Creating a safer drinking environment

“It is time to have an honest conversation about alcohol and violence in our country. Among the devastating epidemics the country faces, South Africa also has an injury epidemic, which places an enormous burden on our health system and society at large, let alone on those injured and those near to them. We are among the most violent countries in the world.

Last time we checked, our country had twice the global average for injuries and five times the global average for homicides. This is in addition to having one of the worst HIV and TB epidemics in the world, and an emerging new threat of non-communicable diseases”

- wrote SAMRC's Professors Glenda Gray, Charles Parry and Richard Matzopoulos.



Evidence on digital communications for remote healthcare delivery in a post-COVID 19 world

A group of researchers from the SAMRC, together with local and international colleagues conducted two Cochrane systematic reviews which considered mHealth from the perspective of clients and health workers. mHealth is the use of mobile, digital devices to register clients, track their health, and make decisions about care, as well as to facilitate communication with clients and other health workers.

With the advent of COVID-19 in South Africa and the rest of the world, measures such as social distancing have been put in place to reduce the risk, leading to a growing demand to find new innovative ways to deliver essential services to the people, including healthcare. Several services switched virtually overnight to digital remote delivery, thus showcasing tremendous potential of digital communication tools.



First National Cause-of-Death Validation Project Report released

The SAMRC released the first National Cause-of-Death Validation Project (NCODVP) Report.

The main purpose of the study was to compare the registered underlying cause of death indicated on the CRVS medical notification form with the highest level of information collected in the study (forensic pathology record followed by medical records and verbal autopsy) so that correction factors could be estimated. Additionally, the study aimed to compare the medical cause of death identified from the different sources to assess their performance in identifying cause of death.

In 27 randomly selected sub-districts across South Africa, trained field workers conducted 5,387 verbal autopsies with next-of-kin informants who were carefully taken through a standardised WHO questionnaire, providing answers about the deceased symptoms and risk factors before death. These records were reviewed by medical doctors trained to independently assign an underlying cause of death from the verbal autopsy information.

Currently the project team is continuing to review the medical records and the linkage with Stats SA records in order to calculate correction factors is underway.

According to the Principal Investigators of the study, Verbal Autopsy could be a very useful way of strengthening the

KEY FINDINGS

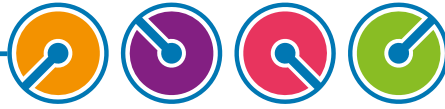
- The study demonstrated that collecting cause of death data using a verbal autopsy nationally was feasible and could provide good quality cause of death information when reviewed by trained doctors.
- The verbal autopsy data collected for the study have demonstrated that HIV/AIDS and TB are measurable by verbal autopsy in a high HIV burden country.
- A concerning finding revealed by the information from the narratives was the number of HIV positive cases where it was reported that they had been on antiretroviral therapy and had discontinued treatment and then died from HIV-related causes. Defaulting on treatment was mentioned in 10.2% of the HIV/AIDS deaths.
- The narrative section of the verbal autopsy provided critical information for establishing the cause of death particularly for clinicians.
- The study also demonstrated that it was possible to scan medical and forensic records to provide clear images for review at centralized sites by medical professionals.



accuracy of the cause-of-death information in the CRVS system.

The SAMRC, through its Burden of Disease Research Unit has for many years undertaken the analyses of South Africa's mortality data and these have shown extensive misattribution and misclassification of HIV/AIDS and TB, and a critical lack of detail in injury data.

A wastewater-based early warning system for COVID-19



SAMRC SARS-CoV-2 WASTEWATER SURVEILLANCE DASHBOARD

AN EARLY WARNING SYSTEM FOR COVID-19 INFECTIONS

The SAMRC recently established a wastewater-based early warning system for COVID-19 in various parts of the country – the dashboard was launched on 17 November 2020.

Tracking of wastewater plays a key role in the development of early warning systems (EWS) for various enteric viruses. Since the start of the COVID-19 pandemic, SARS-CoV-2 RNA has been successfully isolated and quantified in the wastewater of a growing number of countries. The new system, although currently focused on COVID-19, has broader application to develop an early warning system for diseases such as Hepatitis A, measles and Norovirus.

Soon after the start of the pandemic, the SAMRC brought together five of its research units including Environment and Health Research Unit, the Biomedical Research and Innovation Platform, the Tuberculosis Platform, the Genomics Centre and the Biostatistics Unit, to design and coordinate the project. The team completed laboratory and field proof of concept studies and is now embarking on the full implementation of longer-term surveillance system in high risk settings.

International advisors and external academic partners including Fred Hutchinson Cancer Research Center in US, and the Swiss State Secretariat for Education, Research and Innovation have also been brought on board to meet the SAMRC's goals of establishing the project in multiple provinces across the country.

SAMRC President and CEO, Professor Glenda Gray said by monitoring wastewater they are able to predict a rise in COVID-19 cases within a week or more before it is usually detectable through human testing. "We are very excited about the prospect of curbing COVID-19 transmission and saving lives using this technology, especially when undertaken in partnership with public health officials", Gray said.

"At this stage we are rolling out monitoring sites in Cape

Town, the Breede River Valley in the Western Cape, the Mopani and Vhembe Districts in Limpopo and the OR Tambo and Amathole Districts in the Eastern Cape", said Professor Renee Street from the SAMRC's Environment & Health Research Unit. She also added that the project would soon be extended to include Gauteng.

Street adds that the SAMRC will soon be launching a dashboard on its website so that the public will be able to freely check on findings at some of the study sites – the dashboard will be updated on a weekly basis. "In so doing we hope that relevant public health authorities will be able to use the results to mount timeous interventions to reduce community spread of COVID-19, such as alerts to health professionals, scaled up public awareness programmes on the importance of wearing face masks, physical distancing and hand hygiene, as well as increased testing and tracing."

"Through the SAMRC wastewater monitoring project we have already been able to alert public health officials in the City of Cape Town and the Breede River Valley of spikes in SARS-CoV-2 RNA levels, which gives them valuable time to prepare for increases in COVID-19 cases and to intervene wherever possible," said Professor Angela Mathee of the SAMRC Environment & Health Research Unit, adding that a major advantage of wastewater monitoring is that it includes symptomatic as well as asymptomatic cases in a community.

The SAMRC's Biomedical Research Innovation Platform (BRIP) established methods for SARS CoV-2 RNA detection in wastewater and is responsible for training partner institutions with the focus being on the Historically Disadvantaged Institutions (HDIs). "Capacity development is a key element of the project – students and staff from the Universities of Venda and Fort Hare have already been trained in the laboratory methods while trainees from Sefako Makgatho and Walter Sisulu Universities will soon join this group", said Dr Mongezi Mdhuli, a member of the SAMRC's Executive Committee.

2020 the International Year of the Nurse and the Midwife



Carron Finnan, Brand and Creative Manager, Corporate and Marketing Communications, Prof Julia Blitz, Deputy Dean, Teaching and Learning, Faculty of Medicine and Health Sciences, Nomafrench Mbombo, Western Cape Provincial Minister of Health, Prof Glenda Gray, President and CEO SAMRC, Prof Hester Klopper, Deputy Vice Chancellor, SU: Strategy, Prof Portia Jordan – Board member FUNDISA, Executive Head, Department of Nursing and Midwifery SU and Prof Doreen Kaura, Head of Social Impact, Department of Nursing and Midwifery, SU.

The World Health Organization (WHO) declared 2020 as the International Year of the Nurse and the Midwife. This presented a unique opportunity to recognise and showcase the work and contributions of nurses and midwives to patients and to the health system more broadly.

Nurses are the largest occupational group in the health sector, accounting for approximately 59% of the health professionals.

Corporate & Marketing Communications on behalf of the SAMRC, together with The Department of Nursing and Midwifery Stellenbosch University heeded the call by WHO to partner on this campaign, to highlight and celebrate Nurses and Midwives for the year 2020.

The campaign included profiling and acknowledging the journey of nurses and Midwives through Social Media platforms during the lockdown period as well as hosting a webinar titled: Engaged Citizenship. The concept of the Engaged Citizenship webinar was to, Identify the international year of the nurse and midwife 2020 with

COVID -19, recognise the critical contributions to global health by Nurses and Midwives, advocate for investment in Nurses and Midwives to improve healthcare and highlight the provision of essential services by nurse midwives which requires support from government and other stakeholders.

A webinar discussion was held between Minister Nomafrench Mbombo - Western Cape Provincial Minister of Health and Prof Glenda Gray our President and CEO. For a global perspective on the campaign, we heard from Prof Hester Klopper - Deputy Vice Chancellor, SU: Strategy and Internationalisation as well as a regional perspective from East Africa: Prof Eunice Ndirangu, Dean of the School of Nursing and Midwifery, Aga Khan East Africa, West Africa: Prof Lydia Aziato - Dean, School of Nursing and Midwifery, University of Ghana and South Africa: Prof Portia Jordan – Board member FUNDISA.

The session was moderated by: Prof Ameena Goga Unit Director of the HIV Prevention Research Unit, SAMRC.

Champion Women

Honouring our women during Women's month



INSPIRATIONAL



THE GO-GETTER



INSPIRATIONAL

This year, to mark Women's Month, the SAMRC honoured over 30 of its exceptional women through the **Champion Women Campaign** – nominees were profiled internally and externally throughout the month of August. With each having a unique story to share, these Champion Women represented various research units and support divisions across the organisation in three categories: Women in Science; Inspirational Woman and The Rising Star / Go-Getter. At the end of the campaign, each of the women received a certificate of recognition and a small token of appreciation.

Environment & Health Research Unit contributions to feeding schemes during the lockdown period

Since the start of the lockdown, members of the Environment & Health Research Unit have been making donations to feeding schemes near SAMRC offices in Johannesburg and Durban. At last count R6650.00 had been donated to:

- Needy families identified by the Susan Ngcobo Primary School in Durban; and
- African Children's Feeding Scheme in Alexandra Township (Johannesburg);
- The Solidarity Fund.

Unit members intend to continue making contributions to these and other causes for the duration of the lockdown period.

Building South Africa's knowledge economy through research capacity development



As the world was confronted by the COVID-19 pandemic and putting up measures to tackle it, SAMRC could not succumb to defeat and let the youth month go by without acknowledging its young and upcoming powerhouse of scientists. During this years' youth month, the SAMRC, by

means of a campaign, celebrated some of its amazing young and emerging science leaders poised to make a difference by improving the health of South Africans through science. We shared their journeys and current research projects on different SAMRC platforms, including social media, with the aim to inspire the youth to enter the field of science. The campaign will also demonstrate the impact of supporting and investing in young scientists. Our President and CEO, Prof Glenda Gray, reiterated the message of building our human capital in health care and said "The SAMRC is invested in developing the limited critical mass of medical and health scientists and supporting our next generation across various health professions."

HIV Prevention Research Unit commemorates Cancer Awareness Day



Our colleagues from the HIV Prevention Research Unit at the Tongaat Clinical Research Site, moved beyond HIV and COVID-19 research and hosted a Cancer Awareness Day with study participants and employees at their own cost. While the information sharing sessions focused on

areas of prevention, treatment and management of cancer, attendants also shared their lived-experiences with the battle with cancer. This was done in an informal and fun setting to create a safer and enabling environment for participants to engage.

16 Days of Activism against Gender-Based Violence



The 25 of November, marks the start of the 16 Days of Activism Against Gender-Based Violence (GBV). Also known to be the International Day for the Elimination of Violence against Women and Children.

The theme for this year as adopted by the United Nations Women, is "Orange the World: Fund, Respond, Prevent, Collect!". According to the UN Women Executive Director, Phumzile Mlambo-Ngcuka, violence against women is "a shadow pandemic growing amidst the COVID-19 crisis and we need a global collective effort to stop it". This violence impacts on children and families.

Our organisation, being a thought leader in the GBV field has continued to conduct world class research on GBV during the national lockdown. Alongside the national government's 16 Days programme, Corporate and Marketing Communications Division together with the Gender and Health Research Unit

(GHRU), ran a campaign which included information sharing on the GBV research work done by our colleagues during lockdown as well as hosting a Webinar on Rape & HIV and the International Day for Persons with Disabilities.

Included in the list of experts who presented at the Webinar on the 1st of December, was SAMRC Director of the GHRU Professor Naemah Abrahams who presented on the findings of the Rape Impact Cohort Evaluation (RICE) study. The RICE study is the first longitudinal cohort study globally to compare rape survivors and a control group of women to explore the relationship between rape and HIV over time.

"Our services have always focused on giving post-exposure prophylaxis (PEP) to prevent HIV infections from the rape incident, but this is the first time we have shown with research that much more intensive support for survivors after rape is needed," - Prof Naemah Abrahams, GHRU Director.

RAPE SURVIVORS NEED COMPREHENSIVE, LONG-TERM SUPPORT TO PREVENT HIV: Evidence from the Rape Impact Cohort Evaluation (RICE) study

A research study by the SAMRC shows that HIV negative women rape survivors have a greater risk of acquiring HIV for years after the rape – this is due to the long-term negative impact of rape on survivors' mental health and well-being which together with structural and societal factors drives both

sexual violence and HIV and thereby increasing rape survivors vulnerability to HIV infection. These findings emerge from the Rape Impact Cohort Evaluation (RICE) study conducted by the SAMRC's Gender and Health Research Unit (GHRU).

Step up and be the change!



In March this year, the SAMRC's Transformation Forum launched a campaign to raise awareness within the organisation about environmental matters such as the climate crisis and the unprecedented plastic pollution globally.

Themed "OUR WORLD NEEDS YOU", the campaign's overarching aim was to show how protecting our own health goes hand-in-hand with protecting the health of our environment. Elements of the campaign included the production of a poster encouraging everyone to decrease energy consumption by using the stairs often – in turn leading to being more active and healthier while reducing the risk of obesity and other lifestyle diseases.

On World Environment Day 2020 (5 June), the campaign highlighted how COVID-19 is directly linked to interactions between humans and the environment, and how we need to protect and respect biodiversity in order to protect our own health.

Watch the space for more initiatives to encourage us to play our part in protecting the environment and our health and that of future generations.

Step up and be the change!



Gender and Health Research Unit involved in Solidarity Fund GBV strategy

The Solidarity Fund (SF) launched the call for applications in support of Community Based Organisations (CBOs) that provide GBV related services in the form of prevention, response, and access to justice. The objective of this funding round is to reach as many frontline grassroots organisations as possible that have typically not had

access to funding through traditional mechanisms. Dr Nwabisa Shai, a Specialist Scientist from the SAMRC's Gender and Health Research Unit (GHRU) was involved with assisting the SF to develop a GBV strategy working with Genesis Analytics.

Newly appointed Unit Director for the HIV Prevention Research Unit



PROF AMEENA GOGA
Director of the SAMRC HIV Prevention Research Unit (HPRU)

Professor Ameena Goga was appointed Director of the SAMRC HIV Prevention Research Unit (HPRU). The HPRU, a Centre of Excellence in HIV prevention research on reducing

HIV infections among women and men through biomedical interventions, is part of our strategy to address one of the leading epidemics in South Africa.

Prof Goga, is a Paediatrician with a PhD from the University of Pretoria and Masters degrees in Mother and Child Health (ICH, London) and Epidemiology (Columbia University, USA). Before her appointment as a Unit Director, she was a Chief Specialist Scientist and Deputy Director of the SAMRC's Health Systems Research Unit and Interim Unit Director and Principal Investigator of the HPRU Clinical Trials Unit.

Over the past few months the SAMRC through our intramural research programmes has focused on public health studies on COVID-19. She has worked tirelessly to fight the COVID-19 pandemic through her research, taking on a leading role in COVID-19 studies, including leading the country-wide COVID-19 point-of-care testing study as the SAMRC's Principal Investigator. She is also a member of a community of practitioners, researchers, and others, who are contributing to the body of science about COVID-19 in children.

A real example of research resilience in the time of COVID-19



DR JENNY COETZEE
SAMRC's Research Capacity Development (RCD)

If research resilience in the time of COVID-19 was a person then that'd be Dr Jenny Coetzee, a SAMRC's Research Capacity Development (RCD) funded Postdoctoral Fellow

at the Perinatal HIV Research Unit (PHRU) – one of the close associate organisations of the SAMRC.

In an unexpected but positive turn of events, the COVID-19 pandemic created an opportunity for Dr Coetzee to do much more work such as founding the African Potential Foundation, an exciting initiative that seeks to enable a new generation of innovative, flexible, resilient and caring leaders. Jenny has set herself a big task of raising R1.2 billion for the African Potential Foundation's first project that is aimed at providing high-quality fabric masks to high-density, impoverished settings to prevent the spread of COVID-19.

"I believe strongly that life is complicated, and our response to health issues needs to reflect an understanding of this, and not be one dimensional. We cannot assume that because we gave someone a condom that they can or will use it. Likewise, we cannot assume that treatment adherence is as simple as taking a pill every day – things are complicated", said Dr Coetzee.

First "Science Oscar" for SAPRIN



PROFESSORS MARK COLLINSON AND KOBUS HERBST
Co-Directors of the South African Population Research Infrastructure Network (SAPRIN)

Co-Directors of the South African Population Research Infrastructure Network (SAPRIN), Professors Mark Collinson and Kobus Herbst have been recognized for advancing the availability, management and use of data for research.

The duo received the 'Data for Research Award' at the recently live streamed gala event of the 22nd prestigious NSTF-South32 Awards. Known as the 'Science Oscars' of South Africa, the awards are a celebration of South African excellence and outstanding contribution to SET and innovation through a flagship project of the National Science and Technology Forum (NSTF).

They were awarded for collectively conceiving, developing and implementing SAPRIN – a national research platform that aims to produce up-to-date information on health and socio-economic wellbeing that is representative of South Africa's population for scientific analysis, embedding research projects and policy evaluation. The Network is hosted by the SAMRC and falls under the ambit of the South African Research Infrastructure Roadmap – a programme of the Department of Science and Innovation (DSI).

Currently, the Network has five health and demographic surveillance system (HDSS) nodes namely: SAMRC/Wits-Agincourt in Mpumalanga, DIMAMO at University of Limpopo, and AHRI linked to University of KwaZulu-Natal. The other two recently launched new nodes will be starting in Gauteng and the Western Cape.



PROF CHRISTINE LOCHNER
Co-director of the SAMRC's Risk and Resilience in Mental Disorders Research Unit

Also at the same awards, Professor Christine Lochner, co-director of the SAMRC's Risk and Resilience in Mental Disorders Research Unit had one more reason to celebrate Women's Month as she received the TW Kambule-NSTF Research Award.

The C1-rated and one of the top 40 cited researchers at Stellenbosch University (SU) was awarded the TW Kambule-NSTF Research Award in recognition for her research into neuropsychiatric disorders, including obsessive-compulsive and related disorders, which fosters a multi-disciplinary approach, incorporating a biopsychosocial focus.

This specific award is a contribution through research and its outputs by an individual over a period from 6 years up to 15 years of research work from the commencement of their research career, predominantly in South Africa.

Scholarship beneficiaries on M&Gs list of top young South Africans



LERATO RAMETSE
Clinician Scientist

Two young trailblazing female scientists and beneficiaries of the SAMRC's Scholarship Programme, Lerato Rametse and Caroline Pule, have been listed on the 2020 Mail & Guardian 200 Young South Africans.

Annually since 2006, the Mail & Guardian canvasses the country to find and celebrate 200 eminent young South Africans aged 18- to 35-years and later announce them at a gala dinner. However due to the COVID-19 pandemic and in keeping with its 2020 theme of innovation, this year's announcement took a form of a virtual reveal on 10 September.

Both named in the Health Category, Rametse and Pule were recognized for being young innovators who are already changing the world by contributing to health research.

Rametse, a clinician scientist and second year PhD candidate at the University of Cape Town is currently under the SAMRC MD/PhD Scholarship Development Programme since 2019 – a programme which aims to increase the number of clinician-scientists in South Africa. Her **current research project** focuses on seeking to understand HIV susceptibility and transmission mechanisms in males, a key contributor population group which is not widely researched.



CAROLINE PULE
Clinician Scientist

Pule on the one hand, is a beneficiary of the Bongani Mayosi National Health Scholars Programme - a national asset and flagship programme for advancing the next generation of African health and clinical scientists.

The 30-year-old wears many hats! If she is not at Stellenbosch University's Division of Molecular Biology and Human Genetics where she spends most of her time making the most of her extensive knowledge – she's got her sleeves rolled up doing community work. She is currently a volunteer scientist for the Crowd Fight COVID-19 initiative, a global organisation enabling volunteer scientists from different countries to work together and is also part of the Mould Empower Serve charity organisation which helps to feed people in need during the pandemic.

Mid-Career Scientist recognized by WORLD ECONOMIC FORUM



PROF SALOME MASWIME

Beneficiary of the SAMRC's Mid-Career Scientist Grant administered by the Division of Research Capacity Development (RCD)



Prof Salome Maswime, a beneficiary of the SAMRC's Mid-Career Scientist Grant administered by the Division of Research Capacity Development (RCD) has been selected by the World Economic Forum (WEF) to be in its Class of 2020 Young Scientists.

This is a three-year journey of growth and impact for a group of 25 exceptional researchers from across the world, recognised for their research at the cutting edge of discovery.

Maswime, at the early start of her career, received funding from the SAMRC's Self-initiated Research (SIR) Grants Programme. The programme is designed to support original research initiated by a researcher at a recognised research institution in various areas of health. It was through the SIR, she was able to complete her PhD in Obstetrics and Gynaecology at Wits University, which focused on investigating the reduction of maternal morbidity and mortality from caesarian section related hemorrhage.

Ongoing collaborations during the Covid-19 pandemic

New global health research to reduce the impact of COVID-19

The SAMRC is part of a study that will measure the unanticipated opportunity costs of South Africa's COVID-19 response for children, mothers and people living with non-communicable diseases.

This, through two of its extramural research units (EMUs), the SAMRC Centre for Health Economics and Decision Science (PRICELESS SA) and the SAMRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt) that are part of a global health research collaboration initiative funded by the National Institute for Health Research (NIHR) in partnership with UK Research and Innovation (UKRI), aimed at reducing the impacts of COVID-19.

Out of approximately 150 applications, the UK NHRI/UKRI partnership announced the awards to 12 new research projects specifically aimed at tackling the multiple health consequences of the pandemic in low- and middle-income countries (LMICs). With over nearly £7.6 million of funding, the projects (combined) will over the next 18 months focus on four priority COVID-19 research topics highlighted by the World Health Organization COVID-19 Global Research Roadmap: epidemiology; clinical management; infection prevention and control and health system responses.

Spanning more than 18 countries across Africa, South America and South East Asia, the new research will cover areas such as transmission and infection control, how people are affected by the disease in different settings and their long-term outcomes, including the risk of neurological problems. Other projects will focus on the indirect consequences of the pandemic including mental health, tuberculosis (TB) and provision of HIV care and other health services.

Health systems across the world have had to pivot suddenly and with great speed in order to address COVID-19. Although this may have been effective in containing the pandemic, it has not been without consequence to the burden of disease and the health services that existed pre-pandemic. Through a mixed-method, multidisciplinary study, the South African leg of the of the initiative will



"This research will influence policy in future epidemic outbreaks, ensuring the best health care for all"

investigate how COVID-19 has impacted the supply and demand of routine health services, specifically those related to non-communicable diseases, as well as maternal and child health, in both urban and rural settings.

The project will quantitatively measure the impact of COVID-19 on routine preventive and curative health services, from supply and demand side perspectives, through a time series analysis of health service data. The researchers will also qualitatively evaluate the views of the community and healthcare workers on health service access and delivery. These results will enable policymakers to make evidence-based decisions regarding resource allocation that are also responsive to community needs and priorities.

According to Professor Karen Hofman, Director of the SAMRC unit based at PRICELESS SA, the team will focus its analyses on the critically important area of missed opportunities of health care access in South Africa – a country with majority of Covid cases on the continent. "This research will influence policy in future epidemic outbreaks, ensuring the best health care for all," she said.

International research collaboration between SAMRC and UKMRC

International research collaboration to tackle antimicrobial resistance by tapping into South Africa's rich biodiversity

A three-year collaboration between South African and UK based researchers is set to tackle antimicrobial resistance by tapping into South Africa's rich biodiversity to discover and accelerate the development of new antibiotics.

The project is funded by the South Africa–UK Antibiotic Accelerator Drug Discovery Programme – an initiative of the South African Medical Research Council (SAMRC) and United Kingdom Medical Research Council (UKMRC) that was launched in April 2019 with the aim of harnessing South Africa's biodiversity to discover treatments for antimicrobial resistance (AMR) and to establish a global drug discovery network focusing on developing new drug candidates. The launch was followed in June the same year, by the South Africa-UK AMR Drug Discovery Partnership workshop that took place in South Africa – bringing together leading researchers from both countries and multiple research disciplines, to better understand the key microbial targets of public health concern in South Africa.

The programme will establish a collaborative South African-UK antibiotic accelerator with hubs in both countries and integrated opportunities for capacity building while also seeking to sustain and develop the existing collaborations, initiatives, databases, novel chemistry and compound libraries, and propose robust governance and management structure.

In addition, the programme will establish a global drug discovery network focusing on developing new drug candidates for the World Health Organization (WHO)'s priority ESKAPE pathogens (*Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Enterobacter* spp.), that are most commonly associated with AMR, and gonorrhoea, which is also a global AMR research priority.

In July 2019, a call for applications and submission of proposals was issued to South African and UK researchers

working on pre-competitive antibacterial drug discovery following which two Newton AMR awards were made this year – to Professors Rosemary Dorrington from Rhodes University and Anabella Gaspar from the University of Pretoria, both leaders in their fields, with the first Newton health project funded at an Eastern Cape university.

Professor Dorrington, her UK collaborator, Mathew Upton from the University of Plymouth and their team will focus on harnessing natural product diversity to combat multi-drug resistance and identify novel hit compounds for lead optimisation in future projects. The project focuses on Gram-negative members of the ESKAPE group and *Neisseria gonorrhoea*, as these are among the leading AMR threats in South Africa.

Professor Gaspar on the other hand, her collaborator, James Mason from King's College London, and their team are investigating the development of antimicrobial peptides against Gram-negative antibiotic resistant pathogens. The team aims to accelerate antibiotic drug discovery to address Gram-negative drug resistance in South Africa and establish a sustainable legacy in AMR research in South Africa and will also improve the success of pre-clinical efficacy studies by transforming hit-to-lead and lead optimisation studies of antimicrobial peptides (AMPs), compounds with bactericidal, immunomodulatory and anti-biofilm capabilities.

Both the Rhodes University and University of Pretoria projects are supported by the University of Cape Town's H3D, headed by Professor Kelly Chibale. The H3D team will support the screening of AMR lead compounds and capacity development. Prof Chibale is also Director of the SAMRC's extramural research unit (EMU), Drug Discovery and Development Research Unit.

Highlighting the importance of physical fitness during COVID-19

Scientists from the South African Medical Research Council (SAMRC) were part of the formulation of two policy briefs aimed at highlighting the importance of physical activity and exercise for Africa's overall health and wellbeing, during COVID-19 and beyond.



DR JILLIAN HILL
Senior scientist from the Non-Communicable Diseases Research Unit



MS EUNICE TUWARA
Senior scientist, from Burden of Disease Research Unit

The briefs, which are part of a series planned for release, were prepared by a consortium consisting of more than 40 academics, researchers and implementation partners from nine countries within the continent led by Professors Rowena Naidoo from the University of KwaZulu-Natal (UKZN) and Vicki Lambert of the University of Cape Town (UCT)'s Research Centre for Health through Physical Activity, Lifestyle and Sport (HPALS).

Recognising the need to develop effective plans and policies to promote physical fitness on the continent, the consortium, developed the first two policy briefs – one targeted at the general public and the other at children in three environments namely: home, school and communities. Aimed at guiding decision makers, planners and programme leaders, both during the COVID-19 pandemic and afterwards, the briefs have been endorsed by the African Physical Activity Network (AFPAN) and supported by the Western Cape Department of Health.

SAMRC's Dr Jillian Hill, a senior scientist from the Non-Communicable Diseases Research Unit and Ms. Eunice Tuwara, also senior scientist, from Burden of Disease Research Unit were involved with the general (adult) brief as members of the expert advisory panel.



What the policy briefs propose...

Amongst others, the briefs recommend an introduction of a 4 Step policy for physical activity for the general public in the African region – the four steps include:

1. The development of a National Plan for physical activity for health and development that would allow for input from multiple sectors and stakeholders resulting in co-benefits and shared responsibility.
2. Training a cadre of health professionals, educators, sports coaches & community members to promote physical activity for health.
3. Ensuring safe and enjoyable opportunities for physical activity, through urban planning, provision of parks or public spaces and low-cost programmes close to where people live. This is particularly critical in communities that lack safe and accessible facilities where they can be physically active.
4. Adopting a "whole of government" systems approach towards physical activity embedded in multiple sectors, devising flexible, agile and cost-effective solutions. Critical to this – is recognizing physical activity as a vital component both in preventive health care and a means to build social cohesion in communities.

What is next?

The Consortium, through the two briefs emphasizes that physical activity is not a competing demand for resources, public health and development – it plays a vital role for well-being during the current pandemic and in creating a healthy future for the African region.

Although the timelines are not confirmed yet for release, the consortium is working on two more briefs on disability and school sport.

SAMRC President co-chairs the steering committee group on Health Systems and Services for the UN Research Roadmap on the COVID-19 Recovery



On 17 November, the United Nations released the UN Research Roadmap on the COVID-19 Recovery, which seeks to leverage the power of science to support recovery from the COVID-19 pandemic and promote a more equitable and sustainable future.

Professor Glenda Gray, President and CEO of the South African Medical Research Council (SAMRC) was a member of the Report's Steering Group on Health Systems and Services which she Co-Chaired alongside Professor Sir Jeremy Farrar from Wellcome. The Report, conducted on an invitation of the United Nations (UN) Deputy Secretary General, Amina Mohammed, involved engaging 38 research funding organizations and consulting with more than 250 experts.

The COVID-19 crisis has exposed stark global inequities, fragilities and unsustainable practices that pre-date this pandemic and have intensified its impact. Recovering better from COVID-19 will depend on bold efforts to strengthen health systems, shore up social protections, protect economic opportunities, bolster multilateral collaboration, and enhance social cohesion. In light of the scale of action needed, the socio-economic recovery from COVID-19 also provides a historic opportunity to reimagine societies using a human rights lens and initiate the transformative changes needed to achieve the better and brighter future envisioned in the 2030 Agenda for Sustainable Development.

Science represents the world's best chance for recovering better from the COVID-19 crisis. As societies face the difficult task of implementing recovery strategies with limited time

and resources, they have a choice between business as usual and transformative changes. Transformation offers better prospects, but it will require ingenuity and research from the full range of disciplines.

In a nutshell, the Roadmap has been described as a commitment and a guide to make use of research to determine how COVID-19 socio-economic recovery efforts that can be purposefully designed to stimulate equity, resilience, sustainability and progress towards the Sustainable Development Goals (SDGs). It also outlines a set of 25 research priorities – five priorities for each of the five pillars of the UN's socio-economic recovery framework – as well as numerous sub-priorities providing more comprehensive elaboration. Together, the priorities emphasize the need for research to advance gender equity, engage marginalized populations, ensure decent work, prevent a digital divide, tackle "One Health" intersectoral challenges, and inform global governance reforms.

According to Prof Gray, more critically, the Roadmap identifies research priorities and scientific strategies to support a recovery that benefits everyone as well as actions that researchers, research funding agencies, governments, civil society organizations and UN entities can implement.

"The Roadmap reinforces the role of science in curbing the pandemic and supporting recovery efforts. Just like in putting up measures to curb the spread of the virus, evidence-based decision-making and the role of science should remain an underpinning cornerstone for recovery efforts," said Prof Gray.

Events, webinars and virtual conferences



While the vast majority of the scientific meetings around the globe have been cancelled due to the COVID-19 pandemic, many were conducted virtually. Below are some of the webinars that took place involving the SAMRC:

Webinar 1: A Collaborative Medical Profession Response to the COVID-19 Pandemic

SAMRC in association with the Progressive Health Forum (PHF) hosted a webinar to discuss the immense pressure put by COVID-19 on health systems and services globally. The pandemic is a stark reminder of the importance of collaboration, knowledge sharing and the political will to manage health emergencies.

The webinar focused on the need for an integrated public-private clinician-led response to the crisis, covering the necessary ethical imperatives and modalities of collaboration, as well as an enabling framework for an integrated response.

SAMRC President and CEO, Prof Glenda Gray presented under the topic: A Public-Private Clinician-led Response to COVID-19

Webinar 2: Clinical Collaboration in the Time of COVID-19, 2 July 2020

Co-hosted by SAMRC President and CEO, Professor Glenda Gray and Professor Lydia Cairncross, the objective of this webinar was to share the experiences of the Western Cape response to COVID-19 in an effort to support the responses of other provinces. To build synergies and coherence of approach in the public and private sector to ensure equity in patient care.

Webinar 3 - 5: COVID-19 and the paradigm shift in facility management (3 July 2020)

SAMRC and the Council for Scientific and Industrial Research (CSIR) hosted 3 webinars on COVID-19 and the workplace. The webinars focused on the realities and challenges of facilities management and safeguarding employees as South Africans return to work.

Events, webinars and virtual conferences

The hierarchy of infection control measures that consist of administrative, environmental and personal protection measures, underwent radical change since the start of the COVID-19 pandemic, and best practices in facility management and providing a safe workplace have been found to be inadequate against the protection and spread of the SARS-CoV-2 virus. Understanding the virus and how it is spread is paramount to design effective and efficient standards for facility management and behavioural change among employees.

Webinars were facilitated by Professor Marti van der Walt from SAMRC TB Platform and Ms Peta der Jager of the CSIR.

Webinar 4: The unanticipated costs of COVID-19 to the NCD burden of South Africa and the whole of the continent under the theme: Human development in the time of COVID-19 (July 29)

Hosted by DSI-NRF Centre of Excellence in Human Development, Global Health Research Institute at the University of Southampton, in partnership with SAMRC-Wits Developmental Pathways for Health Research Unit, SAMRC and DOHaD Africa.

Webinar 5: COVID-19 and TB (3 August 2020)

Hosted by Professor Martie van de Walt, SAMRC Director for TB Platform.

Webinar 6: What is the role of health promotion in the Covid era (7 August 2020)

Hosted by the SAMRC and Public Health Association of South Africa (PHASA), the webinar sought to address the topic: Promoting Health in a pandemic: What can we learn from COVID-19?

Webinar 7: Emerging Research and Practice on GBV in the time of COVID-19, 27 August 2020

Hosted by SAMRC Gender and Health Research Unit expects, the webinar sought to address the topic: Emerging research and practice on gender-based violence in the time of COVID-19

Presenters: Dr Pinky Mahlangu and Professor Rachel Jewkes, Mr Dumisani Rebombo from Yanani and Ms Laura Washington from Project Empower

Webinar 8: 2020 International Year of the Nurse and Midwife - Engaged Citizenship, 19 October 2020

The SAMRC, together with Stellenbosch University hosted a webinar under the theme: Engaged Citizenship, acknowledging the contribution of Nurses and Midwives to combating the COVID-19 pandemic.

To view all SAMRC YouTube videos click here:

<https://www.youtube.com/user/WebTechnologyMedia/videos>

SAMRC community mourns the loss of their colleagues

The SAMRC continues to mourn the loss of four of its dedicated employees who passed on during 2020.



CEBO MDZE
24 FEBRUARY 2020

Cebo Mndze from the Finance Division passed away on 24 February 2020. Cebo joined the SAMRC in 2008 as an intern after completing his diploma at CPUT and was subsequently appointed on 01 April 2011 as a Chief Officer in the Subsistence and Travel team. In 2013, he was transferred to the Creditors team where he was responsible for processing creditors' invoices and following up on outstanding orders.

The SAMRC community converged for a memorial service where staff members and those who were close to him were provided an opportunity to celebrate Cebo's life.

May his soul rest in peace.



PROF GITA RAMJEE
31 MARCH 2020

In March, SAMRC experienced another tragedy – the passing of Professor Gita Ramjee, who was a world-renowned HIV scientist and researcher and led groundbreaking work in HIV prevention. She passed away in hospital because of health complications related to COVID-19 after she returned from the United Kingdom (UK).

Professor Ramjee joined the SAMRC in 1996 and prior to leaving the organisation she had been a Chief Specialist Scientist and Director of the HIV Prevention Research Unit (HPRU). Under her leadership at the KwaZulu-Natal based team hosted five of 20 HIV Vaccine Trial Network sites across the country as a part of a global scientific journey to find an effective HIV vaccine. The team is also testing a novel long acting injectable for the prevention of HIV in three communities across the greater Durban area.

"We are still in mourning – Gita was fundamental and inextricably linked to the endeavours to find solutions to prevent HIV in women. She was tireless in this pursuit, her tenacity will never be forgotten," said Prof Glenda Gray SAMRC President and CEO.

May her soul rest in peace.

SAMRC community mourns the loss of their colleagues



TASNIM MOHSAM
15 AUGUST 2020

Another tragedy struck the SAMRC community when Tasnim Mohsam passed away from COVID-19 related complications. In 1997 Tasnim joined the Project Management Accounting Office, where she specialized in research contract management.

Tasnim's manager Phillip du Plessis testified that for the 25 years that they had shared at the SAMRC, she was always the first to arrive at the office, and the last person to leave. Her colleagues explained Tasnim as someone who was always willing to assist and put others first.

Tasnim will be missed by all at the SAMRC.

May her soul rest in peace.



BRINTON SPIES
19 OCTOBER 2020

Another untimely passing was that of the SAMRC HR Executive Director and EMC Member, Mr. Brinton Spies. Mr. Spies could be described by many as a joyful, stylish and full of life with whom there was never a dull moment.

When many were struggling to handle the impact of the COVID-19 pandemic following President Ramaphosa's



announcement of the lockdown, Mr. Spies was one of the EMC members who held the fort whilst everyone else was working from home.

In his memory, a memorial rose garden was created – fitting to the character of Brinton, Forever Busy, Forever Delight and Belle Rouge were the roses planted at the SAMRC head office in Cape Town.

May his soul rest in peace.

Jerusalema in true SAMRC style

“There can be no better way to celebrate our South African-ness than joining the global phenomenon that is spreading across the world, and that is the #JerusalemaDanceChallenge. So, I urge all of you to take up this challenge on Heritage Day and show the world what we are capable of.”

These were the words of President Cyril Ramaphosa during his national address on 16 September, urging all South Africans to do the #JerusalemaDanceChallenge as part of this year’s Heritage Day celebrations on September 24 - the SAMRC stepped up to the challenge, also in the spirit of social solidarity during this challenging time of COVID-19.



Together we can...



SAMRC IN THE NEWS

Mental health 'cannot be ignored' when addressing violence against women and children

By Karabo Mafela • 16 September 2020



Excess deaths will soon be a thing of the past: Medical Research Council

Dave Chambers
Cape Town bureau chief

26 August 2020 - 15:15
BY DAVE CHAMBERS



Charting a healthier way forward for alcohol in SA, now and into the future

So, what is needed in the short term to get liquor sales unbanned while ensuring a better regulatory environment for alcohol to minimise the negative health and social consequences with which we are all so familiar? We believe the options set out below should be given serious consideration.



South Africa, faced with a surge of Covid-19 infections in many of its provinces after the Level 4 and 5 hard lockdowns, was struggling to ensure hospital beds were available to deal with infected people who required critical care and the country needed an urgent intervention.

After the Level 5 lockdown, mortality from unnatural deaths and alcohol and trauma presentations and admissions to hospitals were down, easing up of movement and an end to the ban on liquor sales, the pressure on beds in South Africa during the Covid-19 surge war was a 9pm to 4am curfew.

There has been a range of differing opinions on the government's decision in South Africa in an effort to free up hospital beds. The liquor outlets near them shut down so they can again or who are pleased to have less alcohol-fueled trauma or



Alcohol industry welcomes a call by SA Medical Research Council to review alcohol ban

Alcohol industry welcomes a call by SA Medical Research Council to review alcohol ban

The decision recognises that there was no immediate severe pressure on hospital beds set aside for the treatment of COVID-19 patients



Can the philosophy of ubuntu help provide a way to face health crises?

August 28, 2020 5:12pm SAST

COVID-19 vaccine: the challenges of running a trial in the middle of a pandemic

July 6, 2020 5:12pm SAST



A member of the South African National Defence Force hands out pamphlets informing township residents about COVID-19 in Johannesburg. Kfir Luciwski/CPA-EFE

African communities, within South Africa and beyond, are diverse and complex, informed by different rules, values and beliefs. But public health emergencies demand that governments take decisive action which affect communities and individuals. In doing so, it's easy to override civil rights and liberties, and to suspend community consultations, engagement and shared governance in favour of... negative impacts as experience from the Ebola...