



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

Newsletter

June/July 2020 Volume 19 Issue 7

The COVID-19 response should be balanced to manage other diseases

In this Issue

The feature article this month is the paper in *Science* that focuses on how COVID-19 affects HIV and tuberculosis care, which has been included in the COVID Top 10 in the journal.

On page 2 we report on CAPRISA highlights at the IAS and the launch of the Africa CDC COVID-19 Vaccine Clinical Trial Consortium.

The EDCTP-funded CAPRISA HALT_19 study is highlighted on page 3. We also congratulate Prof Salim Abdool Karim on his appointment to the Lancet Commission on COVID-19 & Dr David Sacks on his PhD.

We congratulate the CAPRISA laboratory staff on receiving COVID-19 accreditation and the ECRS teams on their professional achievements on page 4.

INSIGHTS



By Quarraisha Abdool Karim and Salim S. Abdool Karim

Shortly after instituting coronavirus disease 2019 (COVID-19) mitigation measures, such as banning air travel and closing schools, the South African government implemented a national lockdown on 27 March 2020 when there were 402 cases and the number of cases was doubling every 2 days (1). This drastic step, which set out to curb viral transmission by restricting the movement of people and their interactions, has had several unintended consequences for the provision of health care services for other prevalent conditions, in particular the prevention and treatment of tuberculosis (TB) and HIV. Key resources that had been extensively built up over decades for the control of HIV and TB are now being redirected to control COVID-19 in various countries in Africa, particularly South Africa. These include diagnostic platforms, community outreach programs, medical care access, and research infrastructure. However, the COVID-19 response also provides potential opportunities to enhance HIV and TB control.

In Africa, the COVID-19 epidemic is unfolding against a backdrop of the longstanding TB and HIV epidemics. South Africa ranks among the worst-affected countries in the world for both diseases. Despite having just 0.7% of the world's population, South Africa is home to ~20% (7.7 to 7.9 million people) of the global burden of HIV infection (2) and ranks among the worst affected countries in the world for TB, with the fourth highest rate of HIV-TB coinfection (59%) (3). South Africa has made steady progress since 2010 in controlling both diseases. Increased access to antiretro-

CAPRISA's Professors Quarraisha and Salim Abdool Karim explore how the COVID-19 response can be balanced with the need to manage other diseases, especially HIV and TB, in an article published in the journal *Science*, on 24 July.

The South African Covid-19 response, which set out to curb viral transmission by restricting the movement of people and their interactions, has had several unintended consequences for the provision of health care services for other prevalent conditions, in particular the prevention and treatment of tuberculosis (TB) and HIV. Key resources that had been extensively built up over decades for the

control of HIV and TB are now being redirected to control COVID-19 in various countries in Africa, particularly South Africa. These include diagnostic platforms, community outreach programs, medical care access, and research infrastructure. However, the COVID-19 response also provides potential opportunities to enhance HIV and TB control.

For further reading see:

Abdool Karim Q, Abdool Karim SS. [COVID-19 affects HIV and tuberculosis care](#). *Science* 2020; 369(6502):366-368.

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AIDS 2020 focused on the confluence of the HIV and Covid-19 pandemics

The 23rd International AIDS Conference (IAS), the first virtual edition of the world's largest conference on HIV, was held from 6 –11 July with a focus on the links between HIV and the COVID-19 pandemic. Themed 'resilience', delegates from 175 countries registered for the conference with free virtual attendance to the special inaugural conference on Covid-19.

Professor Quarraisha Abdool Karim, CAPRISA's Associate Scientific Director and co-chair of UNAIDS Advisory Group to the Executive Director, was a panellist in the satellite session on 6th July, "2025 AIDS Targets: Setting the Next Generation of Goals for the Global AIDS Response," led by UN-AIDS Shannon Hader Deputy Executive Director, Programme.

Preventing HIV remains a major challenge, said Abdool Karim. "we are way off our 2020 prevention targets and need to focus on how to effectively reach vulnerable populations who are being left behind as a result of multiple inequities" She also participated as a panellist in a session with the UNAIDS Executive

Director titled: "UNAIDS next Global AIDS Strategy: Be part of making history" and co-moderated with Dr Sten Vermund a special session on the HPTN scholarship program with the theme of "The next generation of emerging leaders of colour in the HIV prevention landscape".



Professor Salim Abdool Karim chair of the South African Ministerial Committee on Covid-19 presented in a plenary session on Covid-19 together with Dr Anthony Fauci, Director, National Institute of Allergy and Infectious Diseases and Ambassador Deborah Birx White House Coronavirus Task Force Coordinator.

Abdool Karim explained that the unsustainability of lockdown restrictions will require an innovative approach that required a major change in SARS-CoV-2 prevention. He spoke on pivoting the prevention paradigm. The principle of *ubuntu* (which means, 'I am because we are' translated, humanity towards others) was central to mitigate the risk factors of Covid-19 and promote the non-pharmaceutical public health prevention measures.

African Union Commission launches Consortium for COVID-19 Vaccine Clinical Trials

The newly formed Africa Centres for Disease Control and Prevention (Africa CDC) Consortium for COVID-19 Vaccine Clinical Trial (CONCVACT) is co-chaired by Professor Salim Abdool Karim (Chair of the Ministerial Advisory Committee for COVID-19 in South Africa); Dr Samba Sow, (Director-General, Centre for Vaccine Development of Mali); and Dr John Nkengasong, (Director of Africa CDC).

CONCVACT aims to conduct late stage vaccine clinical trials as early as possible on the continent by bringing together global vaccine developers with African organizations that conduct clinical trials.

The announcement was made at the virtual conference on Africa's Leadership Role in COVID-19 Vaccine Development and Access held on 24-25

June hosted by Africa CDC and chaired by President Cyril Ramaphosa (Chair of the African Union) and Mr Mousa Faki Mahamat (Chair of the African Union Commission).



Prof Salim Abdool Karim co-chairs the COVID-19 vaccine consortium.

President Cyril Ramaphosa said "Success in developing and providing access to a safe vaccine requires an innovative and collaborative approach with significant local manufacturing in Africa. We need to support the contribution of African scientists and healthcare professionals."



CAPRISA HALT_19 study is awarded an EDCTP grant

The European and Developing Countries Clinical Trials Partnership (EDCTP) has awarded a grant to fund the CAPRISA led Natural History and Laboratory Tests for COVID-19 in South Africa (HALT_COVID-19) study over 24 months.

The collaborative multidisciplinary study will partner with scientists from the Amsterdam Institute for Global Health and Development (AIGHD) in Netherlands; Medical Department, Division of Infectious Diseases and Pneumology - Charité- Universitätsmedizin in Germany and Statens Serum Institut (SSI) in Denmark.

CAPRISA senior scientist and PI of HALT_19, Professor Ayesha Kharsany, explained that the research will “enhance and refine understanding of the SARS-CoV-2 transmission dynamics, natural history and disease progression in a setting that has a high burden of HIV and TB.”

In addition, she said, the comprehensive laboratory validation testing studies “will supplement the



L-R: Prof Ayesha Kharsany, Dr Aida Sivro and Mrs Natasha Samsunder

gold standard RTPCR testing and provide options for rapid diagnosis of COVID-19. Combined, this study will help guide the South African response to the COVID-19 outbreak and understanding on viral transmission.”

Kharsany’s core team includes co-investigator Dr Aida Sivro (Scientist) and Ms Natasha Samsunder (Director of Laboratories at CAPRISA).

CAPRISA’s Director appointed to the Lancet COVID-19 Commission

Professor Salim Abdool Karim is one of 28 commissioners appointed to the Lancet COVID-19 Commission ‘created to help speed up global, equitable, and lasting solutions to the pandemic’.

Led by world renowned American economist, Professor Jeffrey Sachs, commissioners are ‘leaders of health science and delivery, business, politics, and finance from across the world’.

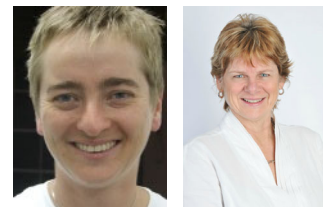
As volunteers, the Commissioners will ‘work together towards a shared and comprehensive outlook on how to stop the pandemic and how best to promote an equitable and sustainable recovery in the shared belief that effective solutions can be found on the basis of global cooperation, social justice, sustainable development, and good governance that builds on public trust’.

PhD focuses on CAP256-VRC26 bNAb lineage

Congratulations to Dr David Sacks, of the NICD, on being awarded his PhD.



David’s thesis focused largely on the CAP256-VRC26 bNAb lineage, and includes a paper published in PLoS Pathogens, entitled “Somatic hypermutation to counter a globally rare viral immunotype drove off-track antibodies in the CAP256-VRC26 HIV-1 V2-directed bNAb lineage”.



Dr David Sacks (top) and supervisors (bottom L-R), Profs Penny Moore and Lynn Morris

David was supervised Professors Penny Moore and Lynn Morris, and has since relocated to the UK to pursue an exciting new role in biomedical research.

We wish his every success in his post-doctoral research career!



Vulindlela team empowers the community during the COVID-19 pandemic

CAPRISA's Vulindlela Research Site has coordinated several COVID-19 training and information sessions in the Vulindlela community to raise awareness of the COVID-19 pandemic. These sessions were led by CAPRISA's Community Liaison Officer, Mr Emmanuel Mthlane (top in the photo) and Research Nurse, Sr Nokuthula Mkhize (right) in partnership with relevant provincial government officials and Ms Gethwana Mahlase (left).



The sessions included information sessions with matric learners based on the COVID-19 South African National Department of Health guidelines. In line with government regulations, the principals and teachers of various local schools attended educational sessions aimed at equipping them with knowledge about prevention measures that would mitigate the transmission of the virus, in preparation for the re-opening of schools.

"VCRS has been involved in community education and awareness in consultation with community structures," explained Mthlane. "It was a consultative process," he said.

ECRC staff selected to serve as DAIDS Champions

CAPRISA's eThekweni Research Clinic (ECRC) staff Ms Kieara-Lee Ramtahal Clinical Research Coordinator (top in the photo) and Mrs Kalendri Naidoo Study Coordinator (bottom), were appointed as DAIDS Champion Plus reviewers for a new DAIDS manual.



The goal of the manual is to define DAIDS expectations for sites and serve as a central resource of information for the conduct of DAIDS sponsored clinical trials.

Topics covered in the manual include DAIDS systems, investigator responsibilities, facility requirements, essential documents, source documentation, quality management, inspection readiness and informed consent. DAIDS sites will be required to follow the manual, which shall be referenced by DAIDS policy and informed by current ICH/GCP guidelines.

The role of the Champions is to review the manual, support communication and assist with the implementation across sites by the end of this year.

Congratulations to the CAPRISA laboratory team!

CAPRISA congratulates the Laboratory team for achieving an excellent audit by PPD. The laboratories underwent an intense face to face audit of the Quality Management Systems for compliance to the ISO 15189:2012 Standard and Good Clinical Laboratory Practice, in line with the Code of Federal Regulations 42 PART 21. "This is evidence of the strong quality management system in place and the outstanding work ethic of our colleagues," said Ms Natasha Samsunder Director of the CAPRISA Laboratories. The CAPRISA Laboratory is accredited by the South African National Accreditation System (SANAS).

In addition, the CAPRISA DDMRI Laboratory did well on the National Health Laboratory Services (NHLS) Rapid electronic readiness assessment tool for COVID-19 testing. The audit assessed the laboratory's compliance of the PCR testing for the SARS-CoV-2 virus. The CAPRISA laboratory is now assisting the NHLS with testing of samples for COVID-19.



Photos: Clockwise from the top: Laboratory staff in the Main CAPRISA Laboratory, eThekweni and Vulindlela Research Clinic Labs



Scientific papers published in 2020

- 29* **Mchunu NN**, Mwambi HG, Reddy T, **Yende-Zuma N**, **Naidoo K**. Joint modelling of longitudinal and time-to-event data: an illustration using CD4 count and mortality in a cohort of patients initiated on antiretroviral therapy. *BMC Infect Dis.* 2020; 20(1):256.
- 30 **Mthembu N**, **Dorward J**, **Naicker N**, **Osman F**, **Gumede S**, Sookrajh Y, Drain P, **Garrett N**. Low CD4 count and educational status predict abnormal cervical smears amongst HIV-positive women initiating antiretroviral therapy in South Africa. *Southern African Journal of HIV Medicine* 2020; 21(1):1045.
- 31 Gorman J, Chuang GY, Lai YT, Shen CH, Boyington JC, Druz A, Geng H, Louder MK, McKee K, Rawi R, Verardi R, Yang Y, Zhang B, Doria-Rose NA, Lin B, **Moore PL**, **Morris L**, Shapiro L, Mascola JR, Kwong PD. Structure of Super-Potent Antibody CAP256-VRC26.25 in Complex with HIV-1 Envelope Reveals a Combined Mode of Trimer-Apex Recognition. *Cell Reports* 2020; 31(1):107488.
- 32 Manhanzva MT, Abrahams AG, Gamielien H, Froissart R, Jaspan H, Jaumdally SZ, Barnabas SL, Dabee S, Bekker LG, Gray G, Passmore JS, **Masson L**. Inflammatory and antimicrobial properties differ between vaginal Lactobacillus isolates from South African women with non-optimal versus optimal microbiota. *Scientific Reports* 2020; 10(1):6196.
- 33 **Dorward J**, Drain PK, **Osman F**, Sookrajh Y, Pillay M, Moodley P, **Garrett N**. Early antiretroviral therapy is associated with better viral suppression and less HIV drug resistance after implementation of universal treatment in South Africa. *AIDS Res Hum Retroviruses.* 2020; 36(4):297-299.
- 34 Roberts ST, Nair G, Baeten JM, Palanee-Philips T, Schwartz K, Reddy K, Kabwigu S, Matovu Kiweewa F, Govender V, Gaffoor Z, Singh N, Siva S, **Naidoo K**, Montgomery ET for the MTN-020/ASPIRE Team. Impact of male partner involvement on women's adherence to the dapivirine vaginal ring during a phase III HIV prevention trial. *AIDS and Behavior* 2020; 24(5):1432-1442.
- 35 Cornish E, Hudson J, Sayers R, **Loveday M**. Improving access to contraception through integration of family planning services into a multidrug-resistant tuberculosis treatment programme. *BMJ Sexual and Reproductive Health* 2020; 46(2):152-155.
- 38 **Abdool Karim Q**, **Abdool Karim SS**. COVID-19 affects HIV and tuberculosis care. *Science* 2020; 369(6502):366-368.

*continuation from previous newsletter

CAPRISA team support successful DART launch



L-R: Miranda Naidoo, Bongekile Zuma and Nqobile Myeni

Quality Control Officers at the CAPRISA eThekweni Research Clinic, Ms Nqobile Myeni and Ms Miranda Naidoo successfully completed the first DAIDS Applied Research Training (DART) programme, which focused on strengthening regulatory compliance at international clinical research sites across the HIV/AIDS Network.

Their projects covered Informed Consent and Audit Readiness. Ms Bongekile Zuma, Study Coordinator, who acted as a facilitator and supervisor in the DART programme, commented that 'the DART training was a huge success and interactive highlighting the importance of always adhering to GCP in clinical research.'



CAPRISA hosts a DST-NRF Centre of Excellence in HIV Prevention



UNAIIDS
CAPRISA is the UNAIDS Collaborating Centre for HIV Research and Policy



CAPRISA hosts a MRC HIV-TB Pathogenesis and Treatment Research Unit

CAPRISA hosts a DoH-MRC Special Initiative for HIV Prevention Technology



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