



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

Newsletter

In this Issue

We are pleased to share the latest CAPRISA Newsletter, featuring key highlights and achievements. Highlights in this edition include:

1. Research on second-line Dolutegravir treatment.
2. Insights from CAPRISA's Strategic Planning Meeting.
3. Natasha Samsunder's IMPAACT Service Recognition Award.
4. Inaugural CAPRISA-Femin Workshop: Advancing female mucosal immunology for HIV prevention.
5. Transformative Journey of UKZN Medical Students in Vietnam.
6. Visit by Gilead Sciences.
7. CAPRISA Long Service Awards Ceremony and Dr. Felix Made's PhD graduation.
9. Selection of new scientific papers published by CAPRISA

Stay tuned for more updates and share your feedback to help us improve.



Thank you for your support in our mission to impact TB and HIV prevention and treatment.

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Second-Line Dolutegravir Treatment Outcomes

"Clinical Outcomes with Second-Line Dolutegravir in People with Virological Failure on First-Line Non-Nucleoside Reverse Transcriptase Inhibitor-Based Regimens in South Africa," was recently published in the Lancet Global Health journal. The study was led by Mr Kwabena Asare and the SHAPE study team supervised by Prof Nigel Garrett and Dr Jienchi Dorward; it compared the effectiveness of Dolutegravir-based regimens to Lopinavir boosted ritonavir for second-line HIV treatment in Kwazulu-Natal.

Dolutegravir, an Integrase strand transfer inhibitor, has shown superior efficacy and tolerability in LMIC settings like South Africa. Recommended for first-line treatment since 2019, it is now also suggested for second-line treatment in cases of virologic failure on first-line regimens without Dolutegravir. This study confirmed previous trial findings, showing Dolutegravir's superiority over Lopinavir-ritonavir in routine healthcare settings.

Viral suppression (<50 copies/mL) at 12 months after switching to second-line ART

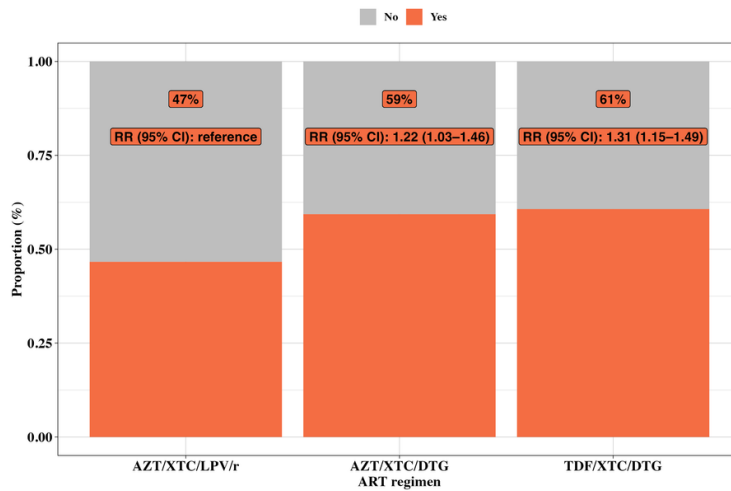


Figure 1: The bar plot shows the proportion of participants achieving viral suppression 12 months after starting second-line ART with the previous AZT/XTC/LPV/r regimen or the current AZT/XTC/DTG or TDF/XTC/DTG regimens.

While adherence issues were noted in routine care, the study supports transitioning to Dolutegravir-based regimens in LMICs, aligning with WHO recommendations. The findings urge improvements in adherence counselling and monitoring for those with virologic failure. This research contributes to updating national guidelines to benefit individuals on failing regimens and those on Lopinavir-ritonavir who could benefit from Dolutegravir.

This study aims at improving treatment outcomes by informing clinical decision-making, especially of patients who need to initiate second-line therapy.

For further reading: [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(23\)00516-8/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00516-8/fulltext)

CAPRISA explores new research ideas at its 2024 Strategic Planning Meeting



CAPRISA recently concluded its annual Strategic Planning Meeting, a gathering that brought together key stakeholders and leaders to outline the organization's upcoming studies. The meeting provided a platform for CAPRISA's researchers, particularly the emerging scientists, to present their fresh ideas.

During the sessions at the CAPRISA Strategic Planning Meeting, Mrs. Lara Lewis discussed the potential impact of Dolutegravir on cardiovascular disease (SHAPE-NCD), providing a unique perspective at the crossroads of healthcare and research. Dr Freedom Moropa shared a comprehensive study on the transmissibility of asymptomatic TB, shedding light on how this unnoticed threat spreads within communities and advancing our comprehension of tuberculosis. Prof Penny Moore also showcased the potential for HIV mRNA vaccine candidates, based on CAPRISA bnAbs. More updates on this pioneering research are on the horizon.

Looking ahead, Prof Salim Abdool Karim expressed optimism about CAPRISA's trajectory, highlighting the organisation's history of achievements and its continuous contributions to TB and HIV research and beyond.

In closing, Abdool Karim expressed gratitude to all participants, speakers, and organisers whose involvement was integral to the success of the CAPRISA Strategic Planning Meeting. Their dedication and expertise play a vital role in shaping CAPRISA's future and fulfilling its mission to enhance health outcomes and uplift communities.

Natasha Samsunder Honoured with the IMPAACT Service Recognition Award

Natasha Samsunder, the Director of CAPRISA Laboratories, was recently honoured with the IMPAACT Service Recognition Award during the IMPAACT annual meeting in Washington, DC. This award was in recognition of her dedication and invaluable contributions to IMPAACT studies, particularly her significant role within the Laboratory Technologists Committee.

Currently overseeing the laboratory component of three IMPAACT network studies, Natasha is responsible for designing Laboratory Processing Charts (LPC) and ensuring their successful implementation at clinical research sites. She actively participates in the Laboratory Technology Committee, collaborating with an international laboratory team, the ACTG and IMPAACT laboratory teams, and representatives from DAIDS. Professor Salim Abdool Karim congratulated Natasha and presented her with the CAPRISA Achievement Award in recognition of her outstanding contributions to laboratory technology and research.



Photo caption:
The award was presented by Chiraphorn Kaewkosaba, who is the co-chair of the ACTG/IMPAACT LABORATORY TECHNOLOGIST COMMITTEE

Empowering Collaboration: The Inaugural CAPRISA-Femin Workshop Advances Female Mucosal Immunology for HIV Prevention



The CAPRISA-FEMIN Workshop, held on February 6th and 7th, 2024, at the Coastlands Musgrave Hotel in Durban, marked the inception of a dynamic partnership between 12 European researchers, 13 CAPRISA basic science researchers, clinicians, epidemiologists, and 6 post-doctoral and PhD fellows. At the core of this initiative lies the Female Mucosal Immunology Network (FEMIN), envisioned by Nobel Prize Laureate Professor Françoise Barré-Sinoussi from the Pasteur Institute in France and Professor Quarraisha Abdool Karim, distinguished figures in HIV Prevention Science. This collaborative workshop focused on a critical mission: preventing infections in adolescent girls and young women. It showcased groundbreaking advancements in basic research, including miniaturized in vitro models and pre-clinical small animal models, offering insights into the efficacy of various products, and paving the way for future studies and human testing.

The workshop commenced with an enlightening session by Professor Françoise Barré-Sinoussi, highlighting the importance of collaborative efforts and bilateral funding to propel scientific endeavors. This sentiment was echoed in the closing session by Glaudina Loots from the DST. Throughout the workshop, discussions revolved around key themes such as Mucosal Immunology, pre-exposure prophylaxis options, broadly neutralising antibodies, HIV & Maternal and baby health, STIs, and the Vaginal Microbiome. This face-to-face meeting, following a virtual partnership establishment in June of the previous year and a joint publication in *Frontiers*, signifies a significant step towards advancing women's health. Professor Françoise Barré-Sinoussi's role as the Chair of the CAPRISA Scientific Advisory Board underscores the commitment to driving impactful research and innovations in HIV prevention science.

Nelson Mandela Medical School Students Shine in Vietnam Exchange Programme with CAPRISA

University of KwaZulu-Natal medical students, Saien Govender and Mohamed Hoosen Suleman, recently embarked on a transformative experience through the CAPRISA / VinUniversity Exchange Programme in Hanoi, Vietnam. Upon their arrival on 14 January, they were warmly welcomed by the College of Health Sciences team at VinUniversity. A meticulously planned two-week itinerary curated by VinUniversity awaited them, providing a comprehensive experience for the CAPRISA Research Placement Programme Mentees.

The students began by showcasing the impactful work of CAPRISA and the exchange programme at the South African Embassy in Vietnam, receiving commendation for their dedication. During the first week, Saien and Mohamed engaged in discussions with the College of Health Sciences Leadership at VinUniversity.

They then immersed themselves in clinical rotations at VinMec Private Hospital, exploring various medical specialties under the guidance of professionals. Interactions with specialists and witnessing surgical procedures provided invaluable insights. Transitioning into the second week, they actively participated in ward rounds and patient examinations at Military 108 Hospital. A meeting with Major General Professor Lam, Head of Craniofacial and Plastic Surgery, resulted in constructive feedback for program enhancement.

An exclusive visit to the U.S. Centres for Disease Control and Prevention in Vietnam offered insights into infectious disease prevention strategies. Saien and Mohamed's collaborative efforts have fostered lasting connections with VinMec and VinUniversity, paving the way for future collaborations and inspiring fellow students to embark on similar journeys of growth and learning.



Saien Govender and Mohamed Hoosen Suleman at the VinUniversity Cultural Day in Hanoi, Vietnam

Senior Officials from Gilead Sciences Visit CAPRISA's Research Clinical Sites

In a notable visit last December, senior officials from Gilead Sciences embarked on a journey to CAPRISA's research sites, fostering collaboration and innovation in medical research. Dr. Dennis Israelski, Head of Global Patient Solutions for Medical Affairs; Ms. Sinit Mehtsun, Executive Director of Health Systems Engagement; and Mr. Aquarius Gilmer, Associate Director of Corporate Alliance, and Policy, joined by Prof. Ayesha Kharsany, Senior Scientist, and Mr. Patrick Mdletshe, Head of Community Programme, on this insightful visit.

On December 12, the delegation, led by Dr. Disebo Potloane, Site Director of CAPRISA's Vulindlela Research clinic, visited the clinical facilities and gained a comprehensive understanding of ongoing research studies. Prof. Kharsany elaborated on the RHIVA trial and HIV phylogenetic studies conducted in schools in Vulindlela, fostering engaging discussions with the research team. Continuing their exploration on December 13, the visitors met with Prof. Kogie Naidoo, Deputy Director at CAPRISA's headquarters, for a laboratory tour and in-depth discussions.



Photo caption:
Mr Aquarius Gilmer Associate Director of Corporate Alliance and Policy, Gilead Sciences; Dr Disebo Potloane Site Director CAPRISA Vulindlela Research Clinic, Prof Ayesha Kharsany Senior Scientist, CAPRISA, Dr Dennis Israelski, Head of Global Patient Solutions for Medical Affairs, Gilead Sciences; Sinit Mehtsun, Executive Director, Health Systems Engagement, Gilead Sciences & Mr Patrick Mdletshe Head Community Programme CAPRISA.

The visit culminated with a warm reception at the eThekweni Research clinic, where Prof. Nigel Garrett, Head of Vaccines and Pathogenesis Research, and Dr. Sharana Mahomed, Senior Research Clinician, hosted the delegation, further strengthening collaborative efforts in research and clinical advancements.

CAPRISA Honors Employee Dedication and Longevity at Long Service Awards Ceremony



Photo caption:
Recipients of the Long Service Awards, Ashley Anand, Callin Chetty, Sherishka Dhindayal, Nobuhle Gama, Disebo Potloane, Cara-Mia Corris, Kim Cousins, Sina Mzobe with CAPRISA Directors, Prof Salim Abdool Karim, Prof Quarraisha Abdool Karim, Prof Kogie Naidoo and Dr Nigel Garrett

CAPRISA recently honored its dedicated and long-serving staff at a celebration held at the Durban Coastland Hotel. Prof Salim Abdool Karim, CAPRISA's Director, led the ceremony, personally recognising each employee for their years of service and contributions.

The Long Service Awards highlight the employees' unwavering commitment, with many having served CAPRISA for a significant period. Abdool Karim commended the staff for their excellence and passion in advancing TB and HIV research. He expressed gratitude for their efforts and dedication, stating, "CAPRISA is privileged to have such a talented and resolute team." He emphasised the team's importance and anticipated continued collaboration and success.

CAPRISA Congratulates Dr Felix Made on his PhD success



Photo caption:
Dr Felix Made at his graduation with daughter Kide Made and son Zakeo Made

CAPRISA congratulates Dr. Felix Made, Head of Statistics at CAPRISA, on achieving his PhD from the University of the Witwatersrand, Johannesburg. Dr. Made's PhD was in Public Health, specialising in Biostatistics.

Under the supervision of Distinguished Professor Derk Brouwer (Wits University), Professor Ngianga-Bakwin Kandala (Western University, Canada), and Professor Jerome Lavoue (University of Montreal, Canada), Dr. Made's research focused on "Preventing Coal Mine Dust Lung Disease: Application of Bayesian Hierarchical Framework for Occupational Exposure Assessment in the South African Coal Mining Industry."

The CAPRISA community celebrates Dr. Made's dedication and academic success in advancing public health and biostatistics research.

A SELECTION OF PUBLISHED SCIENTIFIC PAPERS

- 130 **Perumal R.** The hidden epidemic of post-tuberculosis bronchiectasis. *African Journal of Thoracic and Critical Care Medicine*, 2023; 29(4): e1728. doi: 10.7196/AJTCCM.2023.v29i4.1728.
- 131 **Perumal R, Naidoo V, Govender S, Gengiah TN.** Antivirals for the treatment of mild and moderate COVID-19 in South Africa. *South African Medical Journal*, 2023; 113(12): 1536-1543. doi: 10.7196/SAMJ.2023.v113i12.1066.
- 132 **Samsunder N, Devnarain N, Sivro A, Kharsany ABM.** The Performance of Diagnostic Tests for Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in the South African Population: A Scoping Review. *Tropical Medicine and Infectious Disease*, 2023; 8(12): 514. doi: 10.3390/tropicalmed8120514.
- 133 **Qulu W, Mtshali A, Osman F, Ndlela N, Ntuli L, Mzobe G, Naicker N, Garrett N, Rompalo A, Mindel A, Ngcapu S, Liebenberg L.** High-risk human papillomavirus prevalence among South African women diagnosed with other STIs and BV. *PLoS One*, 2023; 18(11): e0294698. doi: 10.1371/journal.pone.0294698.
- 134 **Hassan-Moosa R, Motsomi KW, Narasimmulu R, Sivro A, Naidu KK, Kharsany ABM, Samsunder N, Perumal R, Naidoo K.** Drug-Resistant TB, HIV and COVID-19 Co-Infection: Case Reviews from Kwa-Zulu Natal, South Africa. *Infection and Drug Resistance*. *Infection and Drug Resistance*, 2023; 16: 7663-7670. doi: 10.2147/IDR.S433695.
- 135 **Williamson C, Lynch RM, Moore PL.** Anticipating HIV viral escape - resistance to active and passive immunization. *Current Opinion in HIV and AIDS*, 2023; 18(6): 342-348. doi: 10.1097/COH.0000000000000816.
- 136 **Qulu WP, Mzobe G, Mtshali A, Letsoalo MP, Osman F, San JE, Kama AO, Garrett N, Mindel A, Rompalo A, Liebenberg LJP, Archary D, Sivro A, Ngcapu S.** Metronidazole Treatment Failure and Persistent BV Lead to Increased Frequencies of Activated T- and Dendritic-Cell Subsets. *Microorganisms*, 2023; 11(11): 2643. doi: 10.3390/microorganisms11112643.
- 137 **Moyo-Gwete T, Richardson SI, Keeton R, Hermanus T, Spencer H, Manamela NP, Ayres F, Makhado Z, Motlou T, Tincho MB, Benede N, Ngomti A, Baguma R, Chauke MV, Mennen M, Adriaanse M, Skelem S, Goga A, Garrett N, Bekker LG, Gray G, Ntusi NAB, Riou C, Burgers WA, Moore PL.** Homologous Ad26.COV2.S vaccination results in reduced boosting of humoral responses in hybrid immunity, but elicits antibodies of similar magnitude regardless of prior infection. *PLoS Pathogens*, 2023; 9(11): e1011772. doi: 10.1371/journal.ppat.1011772.
- 138 **Kaufmann SHE, Sigal A, Sawitzki B, Sher A.** Editorial: The Covid-19 and TB syndemic: differences and similarities. *Frontiers in Immunology*, 2023; 14: 1340231. doi: 10.3389/fimmu.2023.1340231.
- 139 **Allué-Guardia A, Torrelles JB, Sigal A.** Tuberculosis and COVID-19 in the elderly: factors driving a higher burden of disease. *Frontiers in Immunology*, 2023; 14: 1250198. doi: 10.3389/fimmu.2023.1250198.
- 140 **Moyes J, Tempia S, Walaza S, McMorrough ML, Treurnicht F, Wolter N, von Gottberg A, Kahn K, Cohen AL, Dawood H, Variava E, Cohen C.** The economic burden of RSV-associated illness in children aged < 5 years, South Africa 2011-2016. *BMC Medicine*, 2023; 21(1): 146. doi: 10.1186/s12916-023-02854-2.
- 141 **Khan K, Lustig G, Römer C, Reedoy K, Jule Z, Karim F, Ganga Y, Bernstein M, Baig Z, Jackson L, Mahlangu B, Mnguni A, Nzimande A, Stock N, Kekana D, Ntozini B, van Deventer C, Marshall T, Manickchand N, Gosnell BI, Lessells RJ, Karim QA, Abdool Karim SS, Moosa MS, de Oliveira T, von Gottberg A, Wolter N, Neher RA, Sigal A.** Evolution and neutralization escape of the SARS-CoV-2 BA.2.86 subvariant. *Nature Communications*, 2023; 14(1): 8078. doi: 10.1038/s41467-023-43703-3.
- 142 **Reeves DB, Mayer BT, deCamp AC, Huang Y, Zhang B, Carpp LN, Magaret CA, Juraska M, Gilbert PB, Montefiori DC, Bar KJ, Cardozo-Ojeda EF, Schiffer JT, Rossen Khan R, Edlefsen P, Morris L, Mkhize NN, Williamson C, Mullins JI, Seaton KE, Tomaras GD, Andrew P, Mgodini N, Ledgerwood JE, Cohen MS, Corey L, Naidoo L, Orrell C, Goepfert PA, Casapia M, Sobieszczyk ME, Karuna ST, Edupuganti S.** High monoclonal neutralization titers reduced breakthrough HIV-1 viral loads in the Antibody Mediated Prevention trials. *Nature Communications*, 2023; 14(1): 8299. doi: 10.1038/s41467-023-43384-y.

* continuation from previous newsletter

For the complete list of publications see here: <http://bit.ly/31RvjZd>



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