



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

Newsletter

Mar 2025 Volume 25 Issue 2

Genital inflammation linked to increased drug transporter expression in women on PrEP

In this Issue

On Page 1, we feature an article on genital inflammation in women on PrEP in *AIDS Res Ther*.

On Page 2, we honour the late Doctor King Kennard Holmes. We report on the stance of CAPRISA, and members of the US National Academies of Science, Medicine and Engineering, on the expulsion of world-class scientists from NIH.

On Page 3, we share Professors Salim and Quarraisha Abdool Karim's Annual Chanchlani Global Health Research Award and Lecture and Prof Kogie Naidoo's African Academy of Sciences Fellowship.

On Page 4, we feature the participation of CAPRISA researchers in CROI and at the 'Stand up for Science Rally' in San Francisco.

On Page 5, we report on visits by the G20 South Africa 2025 Health Working Group delegates and the Portfolio Committee on Health.

On Page 6, we feature CAPRISA's Strategic Planning meeting and participation in World TB Day.

CONTACT DETAILS

CAPRISA
Doris Duke Medical Research Institute (DDMRI)
2nd Floor
University of KwaZulu-Natal
Private Bag X7, Congella 4013
South Africa

T: +27-31-260 4555
F: +27-31-260 4566

E-mail: caprisa@caprisa.org

www.caprisa.org.za



@CAPRISAOfficial

@caprisaofficial

A recent CAPRISA study investigated the relationship between drug transporter gene expression, genital inflammation and the effectiveness of PrEP in preventing HIV among South African women. The study aimed to determine if there was a correlation between the expression levels of specific drug transporter mRNAs in the female genital tract and blood, and how these levels might be influenced by genital inflammation.

The study enrolled 45 South African women who were administered oral PrEP (Truvada) over a six-month period, focussing on the mRNA expression of four efflux and two influx transporters. The expression levels of these transporters were measured in the female genital tract and blood samples. Additionally, the study assessed 27 cytokines associated with genital inflammation to explore potential associations with drug transporter expression.

The findings revealed significant positive correlations in the mRNA expression of the four efflux transporters and one influx transporter between the

female genital tract and blood at the three - and six-month marks, indicating that these transporters are similarly expressed in both compartments during PrEP use. Furthermore, there were moderate associations between genital cytokine levels and drug transporter mRNA expression.

In conclusion, these findings suggest that drug transporters are co-expressed in the female genital tract and blood, and that genital inflammation may modulate PrEP drug levels by altering drug transporter mRNA expression. This study underscores the importance of considering biological factors, such as drug transporter expression and genital inflammation, in optimizing PrEP efficacy for HIV prevention in women.

For further reading see: *AIDS Res Ther*. 2025, 22 (1):18. doi: <https://doi.org/10.1186/s12981-025-00713-z>

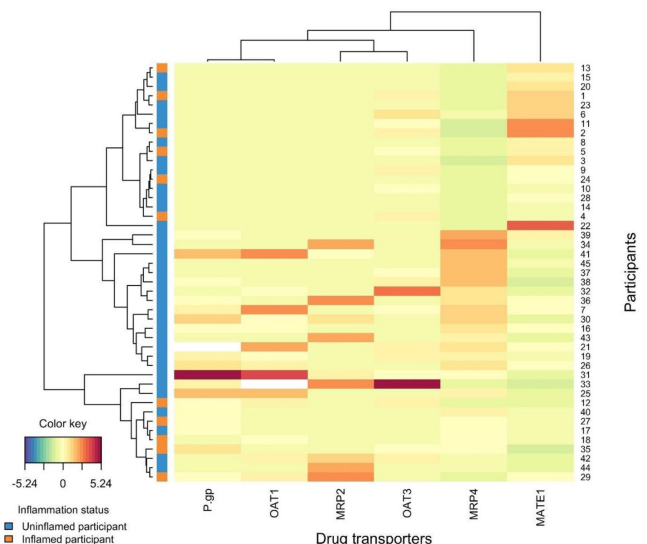


Figure: Drug transporter mRNA expression levels at the 6-month mark.



A legacy fit for a King



The scientific community remembers the legacy of infectious disease specialist, the late Doctor King Kennard Holmes. He has advanced sexual health by improving STI care for all sexual orientations and gender identities and has contributed to 40 randomized controlled trials on STI treatment and prevention. Holmes has been a global leader in the fight against HIV since the early 1980's. Prof Salim Abdool Karim paid homage to Dr Holmes, as a man of vision and intellect. "He mentored us and was an inspirational role model to both Quarraisha and me. I recall first meeting Dr Holmes in Atlanta in the early 1990's as he left me in awe at his breadth of knowledge and incisive understanding of HIV and STIs."

CAPRISA condemns purge of world-class scientists from the NIH

“The US government’s destruction of its institutions of science is deeply concerning. World-leading scientists are being fired from the NIH so that the Trump administration can continue to promote disinformation and impose its anti-scientific ideas, such as the totally discredited notion, that vaccines cause autism” said Prof Salim Abdool Karim, CAPRISA Director.



The Trump Administration has fired 4 top scientists at the US NIH, Dr Jeanne Marrazzo (Director of the National Institute of Allergy and Infectious Diseases, Dr Christine Grady (Director of the NIH’s Bioethics Centre), Dr Clifford Lane (NIAID’s Deputy Director for Clinical Research), and Dr Emily Erbelding (Director of NIAID’s Microbiology and Infectious Diseases).

Dr Marrazzo was put on administrative leave (often a precursor to being fired in the US) from April 2 by Robert Kennedy, Secretary for Health and Human Services. Dr Marrazzo is a renowned infectious disease specialist with a career in HIV, STIs, and sexual and reproductive health. Before succeeding Dr Anthony Fauci as NIAID Director in September 2023, she was the Director of the Division of Infectious Diseases at the University of Alabama at Birmingham (UAB). The Trump Administration used a well-worn strategy in the US to fire senior government employees by giving Dr Marrazzo hours to decide if she would accept a different government position, not in research, and in some far away location. This strategy is referred to as “constructive dismissal” and is unlawful in South Africa. “We condemn the unlawful dismissal of Drs Marrazzo, Grady, Lane and Erbelding,” said Prof Abdool Karim. “This purge is a signal of the Trump administration’s vindictiveness, demonstrating how low it has stooped to the level of totalitarian regimes like Zimbabwe.”

A leader in STI and HIV prevention research, Dr. Marrazzo has conducted groundbreaking studies on PrEP, vaginal microbiome influences on STI susceptibility, and innovative strategies for HIV prevention in marginalized populations. Her work has shaped policies on sexual health and infectious disease management globally. Dr Marrazzo continued to lead NIAID with a focus on advancing research in infectious, immunologic, and allergic diseases.

US Science Academy members calls on the government “to cease its wholesale assault on US science”

Nearly 2000 members of the US National Academies of Science, Medicine and Engineering signed a letter to the Trump administration calling on it “to cease its wholesale assault on US science.” Professors Salim and Quarraisha Abdool Karim, as well as the past Chair of CAPRISA’s Scientific Advisory Board, Nobel Laureate Professor Françoise Barré-Sinoussi, are among the signatories.

Describing the dire situation in the US, the letter outlines, “A climate of fear has descended on the research community. Researchers, afraid of losing their funding or job security, are removing their names from publications, abandoning studies, and rewriting grant proposals and papers to remove scientifically accurate terms (such as “climate change”) that agencies are flagging as objectionable.” It goes on to say that, “The damage to our nation’s scientific enterprise could take decades to reverse.”



12th Annual Chanchlani Global Health Research Award and Lecture at McMaster University

Professors Salim and Quarraisha Abdool Karim were awarded the 12th Annual Chanchlani Global Health Research Award and Lecture at the awards ceremony in Canada on March 26, presented by the Chanchlani Research Centre and Mary Heersink School of Global Health and Social Medicine.

The Chanchlani Global Health Research Award was created by the Chanchlani Family and McMaster University in Canada in 2012. It recognizes leading scholars in the area of Global Health. This prize was in recognition of their tireless efforts as globally renowned epidemiologists and contributions to HIV global health research.

As part of the awards events, Prof Quarraisha Abdool Karim delivered a lecture titled “Preventing HIV in Women: Three Decades of Trials and Tribulations,” where she explored the challenges and advancements in protecting women from HIV. Prof Salim Abdool Karim presented “Achieving the 2030 AIDS Goal in Africa: Role of Long-Acting PrEP,” focusing on the future of HIV prevention in Africa.



Photo (L-R): Dr Paul O'Byrne, Dean and Vice President of the Faculty of Health Sciences; Profs Salim and Quarraisha Abdool Karim; Dr Jaya Chanchlani; Dr Sonia Anand, Associate Vice President of the School of Global Health and Social Medicine.

CAPRISA Deputy Director elected as Fellow of the African Academy of Sciences (AAS)

Professor Kogieleum Naidoo, CAPRISA Deputy Director, has been elected as a Fellow of the African Academy of Sciences (AAS) for the class of 2024 in the category of Medical and Health Sciences.

Fellows of the AAS are recognised for their outstanding contributions to the advancement of science and their role in shaping policies that drive sustainable development on the continent. The election of these new Fellows expands the Academy’s network of leading scientists, enhancing its capacity to foster knowledge-sharing, mentorship, and collaboration to drive impactful research in Africa.

Prof Naidoo’s election to this prestigious Fellowship is in recognition of her commitment to scientific excellence and critical contributions to reducing mortality rates in HIV-TB co-infected patients and enhancing management of drug-resistant TB.





CAPRISA researchers present at CROI conference in San Francisco as 'CROI Turns 30'

CAPRISA's Dr Leila Mansoor, Dr Anushka Naidoo, Dr Gillian Dorse, Ms Lara Lewis, Dr Jeniffer Brown and Mrs Emmanuella Chinonso Osuala, attended the Conference on Retroviruses and Opportunistic Infections (CROI) held in San Francisco, California, from 9-12 March.

Dr Gillian Dorse, CAPRISA Research Clinician, delivered a late breaker poster presentation at the conference titled, "Neuropsychiatric outcomes in adults with HIV and TB on twice-daily BIC/FTC/TAF with Rifampicin".

Ms Lara Lewis, CAPRISA Senior Statistician, presented a poster describing the findings of her study titled, "Differentiated service delivery programme impact on clinical outcomes among adolescents with HIV".

Ms Jennifer Brown, former CAPRISA postdoctoral fellow, presented a poster of her research findings at CAPRISA titled, "24-month outcomes on second-line antiretroviral therapy in South Africa: a target trial emulation".

Mrs Emmanuella Chinonso Osuala, CAPRISA PhD Fellow, delivered a late breaker poster presentation titled, "Pharmacokinetics of twice-daily TAF in adults with HIV-associated TB on BIC/FTC/TAF and Rifampicin".

Dr Leila Mansoor, CAPRISA Senior Scientist, delivered a poster presentation titled, "Purpose 1: Preference for twice-yearly injection vs daily oral pills for HIV PrEP in cisgender women".



Photo (L-R) Back row: Mrs Emmanuella Chinonso Osuala, Dr Anushka Naidoo, Dr Jennifer Brown, Dr Gillian Dorse; Front row: Ms Lara Lewis, Dr Leila Mansoor

Dr Leila Mansoor was also invited to attend the Gilead Investigator Research Update Meeting in San Francisco on Sunday, 9 March 2025. At this meeting, updates on Gilead's ongoing lenacapavir research findings were discussed, as well as the relevant lenacapavir treatment and prevention study information from active research programs.

On 10 March, thousands of scientists gathered at the 'Stand up for Science Rally' in San Francisco's Civic Centre Plaza to support the importance of science in universities and research and to stop the recent freeze on funding.



Photo left: Dr Leila Mansoor (CAPRISA) with Dr Rahima Benhabbour (University of North Carolina) and Prof Ariane van der Straten (University of California San Francisco) at the 'Stand Up For Science rally against Trump funding freeze' in San Francisco. Photo right: Prof Steven Deeks (University of California San Francisco) speaking at the rally.



CAPRISA visited by delegates from G20 South Africa 2025 Health Working Group and the Portfolio Committee on Health

South Africa hosted the second G20 Health Working Group meeting at the Capital Zimbali Resort in KwaZulu-Natal from 25-28 March. CAPRISA participated in the G20 exhibition by the National Department of Health to showcase research done in KZN, to provide delegates with firsthand insights into key healthcare facilities and initiatives. This focussed on research that has improved the lives of the people and impacted positively on service delivery.

Delegates from the Health Working Group also visited CAPRISA's Headquarters at the Doris Duke Medical Research Institute at the Nelson R Mandela School of Medicine at the University of KwaZulu-Natal. They were welcomed by Prof Kogie Naidoo, introduced to some of CAPRISA's researchers and given a tour of the facility, including CAPRISA's state-of-the-art laboratory, where they learnt about innovative technologies, such as the organ-on-chip equipment.

In discussion with the G20 delegates, Dr Tanuja Gengiah highlighted African-led knowledge generation, Dr Sharana Mahomed spoke about the CAP256 broadly neutralising antibodies, Dr Sinaye Ngcapu discussed laboratory innovations for push boundaries in protecting young women, Prof Rubeshan Perumal spoke about the colliding epidemics of tuberculosis and HIV, and Mr Patrick Mdletshe provided insight into the community programmes.



Photo above: Dr Tanuja Gengiah, CAPRISA Head of Pharmacy and Senior Scientist, at G20 exhibition.



Photo (left): Prof Kogie Naidoo welcoming G20 delegates at CAPRISA headquarters. Photo (middle): G20 delegates in discussion with CAPRISA researchers at CAPRISA Headquarters. Photo (right): Prof Kogie Naidoo and Dr Sinaye Ngcapu, CAPRISA Senior Scientist, guiding delegates through CAPRISA laboratory.

The Portfolio Committee on Health conducted an oversight visit in KZN from 25-28 March 2025 to evaluate the state of healthcare services, infrastructure, human resources, medicine shortages, budget allocation and expenditure.

The Committee conducted an oversight visit at CAPRISA's Headquarters with an interest in gaining a deeper understanding of the innovative research and groundbreaking work. In addition to the oversight, the Committee was briefed by Prof Kogie Naidoo and Mr Patrick Mdletshe on CAPRISA's pioneering research and the achievements that have led to the institution's international recognition, and how these efforts have helped shaped global health practices and policies.



Photo above: Prof Kogie Naidoo and Mr Patrick Mdletshe with members of the Portfolio Committee on Health at the CAPRISA Head Office building.



Scientists present new ideas at CAPRISA annual research meeting

The CAPRISA annual research meeting and long service awards ceremony was held over 3-4 March at the Coastlands Musgrave Hotel in Durban, which gathered senior scientists, collaborators, partners and fellows to present and cross-examine new ideas in HIV prevention, TB treatment and Covid-19 research. The presentations structured in 5 sessions covered: HIV Pathogenesis; HIV and TB Treatment; Microbiome and Mucosal Immunology; Epidemiology and HIV Prevention; and Vaccines, with 19 presentations on new ideas.

The meeting commenced with a special welcome address by His Excellency Cyril Xaba, eThekweni Municipality Mayor, and a keynote address by Professor Ntobeko Ntusi, President of the South African Medical Research Unit on Medical Research in South Africa. Prof Salim Abdool Karim provided an overview of CAPRISA's top five awards and CAPRISA's research and accomplishments in 2024, followed by presentation of long-service awards to staff for their loyalty and commitment.



Photo top right (L-R): Prof Kogie Naidoo; Prof Salim Abdool Karim; Prof Quarraisha Abdool Karim; H.E. Cllr Vusumuzi Cyril Xaba, eThekweni Municipality Mayor; Prof Koleka Mlisana, Chief Executive Officer of NHLS; Prof Ntobeko Ntusi, SAMRC President. Bottom right: Prof Salim Abdool Karim speaking at CAPRISA's annual research meeting. Left: Prof Derseree Archary, CAPRISA Head of Mucosal Immunology and Senior Scientist, chairing strategic planning meeting.

CAPRISA participates in awareness of World TB Day

The College of Health Sciences at the University of KwaZulu-Natal in partnership with CAPRISA and the Africa Health Research Institute (AHRI) joined in a panel discussion to mark World Tuberculosis (TB) Day on 24 March 2025.

The facilitator of the panel discussion, Mr Patrick Mdletshe, CAPRISA Head of Community Programmes and the Deputy General Secretary of the Treatment Action Campaign (TAC), emphasised the theme, "Yes! We Can End TB: Commit, Invest, Deliver". The panel comprised of leading TB expert and eminent research scientist at CAPRISA, Prof Kogie Naidoo; infectious disease physician-scientist at AHRI, Dr Emily Wong;



Photo (L-R): Mr Patrick Mdletshe; Dr Emily Wong; Prof Rubeshan Perumal; Prof Kogie Naidoo; Ms. Pinky Mnyaka.

distinguished pulmonologist and academic at UKZN's School of Clinical Medicine, and CAPRISA Head of Treatment, Prof Rubeshan Perumal; and UKZN Counsellor and advocate for women's health and empowerment, Ms Pinky Mnyaka. In discussion, the panel highlighted how there are more asymptomatic TB cases than those who show symptoms, and community work will assist in finding those cases. Additionally, the incidence of TB has halved since 2015, but multisector interventions are still required to end the epidemic.



A selection of scientific papers published in 2025

- 1 **Gengiah TN, Heck CJ, Lewis L, Mansoor LE, Harkoo I, Myeni N, Baum MM, Moss JA, Rooney JF, Hankins C, Pozzetto B, Abdool Karim SS, Abdool Karim Q.** Acceptability of an annual tenofovir alafenamide implant for HIV prevention in South African women: findings from the CAPRISA 018 Phase I clinical trial. *J Int AIDS Soc.* 2025; 28(2):e26426. doi: 10.1002/jia2.26426.
- 2 **Zondo NM, Sobia P, Sivo A, Ngcapu S, Mahomed S, Mansoor LE, Asare K, Lewis L, Ramsuran V, Archary D.** Drug transporter mRNA expression and genital inflammation in South African women on oral pre-exposure prophylaxis (PrEP). *AIDS Res Ther.* 2025;22(1):18. doi: 10.1186/s12981-025-00713-z.
- 3 **Gengiah TN, Abdool Karim Q.** Preventing HIV in young women in Africa. *Lancet HIV.* 2025;12(2):e83-e84. doi: 10.1016/S2352-3018(24)00309-6.
- 4 **Garrett N, Tapley A, Hudson A, Dadabhai S, Zhang B, Mgodini NM, Andriesen J, Takalani A, Fisher LH, Kee JJ, Magaret CA.** Hybrid versus vaccine immunity of mRNA-1273 among people living with HIV in East and Southern Africa: a prospective cohort analysis from the multicentre CoVPN 3008 (Ubuntu) study. *eClinicalMedicine.* 2025;80: 103054. doi: 10.1016/j.eclinm.2024.
- 5 **Tlhaku K, Dorward J.** Improving quality of interpersonal care in HIV programmes. *Lancet HIV.* 2025;12(1):e3-e5. doi: 10.1016/S2352-3018(24)00311-4.
- 6 **Abdool Karim S, Moyo B, Walls H.** Advancing whose interests? Corporate strategy and risks to food systems transformation and public health nutrition through academic partnerships in Africa. *BMJ Glob Health.* 2025;10(1):e016049. doi: 10.1136/bmjgh-2024-016049.
- 7 **Abdool Karim S, Frank T, Khan AS, Tlhako MG, Joni SK, Swart EC.** An assessment of compliance with proposed regulations to restrict on-package marketing of packaged foods to improve nutrition in South Africa. *BMC Nutr.* 2025;11(1):17. doi: 10.1186/s40795-025-01007-3.
- 8 **Kullin BR, Gitome S, Happel AU, Pidwell T, Lefevre M, Madikida A, Wekesa P, Mahlangu K, Ochieng J, Awili L, Agolla W, Otieno R, Mutharimi A, Ganief Y, Daniels R, Chicken A, Welp K, Livingstone H, Swanepoel C, Claassen-Weitz S, Kanyoka P, Ravel J, Humphrys M, Bilski L, Mulder N, Bekker LG, Gill K, Jaspan H, Bukusi EA, Passmore JS.** Vaginal Microbiome Research Consortium for Africa: study protocol of a multicentre prospective clinical study to evaluate temporal vaginal microbial composition associated with maintenance of reproductive health in women in South Africa and Kenya. *BMJ Open.* 2025;15(2):e090938. doi: 10.1136/bmjopen-2024-090938.
- 9 **Gumbi Z, Mehrou-Loko C, Masson L, Mdladla M, Maphumulo N, Passmore JA, Mbeje S, Bekker LG, Potloane D, Jaspan H, Radzey N, Abrahams A, Harryparsad R, Mkhize P, Humphries H.** Exploring the relationship between established HIV risk factors and depressive symptoms amongst young women without HIV in two sites in South Africa. *PLoS One.* 2025;20(1):e0317732. doi: 10.1371/journal.pone.0317732.

For the complete list of publications see here: <https://www.caprisa.org/Publication/1/1/2024>



Board of Control: M Rajab (Chair) · S Mahomed (Deputy Chair) · Q Abdool Karim · SS Abdool Karim · JH Beare · JM Frantz · LP Fried (US) · ARDH Moosa · K Naidoo · A Nortier · S Panday · A Puren · R Redfeam · LV Theron
 Scientific Advisory Board: TC Quinn (Chair) · F Barré-Sinoussi (Emeritus) · MS Cohen · KE Doolley · JJ Farrar · SM Fortune · SL Hillier · JM Molina · N Ndjeka · TC Pierson · SH Vermund · T Xulu

Registration number: 2002/024027/08 · PBO number: 930 018 155