



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

Newsletter

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In this Issue

Our feature story this month focuses on the results of the STREAM study published in *Lancet HIV*.

We provide highlights from CAPRISA's annual Research meeting and Awards presentation attended by the Minister of Health and dignitaries from several leading research organisations, government agencies and funders on page 2.

On page 3 we congratulate Dr Veron Ramsuran on receiving the prestigious 2019 UKZN Vice Chancellor's Research Award, and the CAPRISA HVTN team on winning the best overall performance award in the HVTN 705/HPX2008 mosaic vaccine trial. We highlight the recent grant and administration training workshop for emerging researchers from South Africa and Zambia.

A summary of the FLAIR research grant that will investigate the increased risk of female babies acquiring HIV is provided on page 4.

Point-of-care viral load testing improves HIV treatment outcomes

Results from the Simplifying HIV TREATment and Monitoring (STREAM) trial were published in the journal *Lancet HIV* in February. The study, led by Dr Nigel Garrett (Head of Pathogenesis and Vaccine Research at CAPRISA) and Dr Paul Drain (Associate Professor at the University of Washington, US) UW, showed that point-of-care (POC) viral load testing with task shifting to enrolled nurses significantly improved viral suppression, retention in care, and referral into community-based HIV care programmes.

In collaboration with the eThekweni Municipality and the National Health Laboratory Services, the CAPRISA and UW team conducted an open-label, non-inferiority, randomised controlled trial at a large public health clinic in central Durban. In 2017, 390 HIV-positive adults (who presented for their first 6-month viral load test after ART initiation) were randomly assigned to receive either POC viral load tests with task shifting (intervention group), or laboratory viral load tests (standard-of-care group).

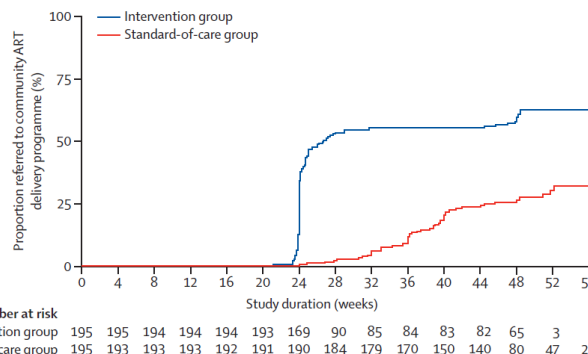
Twelve months later, 175 (90%) individuals in the intervention group and 148 (76%) individuals in the standard-of-care group achieved the combined primary out-

come of retention in care with viral suppression (defined as <200 copies/mL), a difference of 13.9% (95% CI 6.4–21.2; $p < 0.0004$). Furthermore, 182 participants (93%) in the intervention group had viral suppression compared with 162 (83%) in the standard-of-care group (difference 10.3%, 3.9–16.8; $p = 0.0025$).

During the study, 99% of intervention participants received their viral load result on the same day, while 81% of standard-of-care participants received their results, at a median of 28 days later. POC testing enabled rapid care decisions for patients with treatment failure and efficient referrals of stable patients into the community ART programme (Figure).

Overall, this trial showed that POC testing can simplify care pathways and improve treatment outcomes for HIV-positive adults receiving ART in a resource-limited setting. The study was funded by the National Institute of Health (NIH), US. The team has now received further NIH funding to assess POC viral load testing in a larger population in combination with other POC tests to improve HIV treatment outcomes further.

- Nigel Garrett (PhD)



For further reading see:
Drain PK, Dorward J, et al. *Lancet HIV* 2020 February. [https://doi.org/10.1016/S2352-3018\(19\)30402-3](https://doi.org/10.1016/S2352-3018(19)30402-3)

Figure: Kaplan Meier estimates of time from study enrolment to referral into a community-based ART delivery programme by intervention group and standard-of-care group
ART=antiretroviral therapy.

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Minister of Health delivers the keynote address at CAPRISA's annual Research and Awards day

Dr Zweli Mkhize, the honorable Minister of Health in South Africa, delivered the keynote address at CAPRISA's annual Research Update and Awards day held on 11 February at the Inkosi Albert Luthuli International Convention Centre in Durban. He was accompanied by his wife Dr May Mashego.

The meeting held on the 30th anniversary of Nelson Mandela's release from prison, was a tribute to the Nobel Laureate's commitment to end the HIV epidemic through rigorous scientific research.

The annual meeting brought together translational and basic scientists, behavioural and clinical researchers from leading research organisations, globally: the NICD, UCT, Columbia University, UKZN, SAMRC, CIDRZ, IRCE, IRESSEF and the Botswana Harvard AIDS Institute.

Dignitaries included the Deputy Director General of Health Dr Yogan Pillay, US Consul General Sherry Sykes, US Health Attache Sophia Sidiqui, the acting Head of Health in KZN Jacqueline Ngozo and senior representatives from the EDCTP, UNAIDS, Department of Science and Innovation, National Re-

search Foundation, NHLS and SANAC.

Dr Mkhize outlined government's extensive plan to control the epidemic and acknowledged the scientific and innovative accomplishments of CAPRISA in HIV prevention, particularly in women-initiated technologies.

Professor Salim Abdool Karim presented an overview of CAPRISA's research in 2019 and the panel discussion, 'Research making a difference', facilitated by Prof Quarraisha Abdool Karim, associate Scientific Director, CAPRISA. with panelists Dr M Mugabe (UNAIDS), Dr Y Pillay (DoH), Ms G Loots (DST) & Dr SSS Buthelezi (SANAC) was a robust discussion.

The CAPRISA Conversation Africa Science Communication award for the best science article written by a post doc student was won by Dr Simone Richardson from the National Institute for Communicable Diseases (NICD).

At the awards ceremony staff received long service awards for five and ten years of service to CAPRISA. CAPRISA's 2020 strategic planning meeting followed with new ideas presented by senior and emerging researchers.



Photos: Top— Dr Zweli Mkhize delivering the keynote address at CAPRISA's annual Research Update and Awards meeting ; Middle—Panel discussion facilitated by Prof Quarraisha Abdool Karim. (L-R): Dr M Mugabe (UNAIDS), DR SSS Buthelezi (SANAC), Dr Y Pillay (DoH), Ms G Loots (DST) and Prof Salim Abdool Karim. Bottom— Dr Simone Richardson, NICD receives the CAPRISA Conversation Science Communication Award from Prof Abdool Karim.

Participation in the DAIDS GCLP Standards Review Working Group



Natasha Samsunder, Director CAPRISA Laboratories, has been invited to serve on the DAIDS GCLP Standards Review Working Group that will review all the comments

received on the recently updated NIAID GCLP standards Version (V) 4.0. The Working Group includes representatives from the DCLOT, Network LC, SMILE, PPD, and Site labs.

Scientist awarded prestigious Vice-Chancellor's Research Award

Dr Veron Ramsuran, CAPRISA Associate Scientist, was awarded the prestigious University of KwaZulu-Natal's Vice-Chancellor's Research Award for 2019 in recognition of his outstanding research achievements and the international reputation that he has earned in his discipline. Ramsuran, a Group Leader at the at KwaZulu-Natal Research Innovation and Sequencing Platform (KRISP), is interested in examining the effect that host genetics play on HIV and TB disease.

Ramsuran joined CAPRISA as a Doctoral Fellow and completed his

PhD in Genetics at UKZN in 2011. He moved to the United States for 5 years as post-doctoral fellow at the Ragon Institute of MGH, MIT and Harvard, and the National Institutes for Health's National Cancer Institute. "In his short academic career, he has published several high-quality papers in pre-eminent journals, including the *Proceedings of the National Academy of Sciences*, *Clinical Infectious Diseases*, and *Science*. Dr. Ramsuran is a first-rate scientist who is well placed to become a future research leader at UKZN", said Professor Salim Abdool Karim, Director CAPRISA.



Best overall performance award for CAPRISA HVTN team

The CAPRISA eThekweni vaccine team won the Best Overall Performance Award in recognition of outstanding data quality and retention rates in the HVTN 705/HPX2008 mosaic vaccine trial. The award was presented to study



coordinators Bongekile Zuma and Kieara-Lee Ramtahal and the team by Dr Glenda Gray, Director of the SAMRC, at the HVTN Regional Meeting in Cape Town. 'This is a wonderful achievement by the team, and reward for the hard work that has gone into conducting a series of vaccine trials at the site' said Dr Nigel Garrett, Head of Vaccine and Pathogenesis Research. Dr Nivashnee Naicker, site-PI, added 'this award is a wonderful boost for the team to advance the HIV prevention agenda at CAPRISA.'

NIH-funded Grant Writing & Administration

Colleagues from the University of Pretoria, KRISP, South African Medical Research Council, Africa Health Research Institute, CAPRISA and the Centre for Infectious Disease Research in Zambia recently participated in a 2-day grant writing and administration workshop.

The workshop, which is part of the NIH-funded Research Administration and Management Training Program that is led by Dr Cheryl Baxter, aimed to equip participants with skills in grant writing – from preparing applications to financial reporting and compliance.





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Grant to study the increased risk of female babies acquiring HIV

A research study that aims to find out why female babies have a 2-3-fold increased risk of acquiring HIV when compared to male infants will be funded by the Future Leader of African Independent Research (FLAIR) Collaboration grant from the UK Royal Society.

The study will be led by Dr Veron Ramsuran from KRISP (top) and Professor Philip Goulder, Professor of Immunology at

Oxford University (bottom). The researchers believe an epigenetic mechanism (changes not located on the DNA sequence effecting how genes function) may be responsible for the protection in males. The FLAIR collaboration award will help the researchers explore their idea further said Ramsuran, who is FLAIR Fellow and a CAPRISA honorary scientist. Goulder is a CAPRISA Research Associate.



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



UNAIDS
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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