



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

Newsletter

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36.3% HIV prevalence in KwaZulu-Natal community : Findings of a PEPFAR survey

In this Issue

Our feature story this month focuses on the results of a cross sectional household survey published in *Lancet HIV* in July 2018.

On page 2 we pay tribute to Bongani Mayosi, a leading cardiology professor who passed away on 27 July 2018 and highlight the visit of senior BRICS health officials to CAPRISA on 18 & 19 July.

The CAPRISA Young Adults Workplace experience programme is provided on page 3. We also congratulate two students from the NICD who were awarded their Masters degrees with distinction.

On page 4 we congratulate two CAPRISA staff members on their iSpotU awards for innovation.

A survey in rural KwaZulu-Natal found that more than a third (36.3%) of the adults in this community were HIV positive. HIV prevalence was significantly higher at 44.1% in women compared to 28.0% in men ($p < 0.001$).

A community wide survey undertaken from June 2014 to June 2015, published recently in *The Lancet HIV*, enrolled 9,812 randomly selected men and women 15-49 years in the Greater Edendale and Vulindlela areas in the uMgungundlovu district, KwaZulu-Natal.

Stratified by age, HIV prevalence across each 2 year age band was higher in women compared to men and by age 25, almost 50% of women were already HIV positive (Figure). HIV prevalence peaked at 66.4% in women 35-39 years and 59.6% in men 40-44 years. Consistent condom use in the last 12 months was 26.5% in men and 22.7% in women, ($p = 0.0033$); 35.7% of women's male part-

ner and 31.9% of men were medically circumcised, ($p < 0.0001$), whilst 45.6% of women and 36.7% of men reported being on antiretroviral therapy ($p = 0.0003$).

HIV viral suppression was achieved in 54.8% of women and 41.9% of men ($p < 0.0001$) and 87.2% of women and 83.9% ($p = 0.3670$) men on ART. Age, incomplete secondary schooling, being single, having more than one lifetime sex partners (women), sexually transmitted infections and not being medically circumcised were associated with HIV positive status.



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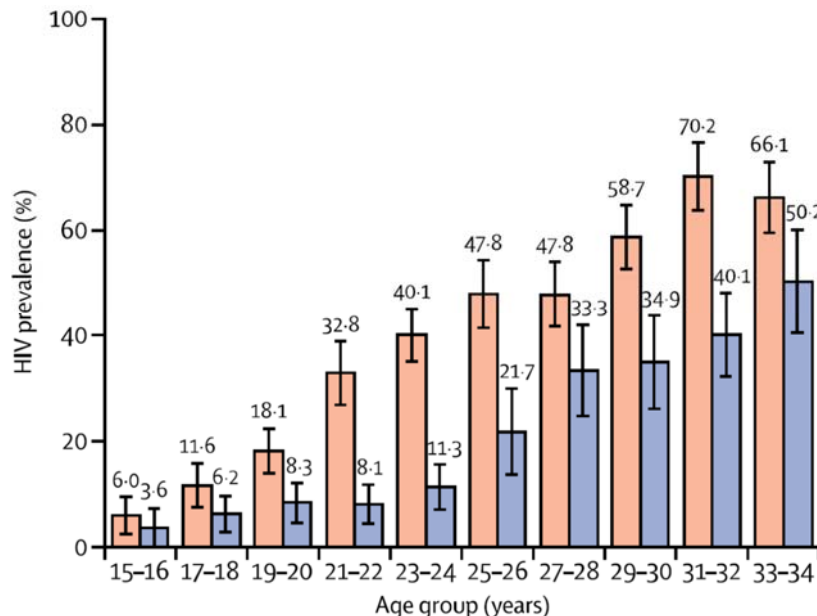
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For further reading see:

Kharsany ABM, et al. Community-based HIV prevalence in KwaZulu-Natal, South Africa: results of a cross-sectional household survey. *Lancet HIV* 2018; DOI: [https://doi.org/10.1016/S2352-3018\(18\)30104-8](https://doi.org/10.1016/S2352-3018(18)30104-8)

Figure: HIV prevalence in 2 year age bands in 2014/5 in rural KwaZulu-Natal



A tribute to Professor Bongani Mayosi

It is with deep sadness that we learnt of the passing of our colleague Professor Bongani Mayosi, Dean of the University of Cape Town's Faculty of Health Sciences, who was a graduate of the University of KwaZulu-Natal. Professor Mayosi passed away on 27 July 2018 at the age of 51.

Professor Mayosi was a world-class South African cardiologist. He was a leading scholar globally on TB pericarditis and rheumatic heart disease including being the co-author of the revised Jones Criteria for the diagnosis of rheumatic fever. He established the African CardioMyopathy and Myocarditis REsearch Programme (IMHOTEP), which contributed important studies of (1) prevalence of myocarditis, (2) pathogenesis of HIV-associated cardiomyopathy, and (3) familial aggregation of cardiomyopathy.

He received numerous accolades and awards during his research career. He was elected to the US National Academy of Medicine last year, one of the highest honours in the fields of health and medicine. He was also the recipient of South Africa's highest honour, the Order of Mapungubwe in Silver, for excellent achievements in medical science.

His numerous honours included the South African Medical Research Council's Platinum Award; South African Medical Association Merit Award; National Science and Technology Foundation – BHP Billiton Award; Fellowship of the University of Cape Town and the National Research Foundation Award for Transforming the Science Cohort in South Africa to name just a few.

He also played an active role in identifying and mentoring a



number of talented South African clinician and medical scientists.

He will be remembered for his scientific rigour, his contributions to capacity development in the country and his dedication to improving public health. With regard to the latter, he was a key contributor to the Lancet series on "Health in South Africa". Our thoughts are with his family.

Senior BRICS and Department of Health officials visit CAPRISA



CAPRISA hosted two delegations of senior BRICS health officials on 18 and 19 July. The BRICS Ministers of Health and senior health department officials were in Durban for BRICS health sector meetings ahead of the 10th BRICS Summit.

Ms Precious Matsotso, Director General in the Department of Health in South Africa, led a delegation of deputy health ministers and deputy director generals on their visit to CAPRISA's headquarters on 18 July. On 19 July Dr Sibongiseni Dhlomo, MEC for



Health in KwaZulu-Natal accompanied a delegation of BRICS ministers and deputy ministers of health to CAPRISA. The BRICS officials toured the CAPRISA facilities and engaged with CAPRISA's Directors.

Following their tour of CAPRISA's laboratories the BRICS officials gained insight into CAPRISA's key HIV prevention and TB-HIV co-infection research. Professor's Salim Abdool Karim's presentation titled: HIV and TB: A focus on BRICS health priorities, elicited much interest and discussions.



CAPRISA hosts high school students for work experience and career guidance

Twenty- six enthusiastic learners participated in the CAPRISA Young Adults Work Experience programme from 10 – 13 July, which was facilitated by CAPRISA’s Human Resources department.

The initiative aims to create an awareness on the wide range of careers in a clinical research organisation and provide learners with practical insights that will inform career choices and tertiary studies.

The learners spent four informative days at the CAPRISA headquarters, the CAPRISA eThekweni and the Vulindlela Research clinics, in both administrative and clinical disciplines. This was the first time that the Vulindlela clinic hosted learners through this programme.

“This annual initiative held



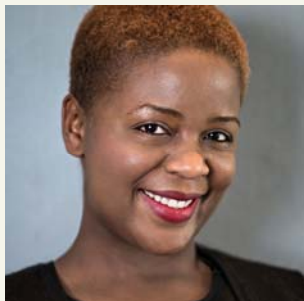
over the July school vacation period forms part of CAPRISA’s investment in the next generation,” said Marietjie Geldenhuys, head of CAPRISA’s Human Resources department. “The young adults made the most of the

placements in their respective primary areas of interest - some joined the IT department, while others were with communications and administrative departments, demonstrating a keen interest to pursue these areas as careers.”

NICD post-graduates obtain Masters degrees with distinction

We congratulate Aga Szydluk (top) and Sharon Madzorera (bottom) from the HIV Virology Laboratory at the National Institutes of Communicable Diseases (NICD) on obtaining their MSc degrees with distinction this month.

Aga Szydluk, supervised by CAPRISA Senior Associate Scientists Professors Lynn Morris and Penny Moore, produced a dissertation entitled “Expression and neutralization capacity of single domain HIV antibody fragments”. Her work aimed to design and engineer functional fragments of HIV antibodies, in the hope that smaller bNAb molecules might be useful for future



therapeutic use and as microbicides through lactobacillus expression.

Sharon Madzorera, also supervised by Moore, worked on bNAb immunogen design to simultaneously target two epitopes, the MPER and V1V2 regions. Sharon’s dissertation was entitled “Engineering HIV Viral variants as immunogens to stimulate broadly neutralizing antibodies”.

“Well done, Sharon and Aga, we are proud of you and look forward to seeing you move on to even bigger things!”, said Moore.



Scientific papers published in 2018

- 46* Perumal R, Abdelghani N, Naidu N, Yende-Zuma N, Dawood H, Naidoo K, Singh N, Padayatchi N. Risk of Nephrotoxicity in Patients With Drug-Resistant Tuberculosis Treated With Kanamycin/Capreomycin With or Without Concomitant Use of Tenofovir-Containing Antiretroviral Therapy. *J AIDS* 2018; 78(5):536-542.
- 47 Joag V, Sivro A, Yende-Zuma N, Imam H, Samsunder N, Abdool Karim Q, Abdool Karim S, McKinnon L, Kaul R. Ex vivo HIV entry into blood CD4+ T cells does not predict heterosexual HIV acquisition in women. *PLoS One* 2018; 13(7):e0200359.
- 48 Dorward J, Lessells R, Drain PK, Naidoo K, de Oliveira T, Pillay Y, Abdool Karim SS, Garrett N. Dolutegravir for first-line antiretroviral therapy in low-income and middle-income countries: uncertainties and opportunities for implementation and research. *Lancet HIV* 2018 ; 5 (7): e400–e404.
- 49 Mbulawa ZZ, van Schalkwyk C, Hu NC, Meiring TL, Barnabas S, Dabee S, Jaspan H, Kriek JM, Jaumdally SZ, Muller E, Bekker LG, Lewis DA, Dietrich J, Gray G, Passmore JS, Williamson AL. High human papillomavirus (HPV) prevalence in South African adolescents and young women encourages expanded HPV vaccination campaigns. *PLoS One* 2018; 13(1):e0190166.
- 50 Barnabas SL, Dabee S, Passmore JS, Jaspan HB, Lewis DA, Jaumdally SZ, Gamielien H, Masson L, Muller E, Maseko VD, Mkhize N, Mbulawa Z, Williamson AL, Gray CM, Hope TJ, Chiodi F, Dietrich J, Gray G, Bekker LG; Women's Initiative in Sexual Health (WISH) study team. Converging epidemics of sexually transmitted infections and bacterial vaginosis in southern African female adolescents at risk of HIV. *International Journal of STD & AIDS* 2018; 29(6):531-539.
- 51 Tanser F, Barnighausen T, Dobra A, Sartorius B. Identifying 'corridors of HIV transmission' in a severely affected rural South African population: a case for a shift toward targeted prevention strategies. *International Journal of Epidemiology* 2018; 47(2):537-549.
- 52 Passmore J-AS, Jaspan HB. Vaginal microbes, inflammation, and HIV risk in African women. *The Lancet Infectious Diseases* 2018; 18 (5):483-484.
- 53 Jackson L, Hunter J, Cele S, Ferreira IM, Young AC, Karim F, Madansein R, Dullabh KJ, Chen CY, Buckels NJ, Ganga Y, Khan K, Boule M, Lustig G, Neher RA, Sigal A. Incomplete inhibition of HIV infection results in more HIV infected lymph node cells by reducing cell death. *eLife* 2018; 7:e30134
- 54 Kharsany ABM, Cawood C, Khanyile D, Lewis L, Grobler A, Puren A, Govender K, George G, Beckett S, Samsunder N, Madurai S, Toledo C, Chipeta Z, Glenshaw M, Hersey S, Abdool Karim Q. Community-based HIV prevalence in KwaZulu-Natal, South Africa: results of a cross-sectional household survey. *Lancet HIV* 2018 ; doi: 10.1016/S2352-3018(18)30104-8

*continuation from previous newsletter

CAPRISA Rewards & Recognition Programme – iSpotU awards presented for innovation

Congratulations to CAPRISA staff members, Ms Sma Mzobe (left in the photo), Human Resources Administrator and Mr Reshaad Rasool (right in the photo), Information Technology Developer as the recipients of the CAPRISA iSpotU Award for Innovation. Mzobe and Rasool designed and developed an online platform to manage Clinical Research Placement activities that would provide mentors with an efficient interactive tool to review assignments, provide feedback and sign off tasks.

