

### In this Issue...

In our cover story we highlight the recent epidemiological study examining the trends in HIV prevalence in the rural Vulindlela community between 2001 and 2013.

On page 2 we report on US Consul General in Durban Frances Chisholm's visit to the CAPRISA Vulindlela Research site, the EM-BLEM trainees programme and the visit of the executive editor of eLife.

We congratulate Professors Lynn Morris, Penny Moore and Quarraisha Abdool Karim on their recent prestigious awards and achievements on page 3.



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## Ongoing high HIV prevalence in pregnant women from rural KwaZulu-Natal

Data from CAPRISA's epidemiological studies highlight that, despite substantial progress in the delivery of HIV prevention programs, some communities continue to experience unprecedentedly high HIV rates, which exceed 40% in women aged 20-24 years and exceed 50% in women aged 25-34 years.

This analysis on the trends of HIV infection in the rural community of Vulindlela between 2001 and 2013 was recently published in the Journal of AIDS. Annual, anonymous cross-sectional HIV sero-prevalence surveys conducted among first visit prenatal clinic attendees, show that the overall HIV prevalence has increased from 35.3% [95% confidence interval (CI) 32.3-38.3] in the pre-antiretroviral (ART) era (2001-2003) to 39.0% (CI: 36.8-41.1) in the early ART era (2004-2008) to 39.3% (CI: 37.2-41.4) in the contemporary ART (2009-2013) roll-out period (Figure 1).

In young women below the age of 20 years, HIV prevalence has declined from 22.5% (CI: 17.5-27.5) in 2001-2003 to 17.2% (CI: 14.3-20.2) in 2009-2013. In

women 30 years and older, HIV prevalence has increased significantly, largely due to survival following ART scale up. Teenage girls with male partners 20-24 and  $\geq 25$  years had a 1.7-fold (CI: 1.3-2.4;  $p=0.001$ ) and 3-fold (CI: 2.1- 4.3;  $p<0.001$ ) higher HIV prevalence respectively.

These surveys highlight the consistently high burden of HIV infection borne by young pregnant women in this rural community, which may be explained at least in part by young women engaging in high-risk sexual intercourse.

Targeted interventions for teenagers, especially for those in age-disparate relationships, are needed to impact this HIV epidemic trajectory.

### For further reading see:

Kharsany A et al. Trends in HIV prevalence in pregnant women in rural South Africa. J Acquir Immune Defic Syndr. 2015; DOI: 10.1097/QAI.0000000000000761. <http://www.ncbi.nlm.nih.gov/pubmed/26186507>

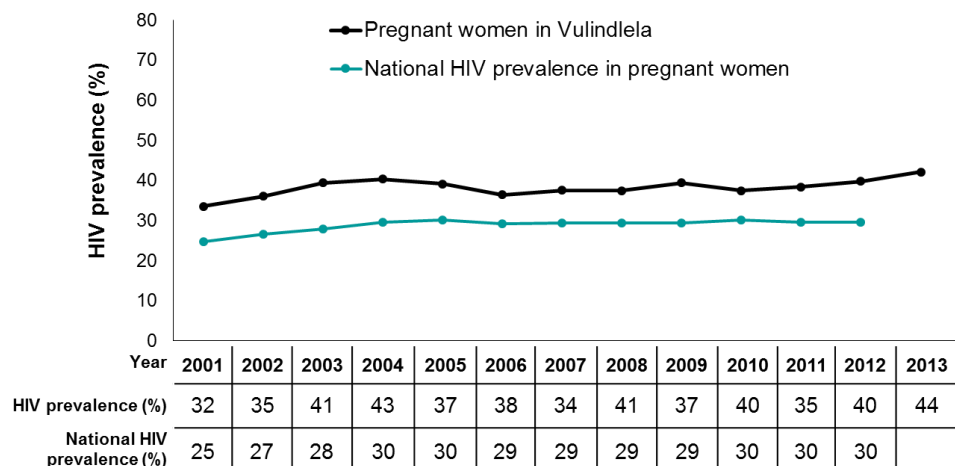


Figure 1: HIV in pregnant women in South Africa, 2001-2013



## US Consul-General meets researchers and community leaders in Vulindlela



(L-R): Ms Helen Hingle (Operations Manager), Mr Hilton Humphries (acting Site Director), Prof Quarraisha Abdool Karim, Rev Baba Sithole (Chair of the CAB), Ms Frances Chisholm (US Consul-General, Durban), Ms Natacha Collymore (Community Grants Coordinator), Dr Mary Mogashoa (CDC) and Ms Gethwana Makhaye (COMOSAT)

Researchers at the CAPRISA Vulindlela research clinic hosted Ms. Frances Chisholm the U.S. Consul General in Durban on the 17<sup>th</sup> September 2015. She was accompanied by Dr Mary Mogashoa, the CAPRISA activity manager from the Center of Disease Control and Prevention (CDC), and Ms Natacha Collymore, the Community Grants Coordinator at the US consulate.

During her visit Ms Chisholm met with senior researchers at the site and received an overview of the research activi-

ties currently underway and planned for the site and the status of the epidemic in Vulindlela. A highlight of the visit was face-to-face interactions with women who participated in the CAPRISA 004, CAPRISA 008, HPTN 077 and a group of young women from the Vulindlela Adolescent Programme. The participants shared their personal experiences and challenges of living in a rural area, rural health care and their experience as study participants.

## EMBLEM Trainees



CAPRISA hosted members of the Epidemiology of Burkitt Lymphoma in East-African Children and Minors (EMBLEM) group, a collaborative study funded by the National Cancer Institute (NCI) of NIH from the 17<sup>th</sup> – 28<sup>th</sup> August. Paired investigators from EMBLEM sites (one senior and one junior investigator) from Uganda, Tanzania and Kenya attended the training. The trainees were Dr David Kateete and Mr Samuel Kirimunda of Makerere University in Uganda; Dr Nestory Masalu Bugando Medical Centre and Dr Charles Majani Sengerema Designated District Hospital in Tanzania; and Dr Constance Tenge Moi University and Ms Pamela Were Moi Teaching Hospital in Kenya.

## Publishing in eLIFE



L-R: Prof Jonathan Blackledge UKZN DVC Research, Prof Quarraisha Abdool Karim, Mr Andy Collings and Prof Salim Abdool Karim

CAPRISA hosted Mr Andy Collings Executive Editor of eLife in September. During his visit he met with senior clinical researchers at the eThekweni Clinical Research site and the CAPRISA headquarters at the DDMRI. He delivered a Public lecture at the University of KwaZulu-Natal titled: “Enabling Consultation and Transparency in the Review Process: A Perspective From eLife”. eLife Sciences is funded by the Howard Hughes Medical Institute, the Max Planck Society and the Wellcome Trust and has published more than 1200 research papers said Collings. He explained that the goals of eLife were to create more efficient publishing, exploit digital media, provide an open access forum, and inspire change.



## Awards and Achievements

### DST/NRF South African Research Chair in Virus-Host Dynamics for Public Health

**P**rof. Penny Moore, Senior Scientist at the NICD and Research Associate at CAPRISA, was awarded a DST/NRF South African Research Chair in Virus-Host Dynamics for Public Health on 2 September 2015. The South African Research Chairs Initiative (SARChI) is a government intervention to strengthen and improve the scientific research and innovation capacity of South African public universities and was established in 2006 by the Department of Science and Technology and managed by the National Research Foundation (NRF).

Penny studies the dynamic interplay between HIV and host immune responses. Her current focus is on HIV broadly neutralizing antibodies, likely to be required for an HIV vaccine. These antibodies only develop after years of chronic infection, in an ongoing “arms race” between virus and antibodies. Understanding how the changing virus initiates these antibodies, and drives them towards breadth is a key research question. Future research will extend platforms and technologies developed for HIV to other viral pathogens of public health significance.



*Prof Penny Moore*

### 2015 MRC Gold Scientific Achievement Award



*Prof Lynn Morris*

**P**rof. Lynn Morris, Head HIV Research NICD and Research Associate at CAPRISA, has been awarded the 2015 MRC Gold Scientific Achievement Award. These Gold medals are awarded annually to established senior scientists who have made seminal scientific contributions that have impacted on the health of people, especially those living in developing countries. For the past 23 years, Lynn has been involved in

researching the virological and immunological aspects of South African HIV-1 subtype C infection. Her team has made significant contributions to our understanding of how the antibody response to HIV develops. HIV vaccine development is now a major focus of her research and she is responsible for performing neutralizing antibody assays on human clinical trials conducted in South Africa.

### Fellowship of the Royal Society of South Africa

**P**rof Quarraisha Abdool Karim, CAPRISA’s Associate Scientific Director, was inducted as a Fellow of the Royal Society of South Africa on 15th September at the Society’s annual dinner held in Stellenbosch. Her induction as a Fellow recognises her exceptional contributions to HIV prevention and women’s health over the past 25 years. Prof Abdool Karim’s main research interests are in understanding the evolving HIV epidemic in South Africa; factors

influencing acquisition of HIV infection in adolescent girls; and sustainable strategies to introduce ART in resource-constrained settings. Since 1998 she has played a central role in building the science base in southern Africa through the Columbia University - Southern African Fogarty AIDS International Training and Research Programme that has trained over 600 scientists in southern Africa.



*Prof Quarraisha Abdool Karim receives the Fellowship certificate from Prof Francis Thackeray, President of the Royal Society of South Africa.*





## Scientific papers published in 2015

- 59\* Riou C, Tanko RF, Soares AP, Masson L, Werner L, Garrett NJ, Samsunder N, Abdool Karim Q, Abdool Karim SS, Burgers WA. Restoration of CD4+ responses to co-pathogens in HIV-infected individuals on antiretroviral therapy is dependent on T cell memory phenotype. *Journal of Immunology* 2015, Jul 20. pii: 1500803.
- 60 Kharsany AB, Frohlich JA, Yende-Zuma N, Mahlase G, Samsunder N, Dellar RC, Zuma-Mkhonza M, Abdool Karim SS, Abdool Karim Q. Trends in HIV prevalence in pregnant women in rural South Africa. *J Acquir Immune Defic Syndr*. 2015; DOI: 10.1097/QAI.0000000000000761.
- 61 Gornalusse G, Mummi S, Gaitan AA, Jimenez F, Ramsuran V, Picton ACP, Rogers K, Manoharan M, Avadhanam N, Murthy KK, Martinez H, Murillo AM, Chykarenko ZA, Hutt R, Daskalakis D, Shostakovich-Koretskaya L, Abdool Karim SS, Martin JN, Deeks SG, Hecht F, Sinclair E, Clark RA, Okulicz J, Valentine FT, Martinson N, Tiemessen CT, Ndong'u T, Hunt PW, He W, Ahuja SK. Epigenetic mechanisms, T-cell activation, and CCR5 genetics interact to regulate T-cell expression of CCR5, the major HIV-1 coreceptor. *PNAS* 2015; doi: 10.1073/pnas.1423228112
- 62 Mngadi KT, Frohlich J, Montague C, Singh J, Nkomonde N, Mvandaba N, Ntombeka F, Luthuli L, Abdool Karim Q, Mansoor L. Challenges with participant reimbursement: experiences from a post-trial access study. *Journal of Medical Ethics* 2015;0:1-5. doi:10.1136/medethics-2013-101899
- 63 Zumla A, Chakaya J, Hoelscher M, Ntoumi F, Rustomjee R, Vilaplana C, Yeboah-Manu D, Rasolof V, Munderi P, Singh N, Akiilu E, Padayatchi N, Macete E, Kapata N, Mulenga M, Kibiki G, Mfinanga S, Nyirenda T, Maboko L, Garcia-Basteiro A, Rakotosamimanana N, Bates M, Mwaba P, Reither K, Gagneux S, Edwards S, Mfinanga E, Abdulla S, Cardona P-J, Russell JBW, Gant V, Noursadeghi M, Elkington P, Bonnet M, Menendez C, Dieye TN, Diarra B, Maiga A, Aseffa A, Parida S, Wejse C, Petersen E, Kaleebu P, Oliver M, Craig G, Corrah T, Tientcheu L, Antonio M, Rao M, McHugh TD, Sheikh A, Ippolito G, Ramjee G, Kaufmann SHE, Churchyard G, Steyn A, Grobusch M, Sanne I, Martinson N, Madansein R, Wilkinson RJ, Mayosi B, Schito M, Wallis RS, Maeurer M. Towards host-directed therapies for tuberculosis. *Nature Reviews* 2015, 14: doi:10.1038/nrd4696

\*continuation from previous newsletter. CAPRISA affiliated author in bold

## Scientific Reviews

| Abstracts submitted for review |                         | Manuscripts submitted for review |                         | Ancillary studies submitted for review |                         |
|--------------------------------|-------------------------|----------------------------------|-------------------------|--|-------------------------|
| Total#                         | Cumulative <sup>^</sup> | Total#                           | Cumulative <sup>^</sup> | Total#                                 | Cumulative <sup>^</sup> |
| 0                              | 330                     | 1                                | 215                     | 3                                      | 67                      |

# for month, <sup>^</sup> since committee initiation

## Conference & Workshop Reminders

| Conference  | Dates           | Deadlines     |                | Website   |
|---|-----------------|---------------|----------------|---|
|   |                 | Abstracts     | Registration   |   |
| <b>World STI &amp; HIV Congress</b><br>- Brisbane, Australia                                | 13-16 Sept 2015 | 13 April 2015 | 31 August 2015 | <a href="http://www.worldsti2015.com/ehome/index.php?eventid=91027&amp;">http://www.worldsti2015.com/ehome/index.php?eventid=91027&amp;</a> |
| <b>46th Union World Conference on Lung Health</b><br>- Cape Town, South Africa              | 2-6 Dec 2015    | 24 Apr 2015   | 20 Aug 2015    | <a href="http://capetown.worldlunghealth.org/">http://capetown.worldlunghealth.org/</a>   |
| <b>International Conference on AIDS &amp; STI in Africa (ICASA)</b><br>- Hammamet, Tunisia  | 8-13 Nov 2015   | May 2015      | 29 Oct 2015    | <a href="http://icasa2015tunisia.org/">http://icasa2015tunisia.org/</a>   |
| <b>Conference on Retroviruses and Opportunistic Infections</b> - Boston, Massachusetts, USA | 22-25 Feb 2016  | 30 Sept 2015  | 26 Jan 2016    | <a href="http://www.croiconference.org/">http://www.croiconference.org/</a>   |



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