

In this Issue...

In our cover story we profile the recent publication in the *New England Journal of Medicine* of the impact of tenofovir gel on HSV-2 infection.

The on page 2 we highlight Dr Linda Fried's visit to CAPRISA and her announcement of the newly created endowed "CAPRISA Chair in Global Health" in the MSPH's Department of Epidemiology.

On page 3 we congratulate Professor Quarraisha Abdool Karim on being awarded the "Living Legend" award from the eThekweni Municipality and also congratulate the HPTN077 team on reaching their targeted enrolment for the HPTN077 study.



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Tenofovir Gel for the Prevention of HSV-2 Infection

Data from the CAPRISA 004 trial showing that pericoital application of tenofovir gel, an antiviral microbicide, reduced Herpes Simplex type 2 (HSV-2) acquisition by 51% in women was recently published in the *New England Journal of Medicine*.

(95% CI: 18-77%; P = 0.005).

Risk of HSV-2 acquisition was reduced by 71% in women with high gel-use (defined as returning >6 applicators per month) compared to 27% reduction in the women with low gel-use (<4 applicators/month) (Figure)

Globally, Herpes simplex virus type-2 (HSV-2) is among the most common sexually transmitted infections and is the leading cause of genital ulcers. Available global estimates indicate that approximately 536 million (16.5%) sexually active adults between the ages of 15 and 49 years were infected with HSV-2 in 2003.

HSV-2 is a lifelong infection that causes recurrent painful genital ulceration and potentially fatal herpes infections in newborns. It is also associated with a 3.4-fold increased risk of HIV acquisition in women, after adjustment for sexual behaviour. Interventions to prevent HSV-2 infection, including condoms, circumcision, and antiviral treatment, have demonstrated protection levels ranging from 6% to 48%.

Since there is no effective vaccine or cure for HSV-2, pericoital tenofovir gel has the potential to increase the range of options for HSV-2 prevention programs, which at present

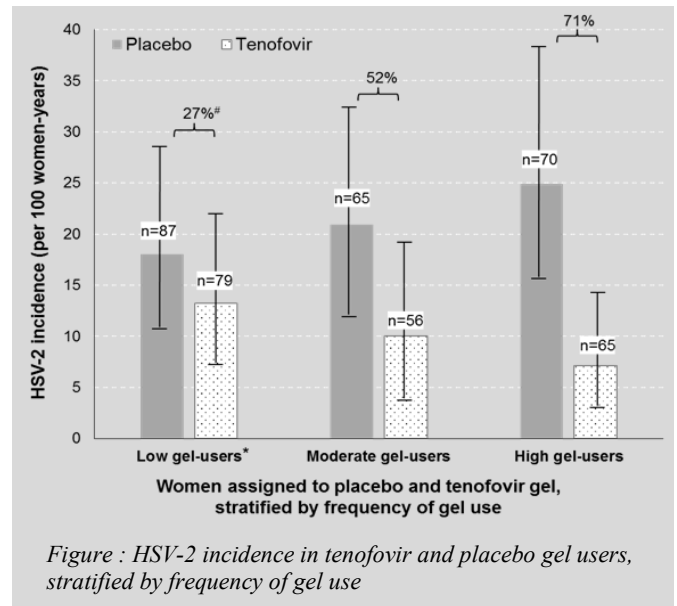


Figure : HSV-2 incidence in tenofovir and placebo gel users, stratified by frequency of gel use

The effectiveness of pericoital tenofovir gel in preventing HSV-2 acquisition was assessed in a subgroup of 422 HSV-2 negative women enrolled in the CAPRISA 004 study.

Pericoital tenofovir gel reduced HSV-2 incidence (as measured by ELISA) by 51% overall (95% CI: 23-70%, P = 0.003). Confirmatory testing using Western blot testing produced similar results ie 55% effectiveness

promote condoms and circumcision.

Effective prevention strategies for HSV-2 infection are needed to achieve the goals of the World Health Organization global strategy for the prevention and control of sexually transmitted infections.

For further reading see:

Abdool Karim SS, et al *New Engl J Med* 2015; 373: 530-9. <http://www.nejm.org/doi/full/10.1056/NEJMoa1410649>



Strengthening cross-Atlantic global health research linkages

Dr Linda Fried, Dean of the Mailman School of Public Health (MSPH) at Columbia University, visited CAPRISA in Durban from 6 - 12 August 2015, building on MSPH's long-standing collaboration with CAPRISA and the Nelson R Mandela School of Medicine at the University of KwaZulu-Natal (UKZN).

During her visit, she met with UKZN Vice-Chancellor, Dr Albert van Jaarsveld, Deputy Vice-Chancellor of the College of Health Sciences, Dr Rob Slotow and the Deans of Clinical Sciences, Health Sciences, Nursing and Public Health. During these discussions, Dean Fried explored opportunities for further collaboration and training to advance global health.

MSPH is one of the five partner institutions that created CAPRISA in 2002. Dean Fried currently serves as a member of the Board of Control of CAPRISA, which is led by Drs Salim and Quarraisha Abdool Karim, who are both professors in the MSPH Department of Epidemiology. The link between CAPRISA and MSPH was originally developed by Drs Zena Stein, Mervyn Susser, Alan Berkman and Allan Rosenfield and built on the Fogarty-funded Columbia University-Southern African AIDS International Training and Research Programme (AITRP).

During her visit to the CAPRISA research clinics in Durban and Vulindlela, Dean Fried had an opportunity to meet with several of the Fogarty Fellows. The eThekweni Clinic, which is located in central Durban, adjoins the largest government outpatient tuberculosis (TB) facility in Durban, the Prince Cyril Zulu Communicable Disease Centre. This Centre provides free diagnosis and treatment for patients with TB in Durban. Approximately 8000 TB patients attend the clinic each month.



Dean Fried meets with Fogarty Fellows in rural Vulindlela



Dean Fried with Dr Salim Abdool Karim during her visit to CAPRISA in Durban

TB and HIV infection are individually major global public health concerns but the two intertwined epidemics are a devastating and deadly combination, responsible for more deaths than any other condition in South Africa. South Africa is among the highest burden countries, ranking highest in the world for TB incidence and third highest for the total number of TB cases each year. CAPRISA's rural research facility, the Vulindlela Clinic is about 90 minutes from Durban. Dean Fried spent a day in Vulindlela, where she visited the clinic and was invited to the home of one of the community members. Dean Fried had the opportunity to see the challenges of rural living and rural health care first hand.

Dean Fried delivered a Faculty Lecture at the medical school highlighting the "Opportunities and challenges in improving global health" and the keynote address at the CAPRISA "Celebration of Excellence" function focusing on the meaning of scientific excellence. She announced the newly created endowed "CAPRISA Chair in Global Health" in the MSPH's Department of Epidemiology with Dr Salim Abdool Karim being the first appointment to this Chair. At the function, the South African National Research Foundation announced that Dr Quarraisha Abdool Karim, who is a Professor of Clinical Epidemiology at MSPH, had received its highest ranking, an "A-rating". Dr Abdool Karim is only the second black woman ever in South Africa to get an A-rating. (see newsclip on: <https://www.youtube.com/watch?v=ow2N8QulaKq>)

During her visit, Dr Fried also had the opportunity to meet and interact with the senior scientists at CAPRISA. During these meetings, she explored how relationships between CAPRISA and MSPH could be strengthened. Importantly, she was able to see first-hand the impact of CAPRISA's research and training activities on the HIV epidemic and global health in South Africa.



Scientist honoured as a Living Legend



Quarraisha Abdool Karim receiving the Living Legends award from South Africa's Olympic swimming champion, Chad le Clos

CAPRISA's Associate Scientific Director, Professor Quarraisha Abdool Karim, has been honoured as a citizen of the eThekweni Municipality for her significant contributions in HIV prevention research to the communities of eThekweni and indeed South Africa. The announcement was made at a prestigious ceremony on Saturday, 29 August 2015 at the Inkosi Albert Luthuli Interna-

tional Convention Centre in Durban. The eThekweni Living Legends Awards "honours eThekweni citizens who have diligently dedicated their time and skills to uplift communities and contributed immensely to developing the society at large. It aims to salute the inspirational and continuous contribution that these individuals have brought to local communities and South Africa as a whole," said eThekweni Municipality's Communications Head, Ms Tozi Mthethwa.

Mayor, Cllr James Nxumalo said that the Awards present the Municipality with an opportunity to honour its legends and reflect on their distinct achievements and contribution to the community of eThekweni and the country at large.

"We are proud of their achievements and progressive contribution which serves as an inspiration to the younger generation to emulate these men and women who have selflessly served our communities. They are products of our local neighbourhoods and communities, emerging from different walks of life," said Nxumalo.

Professor Abdool Karim said she was "deeply humbled to be one of the recipients of this prestigious award. Young women have the highest rates of HIV infection in Africa and as researchers we have a chance to alter the course of this epidemic and save millions of lives. It is a commitment that I hope will provide women with an array of safe and efficacious HIV prevention technologies."

Students visit CAPRISA research site



Final year environmental health students from the Durban University of Technology spent an informative morning at the CAPRISA eThekweni Clinical Research site. The students were taken on a tour of the Prince Cyril Zulu CDC and the prevention and treatment clinics. Drs Kathy Mngadi, Rochelle Adams (centre in the photograph) and Lulu Nair provided valuable insights into the research and treatment undertaken at the clinic.

Enrolments completed for HPTN077



Enrolments completed! The CAPRISA Vulindlela HPTN 077 team has just finished enrolling participants into its HPTN 077 study, a Phase IIa Safety, Tolerability and Acceptability Study of an Investigational Injectable HIV Integrase Inhibitor, Cabotegravir, for PrEP in HIV Uninfected Men and Women.



Scientific papers published in 2015

52*	McKinnon LR , Izulla P, Nagelkerke N, Munyao J, Wanjiro T, Shaw SY, Gichuki R, Kariuki C, Muriuki F, Musyoki H, Gakii G, Gelmon L, Kaul R, Kimani J. Risk Factors for HIV Acquisition in a Prospective Nairobi-Based Female Sex Worker Cohort. <i>AIDS Behav</i> 2015; DOI 10.1007/s10461-015-1118-7.
53	Archary D, Liebenberg LJ, Werner L, Tulsi S, Majola N, Naicker N, Dlamini S, Hope TJ, Samsunder N, Abdool Karim SS, Morris L, Passmore J-AS, Garrett NJ . Randomized Cross-Sectional Study to Compare HIV-1 Specific Antibody and Cytokine Concentrations in Female Genital Secretions Obtained by Menstrual Cup and Cervicovaginal Lavage. <i>PLoS One</i> 2015; 10(7): e0131906.
54	O'Donnell M, Pillay M, Pillay M, Werner L, Master I, Wolf A, Mathema B, Coovadia Y, Mlisana K, Horsburgh R, Padayatchi N . Primary capreomycin resistance is common, and associated with early mortality in extensively drug-resistant tuberculosis (XDR-TB) patients in KwaZulu-Natal, South Africa. <i>JAIDS</i> 2015; 69(5): 536-543.
55	Abdool Karim SS . Overcoming Impediments to Global Implementation of Early Antiretroviral Therapy. <i>New England Journal of Medicine</i> 2015; DOI: 10.1056/NEJMe1508527.
56	Kaewseekhao B, Naranbhai V , Roytrakul S, Namwat W, Paemane A, Lulitanond V, et al. Comparative Proteomics of Activated THP-1 Cells Infected with Mycobacterium tuberculosis Identifies Putative Clearance Biomarkers for Tuberculosis Treatment. <i>PLoS ONE</i> 2015; 10(7): e0134168.
57	Abdool Karim SS, Abdool Karim Q, Kharsany ABM, Baxter C, Grobler AC, Werner L, Kashuba A, Mansoor LE, Samsunder N, Mindel A, Gengiah TN , for the CAPRISA 004 Trial Group. Tenofovir Gel for the Prevention of Herpes Simplex Virus Type 2 Infection. <i>New England Journal of Medicine</i> 2015; 373:530-9.
58	Zumla A, Chakaya J, Hoelscher M, Ntouni F, Rustonjee R, Vilaplana C, Yeboah-Manu D, Rasolof V, Munderi P, Singh N, Akillu E, Padayatchi N et al Host-Directed Therapies Network) Host-Directed Therapies for tackling Multi-Drug Resistant TB - learning from the Pasteur-Bechamp debates. <i>Clin Infect Dis</i> . 2015 ; DOI: 10.1093/cid/civ631

*continuation from previous newsletter

Scientific Reviews

Abstracts submitted for review		Manuscripts submitted for review		Ancillary studies submitted for review	
Total#	Cumulative [^]	Total#	Cumulative [^]	Total#	Cumulative [^]
2	330	1	214	2	64

for month, [^] since committee initiation

Conference & Workshop Reminders

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



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