



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA



CAPRISA IS A UNAIDS COLLABORATING CENTRE FOR HIV PREVENTION RESEARCH

May 2012, Volume 11, Issue 4

In this issue...

In our lead article, Professors Salim and Quarraisha Abdool Karim comment on the FDA decision to recommend TRUVADA as PrEP.

On page 2, we cover a paper on how HIV testing among high school learners and knowledge of status creates channels to prevention and treatment services.

Young CAPRISA research fellows receive a spotlight on their work on page 3.



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“Can South Africa afford not to implement PrEP?”

The landmark decision by the US Food and Drugs Administration concerning TRUVADA as pre-exposure prophylaxis (PrEP) was met with approval by Professors Salim and Quarraisha Abdool Karim, but they asked the question “Can we afford not to implement PrEP?”

The opinion article, published in The Lancet online, discussed the importance of the FDA’s decision and its implications going forward.

They argued that that despite the limitations of PrEP, it is an important new strategy, which provides an additional option for HIV prevention, with the potential to significantly reduce HIV acquisition, especially in men who have sex with men (MSM), discordant couples and in young women where mutual monogamy and condom use may be challenging options.

PrEP has a unique advantage for young women in southern Africa, who bear a disproportionate burden of the HIV epidemic. Persuading their male partners to use condoms, remain faithful or have an HIV test are often not possible achieve, putting women at risk of acquiring HIV, and thereby disempowering women and undermining their efforts to control their HIV risk.

The FDA’s Advisory Committee’s support of the use of oral Truvada is a major boost to the

THE LANCET

The Lancet, Early Online Publication, 18 May 2012
doi:10.1016/S0140-6736(12)60786-7

Antiretroviral prophylaxis for HIV prevention reaches a key milestone

Salim S Abdool Karim, Quarraisha Abdool Karim

On May 10, 2012, a US Food and Drug Administration (FDA) advisory committee voted in support of the use of tenofovir-emtricitabine for HIV prevention. If the FDA, which is scheduled to make its decision by June 15, adopts the committee’s recommendations, tenofovir-emtricitabine will become the first antiretroviral drug to be approved as pre-exposure prophylaxis (PrEP) for the prevention of HIV, paving the way for implementation.

PrEP has a unique advantage in young women in southern Africa, who bear a disproportionate burden of the HIV epidemic. In much of this region, young women are often unable to convince their male partners to use condoms, remain faithful, or have an HIV test. To rely on her HIV-positive discordant male partner to come forward to test, to agree to take antiretroviral therapy (ART), and to take his ART with high adherence, all for her protection, puts a woman’s risk of acquiring HIV back in the hands of men, thereby disempowering women and undermining their efforts to control their risk of HIV.

translation of the trial findings into policy and programmes.

This key milestone is all the more significant as the FDA last approved a technology to prevent sexual transmission of HIV about 20 years ago, when it approved the female condom.

If the FDA, which is anticipated to make its decision by 15 June 2012, adopts the Advisory Committee’s recommendations, TRUVADA will become the first antiretroviral drug to be approved as PrEP for the prevention of HIV, paving the way for implementation and access for populations who could benefit most from this new prevention strategy.

To read the entire correspondence, visit:

Antiretroviral prophylaxis for HIV prevention reaches a key milestone

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60786-7/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60786-7/fulltext)



Opportunities to improve sexual reproductive health at schools

Study determining HIV prevalence among high school learners shows that knowledge of HIV status provides an important gateway to prevention and treatment services.

The findings of an anonymous survey in learners in two public sector high schools in rural Vulindlela, KwaZulu-Natal, determined that knowledge of HIV status provides an important gateway to prevention and treatment services.

This study was aimed at determining HIV prevalence and explored the feasibility of HIV testing among high school learners.

Young girls in sub Saharan Africa are reported to have higher rates of HIV infection compared to boys in the same age group. Early sexual debut is associated with higher teenage pregnancy rates, sexually transmitted infections and poor school completion rates leading to poor health and economic outcomes in

young women. Recent reports indicate that the learner pregnancy rate in KwaZulu-Natal stood at 62.2 per 1000.

The results of the study showed that the HIV prevalence in learners aged 12 to 25 in school A was 4.7% compared to 2.5% in school B. Whilst the HIV prevalence was similar for boys at 1.3% in school A and 1.7% in school B, the prevalence in girls was consistently higher and was 7.7% in school A and 3.2% in school B. The age-specific HIV prevalence in girls increased 1.5 to 2 fold for each two year age category, while for boys the prevalence was stable across all age groups.

As young people in South Africa are becoming sexually active at younger ages, the authors recommend that early and regular HIV testing should become part of their routine healthcare.

As well as enhancing self esteem and thereby reducing or delaying early sexual debut, HIV and STI risk reduction programmes at schools would contribute to reducing the stigma of HIV testing among high school learners.

For further reading see:
www.biomedcentral.com/1471-2458/12/231/abstract

Kharsany ABM, et al. HIV prevalence among high school learners—Opportunities for schools-based HIV testing programmes and sexual reproductive health services. BMCC Public Health 2012, 12:231 doi:10.1186/1471-2458-12-231

US Senators visit CAPRISA's clinics during SA tour

CAPRISA was honoured to host a high-ranking political delegation from the United States, who visited CAPRISA's eThekweni and Vulindlela Clinical Research Sites on Thursday 3 and Friday 4 May 2012. The delegation was conducting a visit to South Africa to tour various institutes and projects that form part of the international health related programmes funded by the US government.

Senator Tom Harkin led the delegation, which included fellow Senators, Tom Udall and Roger Wicker, US Ambassador Donald Gips, Consul General Taylor Ruggles, Dr Tom Frieden of the Centers for Disease Control & Prevention, and Dr Gray Handley from National Institutes of Health



Clockwise from bottom left: Professor Salim Abdool Karim (CAPRISA Director), MEC for Health Dr Sibongeseni Dhlomo, Dr Nancy Knight (South Africa Country Director: Centers for Disease Control & Prevention), Senator Roger Wicker, Senator Tom Udall, Senator Tom Harkin, Mr Erik Fatemi (Senate staffer), Dr Tom Frieden (Director: Centers for Disease Control & Prevention), Mr Taylor Ruggles (US Consul General), Dr Gray Handley (National Institutes of Health) at the start of the delegation's visit to CAPRISA's eThekweni Clinic.



Spotlight on CAPRISA training

If great scientific achievements of the future are built on new scientific thinking of today, how can we ensure that innovation is part of a culture and not a “nice to have”?

For nearly 10 years, CAPRISA has been nurturing young scientists through its training programme of pre- or post-doctoral students funded by CAPRISA, self-funded fellows through partner academic institutes, or medical students recruited into the medical research placement programme.

In this profile of three international fellows and a South African medical placement, we provide a snapshot of the work of these young researchers and also find out how their time at CAPRISA has enriched them.

Final year NYU medical student, **Ben Bearnot** believes that his fellowship with CAPRISA has placed him in a better position to participate in clinical research.

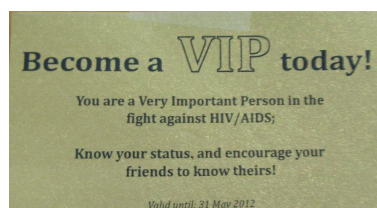
In an effort to re-energise HIV counselling and testing at UKZN, Ben formed various collaborations to increase HIV testing among students.

“There is tremendous energy surrounding the UKZN HIV testing programme and, after the success of our pilot project, we are optimistic about sustaining and extending our services at other campuses.” - Ben

Through the *VIP* campaign (value in prevention), students were invited to attend sessions led by peer educators, at which *VIP* gold referral cards were distributed. Students were encouraged to present their *VIP* card at the HIV counselling and testing clinic, and to hand them out via their social networks to encourage more students to test as well.

Within the first two months of the campaign, 750 UKZN students and staff underwent an HIV test — more than double for the whole of 2011.

As his main project, New York Univer-



Our featured trainees

Ben Bearnot

Fulbright Fogarty Fellow (NYU School of Medicine) hosted by CAPRISA

Research interests: *HIV/AIDS healthcare and clinical research*



Gabriel Cohen

Fogarty International Clinical Research Scholar (NYU School of Medicine)

Research interests: *TB/HIV and clinical research*



Andrew Tomita

Fogarty International Clinical Research Fellow (Columbia University / Vanderbilt University)

Research interests: *Psychiatric illness and HIV*



Ayanda Sibiyi

CAPRISA medical research placement (University of KwaZulu Natal)

Research interests: *Adolescent health, HIV reduction, teenage pregnancy*



sity medical student, **Gabriel Cohen** has been working on a retrospective data analysis looking at the relationship between the level of educational attainment and clinical outcomes in the CAPRISA TB/HIV co-infected.

“I’ve had a very productive year at CAPRISA and have thoroughly enjoyed my time in South Africa” - Gabriel

He has co-authored a review article entitled: *Contraception and Pregnancy in Microbicide Trials*, reflecting on pregnancy and contraceptive management strategies in microbicide trials.

Mitsuaki Andrew Tomita is excited at the news that he will be spending another year at CAPRISA to continue with his research.

Andrew is a post-doctoral fellow with a doctorate in social work. Against the background of the predominance of traditional healers in healthcare — usually and often the only port of call

for patients with first episode psychotic disorder — Andrew’s research at Townhill Hospital, Kwa Zulu Natal, is looking into formal access to psychiatric care and identifying the facilitators and barriers to seeking help in the mental healthcare system. The study also includes investigation into the potential misuse of ARV medications.

“Thanks to CAPRISA, I’ve been able to conduct this unique research in South Africa, built upon their expertise in HIV/AIDS and their established relationships and trust with local stakeholders, including tribal chiefs” - Andrew

Despite her demanding schedule at the University of KwaZulu Natal Medical School, **Ayanda Sibiyi** has managed to dedicate time for her research project which evaluated *CycleBeads* (pictured below) as a tool for promoting knowledge of menstrual cycles.

Through a series of workshops with young females aged 12-20 years, Ayanda assessed participants’ knowledge about menses, fertility, the detection of menstrual abnormalities, self-esteem, and the effect of problems with menses on daily routine.

She concluded that education and information were vital for factual understanding of menstruation. Amongst her recommendations were the provision of *CycleBeads* by government or NGOs to female school learners; and more content on menstruation in life orientations classes.

“I will need research exposure, if I go on to specialise later, and my time at CAPRISA is helping me towards that goal.” - Ayanda

As a result of Ayanda’s work, CAPRISA will be distributing handmade *CycleBeads* to young girls as part of its sexual reproductive health programme in schools.





Research papers published in 2012

- 10# **Daftary A, Padayatchi N.** Social constraints to TB/HIV healthcare: Accounts from coinfecting patients in South Africa, *AIDS Care* 2012. DOI:10.1080/09540121.2012.672719
- 11 Mureithi MW, Poole D, **Naranbhai V**, Reddy S, Mkhwanazia NP, **Sibeko S, Werner L, Abdool Karim Q, Abdool Karim S**, Ndung'u T, Altfeld M and the CAPRISA004 Trial Group. Preservation HIV-1-specific IFN γ + CD4+ T cell responses in breakthrough infections following exposure to Tenofovir Gel in the CAPRISA 004 microbicide trial. *JAIDS* 2012; 60(2): 124–127.
- 12 Green TN, Archary M, Gordon ML, Padayachi N, Lie Y, Anton ED, Reeves JD, **Grobler A**, Bobat R, Coovadia H, **Ndung'u T**. Drug Resistance and Coreceptor Usage in HIV-1 Subtype C Infected Children Initiating or Failing HAART in South Africa. *AIDS and Human Retroviruses* 2012; 28(4):324-32
- 13 **Gengiah TN**, Holford NH, Botha JH, **Gray AL, Naidoo K, Abdool Karim SS**. The influence of tuberculosis treatment on efavirenz clearance in patients co-infected with HIV and tuberculosis. *Eur J Clin Pharmacol.* 2012; 68(5):689-95
- 14 Heidari S, **Abdool Karim Q**, Auerbach JD, Buitendijk SE, Cahn P, Curno MJ, Hankins C, Katabira E, Kippax S, Marlink R, Marsh J, Marusic A, Nass HM, Montaner J, Pollitzer E, Ruiz-Cantero MT, Sherr L, Sow PS, Squires K, Wainberg MA. Gender-sensitive reporting in medical research. *Journal of the International AIDS Society* 2012; 15:11 doi:10.1186/1758-2652-15-11
- 15 **Abdool Karim SS, Abdool Karim Q.** Antiretroviral prophylaxis for HIV prevention reaches a key milestone. *Lancet* 2012: Published Online May 18, 2012 DOI:10.1016/S0140-6736(12)60786-7
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- 17 **Abdool Karim Q, Kharsany ABM, Frohlich JA, Werner L, Mlotshwa M, Madlala BT, Abdool Karim SS.** HIV Incidence in Young Girls in KwaZulu-Natal, South Africa-Public Health Imperative for Their inclusion in HIV Biomedical Intervention Trials. *AIDS & Behaviour* 2012; DOI 10.1007/s10461-012-0209-y
- 18 Valley-Omar Z, **Sibeko S**, Anderson J, Goodier S, **Werner L**, Arney L, **Naranbhai V**, Treurnicht F, Abrahams M-R, Bandawe G, Swanstrom R, **Abdool Karim Q, Abdool Karim SS, Williamson C.** CAPRISA 004 Tenofovir Microbicide Trial: No Impact of Tenofovir Gel on the HIV Transmission Bottleneck. *Journal of Infectious Diseases* 2012; DOI: 10.1093/infdis/jis305
- 19 Lynch R, Tran L, Louder M, Cohen M, DerSimonian R, Euler Z, Gray E, **Abdool Karim S**, Kirchherr J, Montefiori D, **Sibeko S**, Soderberg K, Tomaras G, Yang Z-Y, Nabel G, Schuitemaker H, **Morris L**, Haynes B, Mascola J. The Development of CD4 Binding Site Antibodies During HIV-1 Infection. *Journal of Virology* 2012: Published ahead of print 9 May 2012, doi: 10.1128/JVI.00734-12
- 20 Chigutsa E, Meredith E, Wiesner L, **Padayatchi N**, Harding J, Moodley P, Mac Kenzie W, Weiner M, McIlleron H, Kirkpatrick C. Population Pharmacokinetics and Pharmacodynamics of Ofloxacin in South African Patients With Multi-Drug Resistant Tuberculosis. *Antimicrobial Agents and Chemotherapy* 2012: Published ahead of print 7 May 2012, doi: 10.1128/AAC.00048-12

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Scientific Reviews

Abstracts submitted for review		Manuscripts submitted for review		Ancillary studies submitted for review	
Total#	Cumulative [^]	Total#	Cumulative [^]	Total#	Cumulative [^]
1	279	3	215	1	34

for month, [^] since committee initiation



Conference & Workshop Reminders



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Conference	Dates	Deadlines Abstracts	Registration	Website
3rd SA TB Conference Durban, South Africa	12-15 Jun 2012	20 Jan 2012	18 May 2012	www.tbconference.co.za/
AIDS 2012 Washington DC, USA	22-27 Jul 2012	15 Feb 2012	3 May 2012	www.aids2012.org
AIDS Vaccine 2012 Boston, USA	9-12 Sept 2012	8 July 2012	31 Aug 2012	www.vaccinenterprise.org/conference/2012/
Tuberculosis 2012 Paris, France	11-15 Sept 2012	15 June 2012	15 June 2012	www.pasteur.fr/infosci/conf/sb/tuberculosis2012/index.html
HIV Vaccines Meeting Keystone, Colorado, USA	10-15 Feb 2012	12 Nov 2012	10 Dec 2012	www.keystonesymposia.org/Meetings/ListMeetings.cfm
8th Federation of African Immunological Societies Conference Durban, South Africa	2-5 Dec 2012	19 Sep 2012	Earlybird 2 Sep 2012	www.faisconference2012.com

CAPRISA is an official research institute of the University of KwaZulu-Natal and Columbia University.

CAPRISA was established in 2002 through a CIPRA grant from the NIH, as a multi-institutional collaboration, incorporated as an independent non-profit AIDS Research Organization

Registration Number:
2002/024027/08