

# **RESPONSES TO HIV & AIDS AT UCT**

**Report to Council: March 2010**

**Prepared by HAICU for:  
Professor Crain Soudien  
Acting Deputy Vice-Chancellor**



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## Report to Council

The purpose of the 2009 survey of HIV and AIDS initiatives at the University of Cape Town is to comprehensively record the response of the institution to the epidemic.

Findings have been summarised from the annual mapping exercise conducted by the HIV/AIDS Institutional Coordination Unit (HAICU) which is based in the Office of the Vice-Chancellor.

Work that was mainly carried out or published in 2009 is included. Where 2008 publications are listed, this is because they were either awaiting publication when the previous report went to print, or were not reflected therein. Any presently "in press" articles will be featured in next year's report.

UCT's HIV and AIDS-related initiatives have been benchmarked against international, national and regional criteria, utilising:

- UNESCO's document, *Expanding the Field of Inquiry: A cross-country study of Higher Education Institutions' responses to HIV and AIDS*<sup>1</sup>;
- External Observer's Report: *The Response of the University of Cape Town to HIV and AIDS*, UCT HIV/AIDS Colloquium, November 2006<sup>2</sup>;
- HESA/HEAIDS's document, *HEAIDS Strategic Framework (2006 to 2009 and beyond)*<sup>3</sup>;
- *HEAIDS Draft HIV/AIDS Policy Framework for the Higher Education Sector in South Africa*, October 2008, version 5<sup>4</sup>;
- *Good Practice HIV/AIDS Prevention Strategies For Public Higher Education Institutions In South Africa*, 2009 (Desktop Review)<sup>5</sup>
- *Development of sustainable funding models and mechanisms with respect to a comprehensive HIV and AIDS programme in the Higher Education sub-sector – a draft institutional visit report on UCT*<sup>6</sup>.

This Report to Council will reflect on accomplishments in the HIV/AIDS arena and in conclusion will critically assess the challenges facing the University in this regard.

**HIV Prevalence:** According to the HSRC<sup>7</sup> (2009), over 5.2 million people are living with HIV in South Africa. HIV prevalence in the total population has stabilised at around 11%, although the Western Cape has a much lower prevalence of about 3.8%. HIV prevalence among females aged 25 to 29 persists at a high level of 33%,

<sup>1</sup> UNESCO. 2006. *Expanding the field of inquiry: a cross-country study of higher education institutions' responses to HIV and AIDS*. [Internet] UNESCO: Paris (Published March 2006). Available at: <http://unesdoc.unesco.org/images/0014/001455/145516E.pdf> [Accessed 25 November 2009].

<sup>2</sup> Kelly, M. 2006. *External observer's report: the response of the University of Cape Town to HIV and AIDS*, UCT HIV/AIDS Colloquium. Cape Town, South Africa, November 2006. Unpublished.

<sup>3</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2006. *HEAIDS strategic framework 2006-2009 and beyond*. [Internet] HESA: Pretoria (Published September 2006). Available at: [www.thutong.doe.gov.za/resourcedownload.aspx?id=27995](http://www.thutong.doe.gov.za/resourcedownload.aspx?id=27995) [Accessed 3 December 2009].

<sup>4</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>5</sup> Hanson, S., (in press). *Good practice HIV/AIDS prevention strategies for public higher education institutions in South Africa. A desktop review*.

<sup>6</sup> Moodley, I., (in press). *Development of sustainable funding models and mechanisms with respect to a comprehensive HIV and AIDS programme in the higher education sub-sector – a draft institutional visit report on UCT*.

<sup>7</sup> Shisana, O. et al. 2009. *South African national HIV prevalence, incidence, behaviour and communication survey 2008: a turning tide among teenagers?* Cape Town: HSRC Press.

and prevalence levels have risen among adults aged 15 to 49 between 2002 and 2008 in most provinces (Shisana et al., 2009).

A demographic model conducted at UCT in 2003<sup>8</sup> estimated the HIV infection rate for its 2008 intake of students to be above 10%, and somewhere between 10.83% and 12.08% by 2010. Responding to the prevalence of HIV, UCT has continued to provide ongoing Voluntary Counselling and Testing (VCT) at two sites, has expanded VCT drives to the Upper Campus, and has utilised a mobile testing unit on its various campuses in addition to a *Tutu Tester* mobile clinic in the wider community. Staff members were able to attend Human Resource Management-initiated Health Screening Days in a number of Faculties and PASS departments in 2009.

HEAIDS conducted a sero-prevalence survey in 2008 of all Higher Education Institutions (HEIs), the results of which will only be made public in late March 2010.

**UNESCO's Higher Education Institution (HEI) Study:** UNESCO's 2006 report, *Expanding the Field of Enquiry: A cross-country study of Higher Education Institutions' responses to HIV and AIDS* does not include South Africa, but analyses the response to HIV and AIDS of Higher Education Institutions (HEIs) in 12 countries worldwide. Critical areas were identified as follows:

- Institutional HIV and AIDS policies and plans;
- Leadership on HIV and AIDS;
- Education related to HIV and AIDS (including pre- and in-service training, formal and non-formal education);
- HIV and AIDS research;
- Partnerships and networks;
- HIV and AIDS programmes and services;
- Community outreach.

HIV and AIDS services, teaching and research initiatives at the reviewed institutions are described by UNESCO (2006) as "sporadic, uncoordinated, and reliant on the initiatives of a few dedicated staff and students". The report criticises the gaps in curriculum integration across all departments and the insufficient attention given to HIV/AIDS-related stigma and discrimination, workplace policies and programmes, treatment, care and support, and appropriate services.

**Update on South African Higher Education Initiatives:** HEAIDS<sup>9</sup> is "a nationally coordinated large-scale effort to develop and strengthen the capacity, systems and structures of all Higher Education Institutions to prevent, manage and mitigate the causes, challenges and consequences of HIV/AIDS in the sub-sector". Through the Department of Education, the European Union provided €20 million to support this Programme until the end of May 2010.

The EU-funded HEAIDS<sup>10</sup>, 'Phase 2', which concerns HE institutions' teaching, training, research, community engagement and service functions, has identified a comprehensive HIV/AIDS response as including:

- a) defined roles and responsibilities and a developed policy;
- b) support of human resource capacities and development of systems;

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<sup>8</sup> Kramer, S. 2003. *The projected impact of HIV/AIDS on the University of Cape Town student community in ARV treatment for UCT students: proposal for M. Hall*. Prepared by UCT HIV/AIDS Unit,

<sup>9</sup> Available at: <http://www.hesa.org.za/he aids/>.

<sup>10</sup> Available at: <http://www.hesa.org.za/he aids/>.

- c) institutional-level development of norms and standards for sustainable funding models and mechanisms;
- d) identifying and clarifying a role for educators and teacher education faculties;
- e) identification and replication of 'best practice' with respect to prevention, behavioural change, care and support, gender and curriculum integration, and;
- f) support and strengthening of knowledge generation, assimilation and dissemination with respect to HIV/AIDS.

HEAIDS<sup>11</sup> stresses that "Higher Education (HE) in South Africa has a vital role to play in mitigating and managing the effects of the HIV/AIDS epidemic through all aspects of its core operations of teaching, learning, research and community engagement".

**UCT's Response:** This Summary Report details the distinct sections under review at UCT, as follows:

- A) Leadership, Policy, Management and Service Provision;
- B) Curriculum Responsiveness;
- C) Research Development;
- D) Community Outreach / Social Responsiveness; and
- E) Professional Consulting and Materials Development.

Each section corresponds with areas identified for action in *The UCT Policy on HIV Infection and AIDS: A Co-ordinated Response to HIV and AIDS*<sup>12</sup>, approved by UCT Council in November 2006 (see Appendix). The Summary Report is augmented by appendices that correspond with the above-lettered sections. These appendices provide a greater depth of analysis. Although every effort has been made to provide a comprehensive report, there may be omissions.

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<sup>11</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heads/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heads/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>12</sup> The UCT Policy on HIV Infection and AIDS: A Co-ordinated Response to HIV/AIDS, as approved by Council, November 2006, is available at: [http://www.uct.ac.za/downloads/uct.ac.za/about/policies/hiv\\_aids\\_policy.pdf](http://www.uct.ac.za/downloads/uct.ac.za/about/policies/hiv_aids_policy.pdf).

## A. Leadership, Policy, Management and Service Provision

### A i) Leadership and Policy

The Office of the Vice-Chancellor (OVC) is accountable for UCT's HIV and AIDS policy. Accountability for policy implementation rests with the Acting Deputy Vice-Chancellor with the transformation portfolio, Professor Crain Soudien. The HIV/AIDS Institutional Coordination Unit (HAICU) coordinates aspects of the institutional response, outlined in the UCT Policy on HIV Infection and AIDS. There is also a UCT policy on occupational post-exposure prophylaxis policy – the UCT Needlestick Injury Policy<sup>13</sup>. Policy implementation is the responsibility of HAICU, the Student Wellness Service, Human Resources, Health and Safety, Communication and Marketing, Research and Innovation and the Faculties.

**Benchmark:** HEAIDS<sup>14</sup> notes that “HE staff and students are traditionally amongst the leaders of their societies, representing and defending values which are essential in the fight against HIV/AIDS”. It emphasises that committed leadership from staff (utilising corporate governance structures, such as executive management, Senate and Council) and students (including student leadership organisations such as the Student Representative Council) is paramount in order to “facilitate decision making at a high level to drive and sustain a strong sectoral response to HIV/AIDS”. The HEAIDS<sup>15</sup> programme notes that this “will ensure that key stakeholders remain committed, that the required resources are mobilised, that the crucial policies and management structures are established and a strong foundation is laid for the implementation of specific interventions”.

According to HEAIDS, strong leadership is demonstrated through good governance, a “clear and unambiguous policy”, sustained financial and political investment (including institutional funding of a comprehensive response) and ongoing monitoring and evaluation. The written policy must “ensure the issues of stigma and discrimination are addressed”<sup>16</sup>.

It is also important for HEIs to utilise their academic knowledge in order to “provide for and take part in open debate on HIV/AIDS issues to add to and influence discussions in relevant structures in society”.

Moodley<sup>17</sup> calls for the co-ordination and implementation of programmes; education and training; HIV/AIDS and legal issues; testing; confidentiality; employment issues, such as incapacity, termination of services, etc; promotion of a safe working environment; compensation for occupational acquired HIV; employee benefits and provision of care; response to other employees; and a procedure for dispute resolution and grievances related to HIV and AIDS-related issues.

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<sup>13</sup> UCT. 2010. *Policy for the procedures to follow in the event of staff and students who have been exposed to blood and body fluids in the course of carrying out their duties. (UCT post-exposure prophylaxis policy)*. Available at: <http://www.uct.ac.za/about/policies/>.

<sup>14</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>15</sup> Ditto

<sup>16</sup> Ditto

<sup>17</sup> Moodley, I., (in press). *Development of sustainable funding models and mechanisms with respect to a comprehensive HIV and AIDS programme in the higher education sub-sector – a draft institutional visit report on UCT*.

## **A ii) Management and Service Provision**

### **Students**

#### **HAICU**

During the period under review both the HEAIDS Prevalence Survey and the Southern Hemisphere AIDS Community Educators (ACEs) Evaluation and Risk Behaviour Survey<sup>18</sup> were conducted. The findings of the latter survey were disseminated to key stakeholders on campus in the middle of 2009, while the findings of the Prevalence Survey are due to be released by HEAIDS in March 2010. HAICU builds on Orientation Week programmes through further interactive residence workshops, campaigns and events throughout the academic year.

The standard articulated by HEAIDS Good Practice recommendations<sup>19</sup> is for information about HIV to be made available to all students and staff. UCT does this through social marketing campaigns and events and a peer education programme. HIV information is distributed to students in particular during the orientation period and this core information is built upon throughout the year as different aspects related to HIV and AIDS – such as stigma and gender relations – are explored in both public events and through a series of residence workshops held across campus.

Further details of HAICU activities and programmes appear in the body of this report.

#### **Student Wellness Service**

Student Wellness Service at UCT provides students with HIV and AIDS medical management, including the treatment of opportunistic infections, and its referral programme allows ARVs to be accessed. Additionally, it distributes condoms and provides students with VCT.

The Student Wellness Service (SWS) was involved in a number of policy development initiatives during 2009 including the Needlestick Injury Policy, a policy on sexual assault and guidelines covering non-occupational post-exposure prophylaxis (PEP).

### **Staff**

#### **Human Resources (HR) – UCT's HIV/AIDS Workplace Programme**

A workplace programme for staff, in which HIV/AIDS is a prescribed minimum benefit, enables staff to access ARVs, and its new emphasis on Wellness Screening, with HIV included as a chronic manageable condition, has encouraged more staff to test for HIV.

The main focus for 2009 was on providing access to this service to more staff across UCT. During these interventions over a thousand staff went for screening and the vast majority of staff members opted to have HIV tests.

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<sup>18</sup> Lomofsky, D. et al. 2009. *ACEs risk behaviour survey and evaluation. Final report, 22 July 2009.* Cape Town: UCT.

<sup>19</sup> Hanson, S., (in press). *Good practice HIV/AIDS prevention strategies for public higher education institutions in South Africa. A desktop review.*

In 2009 the UCT Human Resource Department has been contributing to the HIV/AIDS policy framework for the Higher Education Sector with regard to staff. Human Resources has been approached to provide background to and details on UCT's HIV/AIDS staff workplace programme as an example of good practice occurring in the workplace for the policy framework.

**Health and Safety:** The UCT Needlestick Injury Policy and addendum were updated. The First Aid policy was updated as it is annually and a section of the First Aid training syllabus was devoted to universal precautions. The total number of First Aiders trained in 2009 was 82 and the total number of level-one trained first aiders on campus in 2009 was 243.

**Benchmark:** HEAIDS<sup>20</sup> emphasises the direct influence that HIV/AIDS has on human resource development: Students, representing a source of the future skills and knowledge base of the country, are hence a high priority as they are at risk themselves and the peers of those that are most susceptible and vulnerable to infection". HEAIDS adds that as academics at HEs are amongst the most skilled in the country, it is important not to lose "the most valuable and productive members of the economy".

## B. Curriculum Responsiveness

There are many models proposed for integrating HIV/AIDS into curricula and there is considerable debate about which models are more effective in developing appropriate curricula.

UCT faculties have adopted a number of different approaches, ranging from formal courses, through one or more models within a course, to topics enlarging the understanding in a particular field, to various modalities showing more or less curriculum integration. Kelly warns of the danger of being satisfied with cosmetic responses that incorporate useful additions in the curriculum, but do not go far enough in developing the commitment, academic understanding and analytic ability that mastering HIV and AIDS requires<sup>21</sup>.

The HEAIDS's strategic framework<sup>22</sup> (2006-2009) indicator to infuse HIV/AIDS across the curriculum should ensure that students have the following opportunities:

- Know how to keep themselves healthy;
- Understand the gender dimension of HIV transmission and the role of women in sexual decision-making;
- Benefit from intellectual debate and inquiry about the medical, social, demographic and economic issues relating to HIV and AIDS;

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<sup>20</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>21</sup> Kelly, M. 2006. *External observer's report: the response of the University of Cape Town to HIV and AIDS, UCT HIV/AIDS Colloquium*. Cape Town, South Africa, November 2006. Unpublished.

<sup>22</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2006. *HEAIDS strategic framework 2006-2009 and beyond*. [Internet] HESA: Pretoria (Published September 2006). Available at: [www.thutong.doe.gov.za/resourcedownload.aspx?id=27995](http://www.thutong.doe.gov.za/resourcedownload.aspx?id=27995) [Accessed 3 December 2009].

- Acquire an informed understanding of how HIV and AIDS will affect their future professional careers;
- Learn about the implications of managing HIV and AIDS in universities and work places;
- Understand the potential impact of HIV and AIDS on the economic and social development of South Africa and the world;
- Develop a caring, tolerant, and non-discriminatory approach to persons living with HIV and AIDS; and
- Engage with the wider community.

In 2006 Kelly observed that UCT faculties had “adopted many models, ranging from formal courses (mostly at postgraduate level), through one or more modules within a course, to topics enlarging the understanding in a particular field, to various modalities showing more or less curriculum integration”. However he noted that: “Every Faculty could do more to promote students’ specific understanding of the interaction between HIV/AIDS and the areas in which they are acquiring professional expertise”.

Hanson<sup>23</sup> (2009) goes on further to say that faculties may be reluctant to incorporate HIV into their courses for a number of reasons, including the fact that they may not be totally comfortable with the subject. “To catalyze students into deeply thinking about the problem of HIV/AIDS for themselves, their families, and society, faculty must be paramount role models who demonstrate excitement about the ideas being discussed.”

There are compulsory HIV/AIDS-related courses for all first-year students in the Faculties of Commerce and Health Sciences and both these courses operate from the premise of developing critical thinking skills. There are currently no compulsory HIV/AIDS-related courses that reach all first-year students in Law, Sciences, Humanities or Engineering & the Built Environment (EBE) and this remains a concern.

The Commerce Faculty’s ‘*Evidence-Based Management*’ (EBM) is intended to educate around HIV and AIDS in general and illuminate issues of particular relevance with regard to doing business in an environment where HIV/AIDS is so prevalent.

‘*Me and HIV/AIDS*’, under the umbrella course of ‘*Becoming a Professional*’, in the Health Sciences Faculty, aims to develop personal and inter-personal skills and students explore issues around HIV and AIDS, stigma, relationships, values and behavior, the social and psychological issues, as well as the medical concerns of HIV/AIDS. These two courses contribute significantly to creating AIDS-competent graduates at UCT.

Additionally, Health Sciences students receive formal teaching on HIV/AIDS throughout the curricula, with MBChB students receiving clinical exposure to HIV/AIDS through medicine lectures, tutorials and bedside teaching.

*Becoming a Professional – Me and HIV/AIDS* was externally evaluated in 2008 and the evaluation yielded excellent results which were presented to the Senate Academic Planning Committee (SAPC) in August 2008. The majority of students responded favourably to the course, with 92% agreeing it would assist them in

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<sup>23</sup> Hanson, S., (in press). *Good practice HIV/AIDS prevention strategies for public higher education institutions in South Africa. A desktop review.*

becoming better health practitioners. Knowledge surrounding HIV and AIDS increased considerably, especially regarding understanding of the modes of transmission; stigma; prevention; bio-medical information; and personal risk information.

The evaluation<sup>24</sup> recommended that every Faculty at UCT should do more to promote students' understanding of the interaction between HIV/AIDS and the areas in which they acquire professional expertise. This mirrors Kelly's observations<sup>25</sup>. The evaluation findings stimulated interest from the Science and Engineering & Built Environment Faculty in exploring the possibility of setting up similar first-year courses.

Pilot programmes in these two faculties are to be aimed at first-year students and would have particular relevance to the discipline being studied. This is in line with HEAIDS recommendations<sup>26</sup> which take into account that while most students are familiar with basic information about HIV infection and transmission, "many may not be aware of the impact and mitigation within their chosen field of study or professional training". For example, the EBE course will have a particular emphasis on HIV in the workplace and the ramifications of the epidemic on human resources.

The Commerce Faculty offers students a selection of postgraduate courses exploring population projections, demography, and economic, social and political dimensions of HIV and AIDS.

The Health Sciences Faculty offers a course in epidemiological concepts of infectious diseases and the evaluation of public health interventions. HIV-related courses are also available in microbiology and clinical pharmacology. Public health, human rights and ethics, and palliative medicine, paediatric AIDS and oncology are studied at Masters level.

HIV and AIDS-related modules are offered within the Humanities Faculty, in the African Gender Institute, Education, Historical Studies, Psychology, Social Anthropology, Sociology and Social Development. Religious Studies explores HIV case studies in the investigation of public health, whilst the interdisciplinary MPhil in HIV/AIDS and Society interrogates HIV and AIDS in South Africa from a range of perspectives.

The Law Faculty offers a module examining human rights law and looks in particular at the provision of ARVs to pregnant women living with HIV.

Biological, chemical, molecular, cellular, environmental and other aspects of HIV are explored in some courses in the Science Faculty.

**Benchmark:** HEAIDS<sup>27</sup> maintains that the HE sector is well positioned, through teaching and learning activities, to "play a fundamental role in developing leaders who will shape future economies, communities and governments". It is the imperative for the HE sub-sector to "produce high-calibre leaders and quality graduates

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<sup>24</sup> Lomofsky, D. et al. 2009. *ACEs risk behaviour survey and evaluation. Final report, 22 July 2009.* Cape Town: UCT.

<sup>25</sup> Kelly, M. 2006. *External observer's report: the response of the University of Cape Town to HIV and AIDS, UCT HIV/AIDS Colloquium.* Cape Town, South Africa, November 2006. Unpublished.

<sup>26</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa.* [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>27</sup> Ditto

competent to manage and control HIV/AIDS within their respective professions, hence calling for the mainstreaming of both professional and personal aspects of HIV/AIDS into each institutional learning programme”<sup>28</sup>. With this in mind, HEAIDS calls for “the development of various relevant professional and personal (HIV) skills (knowledge and values) regarding HIV/AIDS issues (to be) integrated widely, variedly and comprehensively in appropriate curricula”<sup>29</sup>. It also suggests that an “in-service training programme” would allow staff and students to “demonstrate their professional and personal knowledge and skills regarding safe behaviour towards themselves and towards others”.

Additionally, it is recommended by HEAIDS that “AIDS-related engagement with and service to society” should be incorporated into professional programme requirements. Staff should also, states HEAIDS, receive information and education that will allow them to effectively and fully integrate a relevant HIV/AIDS component into the curriculum.

Moodley<sup>30</sup> maintains the minimum norms and standards for curriculum integration should comprise:

- a) an undergraduate course equivalent to four credits spread out over an entire degree; and
- b) a postgraduate course equivalent to four credits integrated into existing degree, including a research project.

## C. Research Development

As in previous years a significant number of HIV/AIDS-related research projects were conducted during the year under review. Many of these made important contributions to the way in which HIV is addressed in South Africa and the global community.

The AIDS and Society Research Unit (ASRU), within the Centre for Social Science Research (CSSR) in the Humanities Faculty, produced a diverse range of research and working papers and the Centre for Actuarial Research (CARE) modeled the impact of the epidemic.

The Faculty of Health Sciences’ Adolescent Health Research Unit (AHRU) looked at school-based HIV interventions and sexual behaviour of adolescents. The Children’s Institute was concerned with residential care and school-based HIV interventions, whilst Paediatric Infectious Diseases, Red Cross Children’s Hospital and the School of Child and Adolescent Health, investigated child-focused interventions, mainly concerning ART and the link with TB.

The Institute of Infectious Disease and Molecular Medicine (IIDMM) undertook research into diagnostics, multi-drug resistance, vaccines, and the relationship between HIV infection and cervical human papilloma virus, as well as tuberculosis

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<sup>28</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2006. *HEAIDS strategic framework 2006-2009 and beyond*. [Internet] HESA: Pretoria (Published September 2006). Available at: [www.thutong.doe.gov.za/resourcedownload.aspx?id=27995](http://www.thutong.doe.gov.za/resourcedownload.aspx?id=27995) [Accessed 3 December 2009].

<sup>29</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>30</sup> Moodley, I., (in press). *Development of sustainable funding models and mechanisms with respect to a comprehensive HIV and AIDS programme in the higher education sub-sector – a draft institutional visit report on UCT*.

and other opportunistic infections. The Desmond Tutu HIV Centre (DTHC), within the Institute, partnered with the Infectious Disease Epidemiology Unit (IDEU) of the Division of Public Health to investigate the use of HIV treatment, microbicides and vaccines. Various vaccine trials have been undertaken in the Western Cape by the DTHC, and adolescent research has been conducted.

Many other UCT departments and researchers were involved in number other studies which are reflected in the appendices to this summary report.

**Benchmark:** The HE sector is described by HEAIDS<sup>31</sup> as “charged with the mandate of generating new technologies, practices, and understanding through research”. HEAIDS<sup>32</sup> urges both externally and internally oriented research, which focuses “equally on the knowledge, understanding and information needs of society, as well as on the needs of the sector itself” – pure and applied research and relevant research within all disciplines. HEAIDS identifies the importance of generating new knowledge “about how to address HIV/AIDS in the higher education sector”. With this in mind, it is important to identify and appropriately support “strong and relevant institutional research entities and individual researchers”<sup>33</sup>.

UNESCO<sup>34</sup> describes “promising examples of research programmes contributing to national policies and programmes” at 12 reviewed HEIs (2006:9). It describes an extensive dissemination of research internationally, but also the lack of information sharing on HIV and AIDS research and related services (2006:30), as there is no mechanism to “monitor and track the output of HIV-related research”. Rather than being institutional, research is mostly motivated by donor demands, personal interests of academic staff and demands from policy-makers. Additionally, institutions fail to collaborate effectively internally, focusing rather on external partnerships, and biomedical research predominates (2006:31-32).

## D. Social Responsiveness, Consulting and Materials Development

Outreach initiatives relate to curriculum and research projects, as well as co-curricula responses. These initiatives include HAICU’s supervision of TSiBA’s peer education programme which UCT helped develop from its establishment in 2006. Now that the TSIBA programme is up and running UCT’s direct involvement during 2009 became a supervisory one. The Desmond Tutu HIV Centre’s mobile clinic, the Tutu Tester, provides HIV testing, as well as screening for other common chronic diseases by travelling to many under-serviced communities in greater Cape Town.

The Gender Health and Justice Unit trained police officers in the Eastern Cape and Western Cape on “The Sexual Offences Act & HIV/AIDS”.

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<sup>31</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>32</sup> HEAIDS Strategic Framework 2006-2009 and beyond. Higher Education HIV/AIDS Programme (HEAIDS) Available at: <http://www.hesa.org.za/resources/HEAIDS%20Strategic%20Framework%20Final.pdf>

<sup>33</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>34</sup> UNESCO. 2006. *Expanding the field of inquiry: a cross-country study of higher education institutions' responses to HIV and AIDS*. [Internet] UNESCO: Paris (Published March 2006). Available at: <http://unesdoc.unesco.org/images/0014/001455/145516E.pdf> [Accessed 25 November 2009].

The Groote Schuur Hospital-HIV Mental Health Group established a new service focussing on psycho-social interventions related to PLWHA which covers 12 primary healthcare clinics. This new service will begin to define the problem of common mental disorders, especially mild-moderate depression in PLWHA attending HIV clinics, and develop brief interventions to address them. In addition, a clinical psychologist supervises and provides continuity of service to three community service psychologists who provide psychological input to patients who are HIV positive.

**Benchmark:** UNESCO<sup>35</sup> describes community outreach at institutions as a “practical component of students’ academic programme, and part of their research, training and education”. It adds that “HIV and AIDS awareness-raising activities for nearby secondary schools are also common”. Some institutions also target ‘at-risk’ populations, such as the gay community and sex workers. However, “outreach to persons affected and infected by HIV and AIDS was rare... reflecting the preoccupation... on prevention”.

HEAIDS<sup>36</sup> highlights the importance of engagement with the community by staff, students and civil society, in a two-way flow of expertise and support, which emphasizes partnerships and sponsorship programmes. It states that “the sector has a vital responsibility to provide intellectual leadership and therewith produce informed and empowered individuals in communities, as well as in the country as a whole”; an institution may investigate ways in which the surrounding community can benefit from the HIV/AIDS curricula and applied and operational research-based learning.

A number of academic programmes at UCT involve outreach activities, providing a symbiotic relationship between curriculum developers, researchers, students and surrounding communities. These programmes which have a strong academic, research or consulting emphasis are listed under departmental responses to HIV and AIDS.

**Benchmark:** HEAIDS<sup>37</sup> stresses the importance of targeted prevention, care and support; a sustainable health and wellness approach that provides “comprehensive support services to staff and students through a combination of in-house and referral systems”, and the development of “an effective Workplace Programme for employees”. Additionally, “programmes, interventions and curricula may include the following: peer education, VCT, programmes to address gender based violence and promote gender equity, alcohol and substance abuse prevention training” and “education and behaviour change informed by research and good practice”.

UNESCO<sup>38</sup> emphasises that Peer Education (PE) programmes require the appropriate level of training, support and supervision. It indicates that “the PE programmes of HEIs have succeeded in expanding HIV preventive education and health promotion, and developing life skills and psychosocial competencies among

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<sup>35</sup> Ditto

<sup>36</sup> HEAIDS Strategic Framework 2006-2009 and beyond. Higher Education HIV/AIDS Programme (HEAIDS)

Available at: <http://www.hesa.org.za/resources/HEAIDS%20Strategic%20Framework%20Final.pdf>

<sup>37</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>38</sup> UNESCO. 2006. *Expanding the field of inquiry: a cross-country study of higher education institutions’ responses to HIV and AIDS*. [Internet] UNESCO: Paris (Published March 2006). Available at: <http://unesdoc.unesco.org/images/0014/001455/145516E.pdf> [Accessed 25 November 2009].

members". However, it warns that the PE approaches may lack depth and coverage of information, only focusing on prevention to the detriment of, for example, stigma and care for people living with HIV. At UCT, peer educators are utilized for prevention, gender, relationship, anti-stigma and treatment information workshops.

## Conclusion

This report shows both the advances made in UCT's response to HIV/AIDS as well as the challenges that are presented.

The University has made significant and impressive strides in HIV/AIDS- related research across a range of disciplines and there is an increasingly multi-disciplinary approach to tackling the enormously complex issues that are facing our country and continent in relation to this epidemic. A large part of our role as one of Africa's leading teaching and research university remains to continually monitor whether UCT is leading the way in meeting the continent's and our country's need for producing graduates who will be AIDS-competent citizens<sup>39</sup> who become the generation that will turn the tide of the epidemic.

The University cannot be complacent regarding its progress, especially in relation to curriculum development. As Kelly<sup>40</sup> observed in 2006, UCT is indeed adopting many models in order to incorporate HIV and AIDS into teaching programmes. However these programmes still do not exist across every faculty. A concerted effort needs to be made to systematically and innovatively develop curriculum responses that strengthen students' "...academic understanding and analytical ability that mastering HIV and AIDS requires".

The Risk Behaviour Survey<sup>41</sup> shows the importance that students themselves place in the HIV/AIDS-related information they receive on campus. UCT must continue to heed these students' urgent call to significantly include HIV and AIDS in the curriculum. This survey also showed that despite extremely high levels of HIV-related knowledge, many students appear to have corresponding levels of perceived invulnerability. UCT must continue to ensure that HIV education becomes embedded in both curriculum and co-curriculum programmes to help students fully comprehend their personal risk and their individual responsibility to become part of the epidemic's solution.

2010 will prove to be an important year in Higher Education, as HEAIDS will be releasing their findings of the Prevalence Survey. For the first time in South Africa's history there will be baseline information on prevalence rates amongst University students. Whatever the results, UCT must continue to work towards its full mandate, not only in terms of prevention and treatment, but in graduating HIV-literate students as part of an "AIDS-competent community"<sup>42</sup>.

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<sup>39</sup> Campbell, C., Nair, Y., Maimane, S. & Sibiyi, Z. (2005) Building AIDS -competent communities. *AIDS Bulletin* 14(3), pp.14 -20).

<sup>40</sup> Kelly, M. 2006. *External observer's report: the response of the University of Cape Town to HIV and AIDS, UCT HIV/AIDS Colloquium*. Cape Town, South Africa, November 2006. Unpublished.

<sup>41</sup> Coetzee, L., Lomofsky, D., Tawii, C. and Wessels, W. ACES Risk Behaviour Survey and Evaluation. (2009) Southern Hemisphere Consultants.

<sup>42</sup> Campbell, C., Nair, Y., Maimane, S. & Sibiyi, Z. (2005) Building AIDS -competent communities. *AIDS Bulletin* 14(3), pp.14 -20).

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10. Lomofsky, D., Wessels, W., et al. 2008. *Evaluation of the Me and HIV/AIDS Programme in the Health Sciences Faculty*. Southern Hemisphere Consultants.
11. Kelly, M. (2006). *External Observer's Report: The Response of the University of Cape Town to HIV and AIDS, UCT HIV/AIDS Colloquium, November 2006*.
12. Campbell, C., Nair, Y., Maimane, S. & Sibiyi, Z. (2005). *Building AIDS-competent communities. AIDS Bulletin*. 14(3), 14 - 20.
13. The UCT Policy on HIV Infection and AIDS: A Co-ordinated Response to HIV/AIDS, as approved by Council, November 2006.

## Appendix A: Leadership, Management and Policy

### A i) Leadership and Policy

The Office of the Vice-Chancellor (OVC) is accountable for UCT's HIV and AIDS policy, while the Deputy Vice-Chancellor, in this instance Acting Deputy Vice-Chancellor Professor Crain Soudien, is accountable for policy implementation along with the UCT department and units including HAICU, the Student Wellness Service, Human Resources, Health and Safety, Communication and Marketing, Research and Innovation and the Faculties.

Policy co-ordination and implementation is overseen by the HIV/AIDS Policy Implementation (HAPI) Group which is comprised of representatives from HAICU, the Student Wellness Service, Human Resources, Health and Safety and which convenes at least four times a year to monitor HIV and AIDS policy implementation.

2009 saw the drafting of a revised UCT HIV/AIDS strategic plan under the auspices of HAPI and aligned with the new HEAIDS national policy framework and national strategic plan. A comprehensive strategic plan as well as a comprehensive monitoring and evaluation plan is due to be finalised in March 2010.

**Benchmark:** HEAIDS<sup>43</sup> notes that "HE staff and students are traditionally amongst the leaders of their societies, representing and defending values which are essential in the fight against HIV/AIDS". It emphasises that committed leadership from staff (utilising corporate governance structures, such as executive management, Senate and Council) and students (including student leadership organisations such as the Student Representative Council) is paramount in order to "facilitate decision making at a high level to drive and sustain a strong sectoral response to HIV/AIDS". The HEAIDS<sup>44</sup> programme notes that this "will ensure that key stakeholders remain committed, that the required resources are mobilised, that the crucial policies and management structures are established and a strong foundation is laid for the implementation of specific interventions".

According to HEAIDS, strong leadership is demonstrated through good governance, a "clear and unambiguous policy", sustained financial and political investment (including institutional funding of a comprehensive response) and ongoing monitoring and evaluation. The written policy must "ensure the issues of stigma and discrimination are addressed"<sup>45</sup>.

It is also important for HEIs to utilise their academic knowledge in order to "provide for and take part in open debate on HIV/AIDS issues to add to and influence discussions in relevant structures in society". Kelly (2006) writes of "superb involvement at both policy and operational levels" at UCT.

Moodley<sup>46</sup> calls for the co-ordination and implementation of programmes; education and training; HIV/AIDS and legal issues; testing; confidentiality; employment issues,

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<sup>43</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heaids/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heaids/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>44</sup> Ditto

<sup>45</sup> Ditto

<sup>46</sup> Moodley, I., (in press). *Development of sustainable funding models and mechanisms with respect to a comprehensive HIV and AIDS programme in the higher education sub-sector – a draft institutional visit report on UCT*.

such as incapacity, termination of services, etc; promotion of a safe working environment; compensation for occupationally-acquired HIV; employee benefits and provision of care; response to other employees; and a procedure for dispute resolution and grievances related to HIV and AIDS-related issues.

## **Appendix A ii) Management and Service Provision**

### ***Students:*** HAICU

During the period under review both the HEAIDS Prevalence Survey and the Southern Hemisphere AIDS Community Educators (ACEs) Evaluation and Risk Behaviour Survey<sup>47</sup> were conducted. The findings of the latter survey were disseminated to key stakeholders on campus in the middle of 2009, while the findings of the Prevalence Survey are due to be released by HEAIDS in March 2010.

The Risk Behaviour Survey which sampled UCT 600 students living in residence generated some interesting findings. The research revealed that half of the students surveyed had had sex and that the majority had had their first sexual experience between the ages of 17 and 21. More than half the students reported they were not involved in a relationship, while 40% said they were in a relationship.

There were high levels of awareness regarding UCT's HIV-related services, for example Voluntary Counselling and Testing (VCT), but there was limited knowledge about medical management services. The vast majority of students were knowledgeable about transmission, prevention and treatment of HIV, but less than three-quarters of the sample reported being tested for HIV.

The survey also revealed that while students believe it is morally wrong to stigmatise and treat HIV positive people differently, there were indications that negative stereotypes of HIV positive people are still adhered to.

No students reported practicing abstinence as a strategy of preventing HIV. Of the students claiming to be sexually active, 69% reported using a condom the last time they had sex and 31% of student reported that they had not used a condom during their last sexual encounter.

This indicates that although residence students having a high knowledge levels about HIV transmission – with a clear sense of how to prevent HIV transmission – many are still inclined to engage in risky behavior by not practicing safer sex 100% of the time. This points to the continuing need for UCT to stage behaviour interventions during term time.

As in previous years, HAICU coordinated the running of the HIV/AIDS-related courses, *Evidence-Based Management* (EBM) in the Commerce Faculty and *Becoming a Professional – “Me and HIV/AIDS”* in the Health Sciences Faculty.

HAICU organised several campaigns during the year. A fashion design competition held during Orientation Week drew together the main strands of the HIV/AIDS awareness information. This information was disseminated during the annual

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<sup>47</sup> Coetzee, L., Lomofsky, D., Tawii, C. and Wessels, W. ACES Risk Behaviour Survey and Evaluation. (2009) Southern Hemisphere Consultants.

Orientation Week HIV workshops and on 1 GIG flash drives given to the first-year students.

The AIDS Candlelight Memorial Concert in May paid tribute to family members, friends and colleagues lost to AIDS over the last three decades. HAICU used the event to disseminate more information about how students could access testing and support services on campus.

Other initiatives included a “Beat TB” direct marketing campaign aimed primarily at students and a campaign that alerted students to the dangers inherent in concurrent sexual relationships.

HAICU organised and hosted an academic panel discussion in August. Entitled: *Sexual concurrency and its implications for programmatic responses to HIV/AIDS*, the discussion saw both UCT and visiting academics discuss their concurrency-related research with UCT staff and students. Following from the academic panel discussion another public panel discussion about concurrency was staged for a mainly student audience in September.

The ACEs conducted 102 workshops around campus during 2009 and these linked into the main campaign themes and deepened students’ understanding of many of the associated issues.

HAICU selected and trained 34 new ACEs in October in preparation for their year-long peer education service to the campus community in 2010. For the first time since the inception of this peer education programme at UCT a significant number of men applied and were accepted as ACEs, and for the first time more South Africans students than international students stepped forward.

The Final Report for the Peer Education Evaluation was presented to various stakeholders at UCT. The research reveals that UCT’s peer educators play an integral role in creating safe spaces for dialogue and for disseminating crucial information related to HIV and AIDS. The findings show there remains a vital need for students to engage in discussion and debate around issues such as sexual negotiation, gender politics and sexual concurrency.

Significant progress was made towards finalising UCT’s HIV strategic plan – the final section of the HEAIDS project – and this is due to be completed early in 2010.

#### **Staff:** Organisational Health and Wellness

**Health and Safety:** The UCT PEP (post-exposure prophylaxis) policy and addendum were updated. The First Aid policy was updated as it is annually. A section of the syllabus of the First Aid training was devoted to universal precautions. The total number of First Aiders trained in 2009 was 82. The total number of level one trained first aiders on campus in 2009 was 243. Awaiting report.

The Health Sciences Faculty’s Division of Clinical Pharmacology in the Department of Medicine consulted on the UCT’s PEP policy for staff and students.

**Benchmark:** HEAIDS<sup>48</sup> emphasises the direct influence that HIV/AIDS has on human resource development: Students, representing a source of the future skills and knowledge base of the country, are hence a high priority as they are at risk themselves and the peers of those that are most susceptible and vulnerable to infection”. HEAIDS adds that as academics at HEs are amongst the most skilled in the country, it is important not to lose “the most valuable and productive members of the economy”.

HEAIDS stresses the importance of targeted prevention, care and support; a sustainable health and wellness approach that provides “comprehensive support services to staff and students through a combination of in-house and referral systems” and the development of “an effective Workplace Programme for employees”. Additionally, “programmes, interventions and curricula may include the following: peer education, VCT, programmes to address gender based violence and promote gender equity, alcohol and substance abuse prevention training” and “education and behaviour change informed by research and good practice”<sup>49</sup>.

UNESCO<sup>50</sup> emphasises that Peer Education (PE) programmes require the appropriate level of training, support and supervision. It indicates that “the PE programmes of HEIs have succeeded in expanding HIV preventive education and health promotion, and developing life skills and psychosocial competencies among members”. However, it warns that the PE approaches may lack depth and coverage of information, only focusing on prevention to the detriment of, for example, stigma and care for people living with HIV. At UCT, peer educators are utilized for prevention, gender, relationship, anti-stigma and treatment information workshops.

HAICU builds on Orientation Week programmes through further interactive residence workshops, campaigns and events throughout the academic year.

The standard articulated by HEAIDS Good Practice recommendations<sup>51</sup> is for information about HIV to be made available to all students and staff. UCT does this through social marketing campaigns and events and a peer education programme. HIV information is distributed to students in particular during the orientation period and this core information is built upon throughout the year as different aspects related to HIV and AIDS – such as stigma and gender relations – are explored in both public events and through a series of residence workshops held across campus.

Student Wellness Service at UCT provides students with HIV and AIDS management, including the treatment of opportunistic infections, and its referral programme allows ARVs to be accessed. Additionally, it distributes condoms and provides students with VCT. A workplace programme for staff, in which HIV/AIDS is a prescribed minimum benefit, enables staff to access ARVs, and its new emphasis on Wellness Screening, with HIV included as a chronic manageable condition, has encouraged more staff to test for HIV.

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<sup>48</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2008. *Policy framework on HIV and AIDS for higher education in South Africa*. [Internet] HESA: Pretoria (Published November 2008). Available at: [http://www.hesa.org.za/heads/resources/HIV\\_AIDS%20Policy%20Framework.pdf](http://www.hesa.org.za/heads/resources/HIV_AIDS%20Policy%20Framework.pdf) [Accessed 29 November 2009].

<sup>49</sup> Ditto.

<sup>50</sup> UNESCO. 2006. *Expanding the field of inquiry: a cross-country study of higher education institutions' responses to HIV and AIDS*. [Internet] UNESCO: Paris (Published March 2006). Available at: <http://unesdoc.unesco.org/images/0014/001455/145516E.pdf> [Accessed 25 November 2009].

<sup>51</sup> Hanson, S., (in press). *Good practice HIV/AIDS prevention strategies for public higher education institutions in South Africa. A desktop review*.

As part of a HAPI initiative to articulate UCT's stance on PEP in a non-occupational setting, Prof Soudien, Student Wellness and HAICU met with UCT academic and medical expert on PEP, Dr Marc Mendelson, to discuss the current policy on PEP. It was agreed that Student Wellness would refer students to local clinics and GPs in the event of condom breakage.

## **Appendix B: HIV/AIDS Curriculum Development**

### **Faculty of Commerce**

#### **Centre for Actuarial Research (CARE)**

##### **Undergraduate courses**

Introduction to actuarial science (BUS1003S): includes introductory material on the epidemiology of HIV/AIDS in South Africa, the natural history of infection and prevention and treatment.

##### **Postgraduate courses**

Selected Topics in Southern African Demography (DOC5005F): includes lectures/seminars on the burden of disease due to HIV/AIDS, urbanization and HIV/AIDS.

Population projection (DOC5003S): includes several lectures on incorporating the effect of HIV/AIDS in population projection models.

Infectious disease epidemiology (PPH7063S): includes a lecture on mathematical modelling of HIV and other sexually transmitted infections.

### **Faculty of Health Sciences**

#### **Children's Institute**

##### **Undergraduate courses**

SOC1005S, "Individual and Society" (2008 and 2009): Ariane De Lannoy lectured +/- 700 first year sociology students on educational decision-making within a society heavily affected by HIV and AIDS. Students were explained concepts of "agency" and "structure". Relevant literature and De Lannoy's on research on the topic were used to illustrate that even within an environment where illness and mortality levels are high, young people and their parents continue to believe and invest in schooling.

##### **Postgraduate courses**

*The Child in Context* – a course taught to the UCT 5<sup>th</sup> year medical students in their paediatric block: The CI teaches four seminars per year to 5<sup>th</sup> year medical students on children's rights (including the rights to health and social services for children affected and infected by HIV), the provisions of the Children's Act in relation to consent to health care services, HIV testing and access to contraceptives, and the social grants available for children living in poverty as well as children infected with HIV.

#### **Institute of Infectious Disease and Molecular Medicine**

##### **Undergraduate courses**

HIV/AIDS topics are covered extensively by our division in the undergraduate MBChB curriculum (2<sup>nd</sup> through to 6<sup>th</sup> years)

4<sup>th</sup> year HIV lectures. Clinical teaching of medical students on Infectious Diseases ward rounds at GF Jooste Hospital.

Semester 5: Course Code, LAB3009H - Lecture to Third Year Medical Students on HIV Vaccines.

MCB2016F: Introductory Microbiology. Introduction to Virology 8 lectures which include material on HIV structure, spread and prevention.

MCB3024S: Defence & Disease, Virology and Vaccines module, 33 lectures. HIV structure, replication, vaccines etc.

### **Postgraduate courses**

Dr. Andrew Boule lectures on the Infectious Disease Epidemiology module in the Masters in Public Health.

### **Desmond Tutu HIV Centre**

#### **Undergraduate courses**

Dept of Medicine: Infectious Diseases 6<sup>th</sup> year tutorials

### **Centre for Infectious Disease Epidemiology**

#### **Undergraduate courses**

*Me and HIV* (Becoming a professional) Medical and Allied Medical Students  
Course on how HIV relates to them as first-year students

#### **Postgraduate courses**

Epidemiology of Infectious Diseases. CodePPH737S. This module aims to introduce students to the basic epidemiological concepts related to the study of infectious diseases, and the evaluation of public health interventions against these diseases. It has a large HIV and TB component.

Lecturer on MPhil in HIV/AIDS Course, Department of Sociology

Lecturer on HIV for nurses in Khayelitsha

### **Department of Medicine**

#### **Undergraduate courses**

HIV/AIDS topics are covered extensively by our division in the undergraduate MBChB curriculum (2<sup>nd</sup> through to 6<sup>th</sup> years)

### **Gender Health and Justice Research Unit**

#### **Undergraduate courses**

“Understanding Gender” (MDN 3001 S) looks at gender dimensions of health, including HIV/AIDS.

**Knowledge Translation Unit (KTU)**  
**UCT Lung Institute**

The KTU provided input to lectures for undergraduate medical students and lectures to the Master of Public Health students.

**GSH-HIV Mental Health Group**  
**Department of Psychiatry**

**Undergraduate courses**

PSY3010S: Introduction to Clinical Neuropsychology: The neuropsychology of HIV/AIDS (module).

HUB2017H: A whole class lecture given in semester 3 which provides an introduction to HIV and the brain, and related mental disorders.

**Postgraduate courses**

PRY7007/8W (Master of Medicine in Psychiatry)- An 8 seminar module in neuropsychiatry including 2 seminars in basic and clinical neuropsychiatry of HIV.

PRY7018W (Master of Philosophy in Neuropsychiatry)- A two-year sub-specialist programme offered in coursework and dissertation with ad-hoc and formal seminar components in all aspects of neuropsychiatric aspects of HIV.

## **Faculty of Humanities**

**Centre for Social Science Research**  
**AIDS and Society Research Unit (ASRU)**

**Undergraduate courses**

SAN2066F: Medical Anthropology, Department of Social Anthropology  
A second year course in the Department of Social Anthropology and consisted of a series of lectures on biotechnology, health citizenship and HIV.

SOC522S : HIV in Society, Department of Sociology  
A Masters level course in the Department of Sociology.

**Postgraduate courses**

ECO5001: Political Economy of AIDS in Africa  
This course examines the political economy of AIDS in Sub-Saharan Africa by drawing on social science literature and by employing demographic modelling to explore the AIDS impact and the potential for policy interventions to affect the epidemic.

**Benchmark:** UNESCO<sup>52</sup> asserts that “while some institutions have devoted attention to HIV and AIDS at other points in the curriculum... HIV has not been mainstreamed into teaching programmes”. Many HEIs have “no guidelines or directives from administration, little training, and often no technical or material support, the inclusion of HIV and AIDS in the curriculum often depends greatly on the interest and motivation of individuals and departments”. Where incorporated into the curriculum, education about HIV and AIDS focuses predominantly on medical and health aspects and “there is little focus on students’ own personal risk or vulnerability”.

HEAIDS<sup>53</sup> indicates that the HE sector is well positioned, through teaching and learning activities, to “play a fundamental role in developing leaders who will shape future economies, communities and governments”. It is the imperative for the HE sub-sector to “produce high-calibre leaders and quality graduates competent to manage and control HIV/AIDS within their respective professions, hence calling for the mainstreaming of both professional and personal aspects of HIV/AIDS into each institutional learning programme”<sup>54</sup>. With this in mind, HEAIDS calls for “the development of various relevant professional and personal (HIV) skills (knowledge and values) regarding HIV/AIDS issues (to be) integrated widely, variedly and comprehensively in appropriate curriculum”<sup>55</sup>. It also suggests that an “in-service training programme” would allow staff and students to ‘demonstrate their professional and personal knowledge and skills regarding safe behaviour towards themselves and towards others’.

Additionally, it is recommended by HEAIDS that “AIDS-related engagement with and service to society” should be incorporated into professional programme requirements. Staff should also, states HEAIDS, receive information and education that will allow them to effectively and fully integrate a relevant HIV/AIDS component into the curriculum.

At UCT, Faculties have “adopted many models, ranging from formal courses (mostly at postgraduate level), through one or more modules within a course, to topics enlarging the understanding in a particular field, to various modalities showing more or less curriculum integration” (Kelly, 2006)<sup>56</sup>. A compulsory, examinable course for first-year students is the approach adopted by the Faculty of Commerce (*Evidence-Based Management*) and the Faculty of Health Sciences (*Becoming a Professional – Me and HIV/AIDS*). The latter course, taught on a Saturday, was externally evaluated<sup>57</sup> in 2008 and the findings were presented to the Senate Academic Planning Committee (SAPC) on 26 August. Students responded favourably to the course, despite compulsory Saturday attendance due to a busy study curriculum; 92% considered it worth attending and the same number agreed it would assist them in becoming better health practitioners. Knowledge on HIV and AIDS increased considerably in the area of modes of transmission; stigma; prevention; bio-medical

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<sup>52</sup> UNESCO. 2006. *Expanding the field of inquiry: a cross-country study of higher education institutions’ responses to HIV and AIDS*. [Internet] UNESCO: Paris (Published March 2006). Available at: <http://unesdoc.unesco.org/images/0014/001455/145516E.pdf> [Accessed 25 November 2009].

<sup>53</sup> Higher Education HIV/AIDS Programme (HEAIDS). 2006. *HEAIDS strategic framework 2006-2009 and beyond*. [Internet] HESA: Pretoria (Published September 2006). Available at: [www.thutong.doe.gov.za/resourcedownload.aspx?id=27995](http://www.thutong.doe.gov.za/resourcedownload.aspx?id=27995) [Accessed 3 December 2009].

<sup>54</sup> Ditto

<sup>55</sup> Ditto

<sup>56</sup> Kelly, M. 2006. *External observer’s report: the response of the University of Cape Town to HIV and AIDS, UCT HIV/AIDS Colloquium*. Cape Town, South Africa, November 2006. Unpublished.

<sup>57</sup> Lomofsky, D., Wessels, W., et al. 2008. *Evaluation of the Me and HIV/AIDS Programme in the Health Sciences Faculty*.

information; and personal risk information, including the influence of peer pressure and alcohol.

Evaluation recommendations were for every Faculty at UCT to do more to promote students' understanding of the interaction between HIV/AIDS and the areas in which they acquire professional expertise. The *Me and HIV/AIDS* course suggests a path of action that other Faculties should emulate and executives from all faculties should be encouraged to adopt. The challenge is to incorporate such a course into the formal curriculum of the Faculty of Law and the Faculty of Engineering & the Built Environment, in particular. According to Kelly (2006)<sup>58</sup>, "Every Faculty could do more to promote students' specific understanding of the interaction between HIV/AIDS and the areas in which they are acquiring professional expertise".

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<sup>58</sup> Kelly, M. 2006. *External observer's report: the response of the University of Cape Town to HIV and AIDS, UCT HIV/AIDS Colloquium*. Cape Town, South Africa, November 2006. Unpublished.

## Appendix C: Research Development

### Faculty of Commerce

#### Centre for Actuarial Research (CARE)

##### Active dissertations / theses

Kramer, S. J. (2009). The Effect of HIV on the Orphanhood Method of Estimating Female Adult Mortality. Mphil, University of Cape Town.

##### Papers published

##### Peer reviewed papers

Adam, M.A. & Johnson, L.F. (2009). Estimation of adult antiretroviral treatment coverage in South Africa. *South African Medical Journal*. 99, 661 - 7.

Hesseling, A.C., Cotton, M.F., Jennings, T., Whitelaw, A., Johnson, L.F., Eley, B., Roux, P., Godfrey-Faussett, P. & Schaaf, H.S. (2009). High incidence of tuberculosis among HIV-infected infants: Evidence from a South African population-based study highlights the need for improved tuberculosis control strategies. *Clinical Infectious Diseases*. 48, 108 - 14.

Hesseling, A.C., Johnson, L.F., Jaspan, H., Cotton, M.F., Whitelaw, A., Schaaf, H.S., Fine, P.E.M., Eley, B.S., Marais, B.J., Nuttall, J., Beyers, N. & Godfrey-Faussett, P. (2009). Disseminated bacille Calmette-Guérin disease in HIV-infected South African infants. *Bulletin of the World Health Organization*. 87, 505 - 11.

Johnson, L.F., Dorrington, R.E., Bradshaw, D., Du Plessis, H. & Makubalo, L. (2009). The effect of educational attainment and other factors on HIV risk in South African women: results from antenatal surveillance, 2000-2005. *AIDS*. 23, 1583 - 8.

Johnson, L.F., Dorrington, R.E., Bradshaw, D., Pillay-Van Wyk, V. & Rehle, T.M. (2009). Sexual behaviour patterns in South Africa and their association with the spread of HIV: insights from a mathematical model. *Demographic Research*. 21, 289 - 340.

Dorrington, R.E. (2009). Does the 2008 HSRC survey really point to a turning tide of HIV prevalence in children, teenagers and the youth?, *SAMJ*. 99(9), 631 - 633.

Dorrington, R.E. (2009). Professor Dorrington responds: National population-based HIV surveys - the method of choice for measuring the HIV epidemic, *SAMJ*. 99(9), 636 - 637.

UNAIDS/WHO/SACEMA Expert Group on Modelling the Impact and Cost of Male Circumcision for HIV Prevention. (2009). Male Circumcision for HIV Prevention in High HIV Prevalence Settings: What Can Mathematical Modelling Contribute to Informed Decision Making?, *PLoS Med* 6(9), e 1000109. doi:10.1371/journal.pmed.1000109.

## **Chapters for edited volumes**

Johnson, L.F. (2009). Child health: HIV/AIDS. In: Pendlebury, S., Lake, L. & Smith, C. (Eds.) *South African Child Gauge 2008/2009*. Cape Town, Children's Institute, University of Cape Town.

## **Conference papers**

Johnson, L.F., Dorrington, R.E., Bradshaw, D., Pillay-Van Wyk, V. & Rehle, T.M. (2009). Sexual behaviour patterns in South Africa and their effect on the spread of HIV: insights from a mathematical model. *4th South African AIDS Conference*. Durban, South Africa.

Dorrington, R.E. (2009). Estimating incidence from antenatal data in South Africa. Paper presented at the *4th South African AIDS Conference*. Durban, South Africa.

Johnson, L.F., Dorrington, R.E., Bradshaw, D. (2009). A Bayesian approach to assessing uncertainty in a model of the HIV/AIDS epidemic in South Africa. *57th Session of the International Statistical Institute*. Durban, South Africa, 16 – 22 August 2009.

Laubscher, R., Bradshaw, D., Bourne, D. & Dorrington, R.E. (2009). The impact of HIV/AIDS on adult mortality in South Africa, and the impact of antiretroviral therapy. Paper presented at the *26th Conference of the IUSSP*. Marrakech, Morocco, 27 September - 2 October.

## **Ongoing research projects**

- Development of the next version of the ASSA AIDS and Demographic model
- Development of a model of paediatric HIV in South Africa
- Preparation of a review paper on mathematical models of HIV/AIDS interventions
- Participation in the Aids2031 modelling cluster, a group of experts on the modelling of the HIV/AIDS epidemic

# **Health Sciences Faculty**

## **Children's Institute**

### **Active dissertations / theses**

Marera, D. H. (in progress). *Modelling the demographic impact of HIV/AIDS in Zimbabwe*, Mphil.

### **Papers published**

### **Peer reviewed papers**

Mathews, C., Aaro, L.E., Flisher, A.J., Mukoma, W., Wubs, A.G. & Schaalma, H. (2009). Predictors of early first sexual intercourse among adolescents in Cape Town,

South Africa. In: *Health Education Research*, published online, **24**(1),1 - 10. Oxford University Press.

Dutschke, M. (2009). Analysing the paradigms: Developmental social welfare and children's right to social services in South Africa in *The Social Work Practitioner - Researcher*. **21**(2), 148 - 165.

### **Non-peer reviewed papers**

Philpott, S., Berry, L. & Hall, K. (2009). *Pilot of the Care Dependency Grant Assessment Tool: Consolidated report*. Study commissioned by the Department of Social Development: Disability and Old Age Grants Directorate.

Budlender, D. & Proudlock, P. (2009). *Analysis of the 2009/10 budgets of the nine provincial departments of social development: Are the budgets adequate to implement the Children's Act?* Cape Town: Children's Institute, University of Cape Town.

Budlender, D. & Proudlock, P. (2009). *Analysis of the 2009/10 budget of the Gauteng provincial department of social development: Is the budget adequate to implement the Children's Act?* Cape Town: Children's Institute, University of Cape Town.

Budlender, D. & Proudlock, P. (2009). *Analysis of the 2009/10 budget of the KwaZulu-Natal provincial department of social development: Is the budget adequate to implement the Children's Act?* Cape Town: Children's Institute, University of Cape Town.

Budlender D. & Proudlock P. (2009). *Analysis of the 2009/10 budget of the Eastern Cape provincial department of social development: Is the budget adequate to implement the Children's Act?* Cape Town: Children's Institute, University of Cape Town.

Jamieson, L. & Proudlock, P. (2009). *From sidelines to centre stage: The inclusion of children with disabilities in the Children's Act*. Cape Town: Children's Institute, University of Cape Town.

### **Books**

Pendlebury, S., Lake, L. & Smith, C. (eds). *South African Child Gauge 2008/9*, Cape Town: Children's Institute, University of Cape Town.

### **Chapters for edited volumes**

Meintjes, H. & Hall, K. (2009). Demography of South Africa's children. In: Pendlebury, S., Lake, L. & Smith, C. (eds). *South African Child Gauge 2008/9*, Cape Town: Children's Institute University of Cape Town.

### **Working papers**

Budlender, D., Proudlock, P. & Jamieson, L. (2008). *Developing social policy for children in the context of HIV/AIDS: A South African case study*. A Children's Institute Case Study, Number 3, December 2008. Cape Town: Children's Institute & Community Agency for Social Enquiry.

## **Other**

Meintjes, H., Hall, K., Marera, D.H. & Boulle, A. (2009). *Child-headed households: A statistical brief*. Cape Town: Children's Institute, University of Cape Town.

Network for Coordinating Civil Society Action on Children, HIV and AIDS (2009).

Weighing up South Africa's response to children and HIV and AIDS: Scorecard 2009. Durban: Children's Rights Centre.

Children's Institute & Catholic Institute of Education (2009). *The Journey of Hope: Creating a network of care for the children of Luckau village*. Cape Town: Children's Institute & Catholic Institute of Education.

Jamieson, L., Proudlock, P. & Mahery, P. (2009). *The Children's Act No 38 of 2005: A guide for health professionals*. Cape Town: Children's Institute, August 2009 (Edition 3).

Proudlock, P. (2009). *Submission on draft regulations: extension of the Child Support Grant and proposed introduction of a new school enrolment and attendance condition*. Submission made to the Department of Social Development, December 2009.

Proudlock, P. (2009). *Submission on draft regulations: extension of the Child Support Grant*. Oral submission made to Portfolio Committee on Social Development, November 2009.

## **Conferences**

### **Conference presentations and conference papers**

Henderson, P. (2009). *Affinity in the presence of death: HIV/AIDS, courtship and informal marriage in KwaZulu-Natal*. Paper presented at the SANORD seminar, Gender, Generation and Family Practices, University of Bodo, University of the Western Cape and University of Malawi, Mont Fleur, Stellenbosch, 23 - 27 November 2009.

Henderson, P. (2009). *'Ukugana': Informal marriage and children's rights discourse among 'Aids orphans' in KwaZulu-Natal, South Africa*. Paper presented at the Living Rights Symposium, Institut Universitaire Kurt Bosch, Sion, Switzerland, 19 - 20 January 2009.

Henderson, P. (2009). *Corrective ritual, temporality and personhood within a context of HIV/AIDS: The case of KwaZulu-Natal, South Africa*. Presented at the Sawyer Seminar on Personhood, University of Cape Town, 5 - 7 August 2009.

### **Policy seminars**

Meintjes, H. (2009). *Global policy, local practice: Institutional care in South Africa*. Presented at the Expert Seminar on Children in formal care – international dialogue, regional experience and local realities, Stellenbosch, 1 September 2009.

Proudlock, P. (2009). *Analysis of the 2009/10 budgets of the nine provincial departments of social development: Are the budgets adequate to implement the Children's Act?* Presented at a UNICEF Policy Expert Roundtable, 29 October 2009.

Proudlock, P. (2009). *Analysis of the 2009/10 budgets of the nine provincial departments of social development: Are the budgets adequate to implement the Children's Act?* Presented to the Working Group of Social Services Practitioners Advocacy Network in Johannesburg, 19 May 2009.

## **Other**

Moses, S. (2009). *Infants and HIV/AIDS in South Africa: The Fragility of Life*. Case study lecture presented to students for the diploma in International Research Ethics (IRENSA) offered by the Faculty of Health Science, UCT, 22 June 2009.

Henderson, P. (2009). *Ukagana: 'Informal marriage' and gendered identities in relation to children's rights discourse in KwaZulu-Natal*. Presented at the Department of Women's and Gender Studies, University of the Western Cape, 19 March 2009.

Proudlock, P. (2009). *What health professionals need to know about children's rights and child law: A short course on children's rights and essential child law for doctors and nurses working in the public health care sector*. Presented at the Child Rights Education for Professionals (Cred Pro) Project Advisory Group meeting, 2 September 2009.

Proudlock, P. (2009). An introduction to the Children's Act for health care practitioners. Presented at the Phila Impilo (Live Life) Ways to healing, children as partners in health. Stakeholders strategy and policy roundtable number 2, 26 May 2009.

## **Ongoing research projects**

### *Care Dependency Grant Assessment Tool Pilot Project*

The Care Dependency Grant Assessment Tool Pilot was conducted for the national Department of Social Development (DSD). The project's primary aim was to field-test a new assessment tool developed to assess children's eligibility for the Care Dependency Grant, a social grant available to children with long-term health conditions who have permanent care needs. The tool was measured against two primary factors: whether it is an effective targeting mechanism that correctly identifies eligible children; and whether it is a user-friendly and appropriate assessment tool.

### *Caring Schools Project*

Using an appreciative and rights-based approach, this action research project aims to understand and facilitate an expanded role for schools as nodes of care and support to vulnerable children in the context of HIV/AIDS.

### *Children Count*

The Children Count – *Abantwana Babalulekile* Project is aimed at monitoring the realisation of children's socio-economic rights in South Africa. It presents child-centred national data on basic demographics and care arrangements for children, as well as other domains such as education, health, HIV/AIDS, and housing. In 2009, it expanded its focus on HIV to include a component to monitor child-relevant indicators in the National Strategic Plan on HIV/AIDS.

### *Infants and HIV/AIDS in South Africa: The Fragility of Life*

This project is an ethnographic investigation into PMTCT services and infant mortality in a township in Cape Town. It has followed a small number of HIV-infected women and their infants through pregnancy and the first year of the infant's life. The project

has as its starting point the gaps in understanding with regard to the detail of HIV-infected women's experiences of producing and raising an infant.

*The extent, nature and circumstances of child-headed households in South Africa*

In light of the absence of any systematic quantitative analyses that provide a national picture of the situation of child-headed households in South Africa, this research project analysed data from a number of representative national surveys over the period 2000 – 2007 in order to explore trends in the numbers of children living in child-only households in the country, and characterise these children relative to children living in households with adults.

*Promoting the implementation of the Children's Act*

The Children's Act 38 of 2005 (as amended by Act 41 of 2007) provides the legislative framework for the provision of a range of social services for vulnerable children including children affected by HIV. These include home and community based care; social work investigations and children's court inquiries for children in need of care and protection; and placement in alternative care (foster care, child and youth care centres and adoption). The Act is due to be put into force in early 2010 however the budget and human resource challenges pose a threat to its effective implementation.

The CI therefore conducts budget allocation and expenditure analysis and advocacy in order to promote budget growth in these service areas so that more children can be reached. It also has a legal research and advocacy project aimed at promoting the recognition of and the development of career paths for para-professionals such as home and community based care givers, and child and youth care workers so as to grow the numbers of social service practitioners that are available to provide social services to orphans and vulnerable children.

## **School of Child and Adolescent Health**

### **Chapters in books**

Eley, B.S. (2008). Nutrition. **In:** Wilson, D., Naidoo, S., Bekker, L.G., Cotton, M. & Maartens, G. (eds), *Handbook of HIV Medicine*. South Africa: Oxford University Press Southern Africa (Pty) Ltd, 147 - 153.

McCulloch, M. (2008). Nephrology. **In:** D. Wilson, S. Naidoo, L-G. Bekker, M. Cotton and G. Maartens (eds), *Handbook of HIV Medicine*. South Africa: Oxford University Press Southern Africa (Pty) Ltd, 315 - 325..

Nuttall, J. (2008). Paediatric Antiretroviral Therapy. **In:** Wilson, D., Naidoo, S., Bekker, L-G., Cotton, M. & Maartens, G. (eds), *Handbook of HIV Medicine*. South Africa: Oxford University Press Southern Africa (Pty) Ltd. 478 - 499.

Zar, H.J. and Bye, M.R. (2008). Human Immunodeficiency Virus Infection. **In:** Taussig, L.M., Landau, L.I., le Souef, P.N., Martinez, F.D., Morgan, W.J. & Sly, P.D. (eds), *Pediatric Respiratory Medicine*. Second edition. Philadelphia: Mosby Elsevier, 575 - 588.

Zar, H.J. (2008). Pulmonology. **In:** Wilson, D., Naidoo, S., Bekker, L-G., Cotton, M. & Maartens, G. (eds), *Handbook of HIV Medicine*. South Africa: Oxford University Press Southern Africa (Pty) Ltd, 326 - 345.

## Peer-reviewed Journals (DoE Accredited)

Argent, A. C. (2008). Managing HIV in the PICU - The Experience at the Red Cross War Memorial Children's Hospital in Cape Town. *Indian Journal of Pediatrics*, **75**, 615 - 619.

Cotton, M., Levin, L., Archery, M., Bobat, R., Coovadia, A., Eley, B.S., MacDonald, P., Meyers, T., Nuttall, J., Rabie, H., Roux, P., Sherman, G., Tabane, E. & Violari, A. (2008). Guidance for antiretroviral therapy in HIV-infected infants less than 1 year of age. *Southern African Journal of HIV medicine*. **4**(9), 34 - 35.

Cotton, M., Wasserman, E., Smit, J., Whitelaw, A.C. & Zar, H.J. (2008). High incidence of antimicrobial resistant organisms including extended spectrum betalactamase producing Enterobacteriaceae and methicillin-resistant *Staphylococcus aureus* in nasopharyngeal and blood isolates of HIV-infected children from Cape Town, South Africa. *BMC Infectious Diseases*. **8**, 40.

Eley, B. S. (2008). Antiretroviral therapy during infancy: essential intervention for resource-limited settings. *Expert Review of Anti-infective Therapy*. **6**(5), 585 - 589.

Hesseling, A., Cotton, M., Fordham von Reyn, C., Graham, S. M., Gie, R. & Hussey, G. D. (2008). Consensus statement on the revised World Health Organization recommendations for BCG vaccination in HIV-infected infants. *International Journal of Tuberculosis and Lung Disease*. **12**(12), 1376 - 1379.

Hesseling, A., Cotton, M., Jennings, T., Whitelaw, A., Johnson, L.F., Eley, B.S., Roux, P., Godfrey-Faussett, P. & Schaaf, H. (2008). High Incidence of Tuberculosis among HIV-Infected Infants: Evidence from a South African Population-Based Study Highlights the Need for Improved Tuberculosis Control Strategies. *Clinical Infectious Diseases*. **48**, 108 - 114.

Jaspan, H.B., Berrisford, A.E. & Boulle, A.M. (2008). Two-Year Outcomes of Children on Non-Nucleoside Reverse Transcriptase Inhibitor and Protease Inhibitor Regimens in a South African Pediatric Antiretroviral Program. *Pediatric Infectious Disease Journal*. **27**(11), 993 - 998.

Karpelowsky, J.S., Alexander, A., Dix-Peek, S., Millar, A.J.W. & Rode, H. (2008). Surgical complications of bacille Calmette-Gurin (BCG) infection in HIV-infected children: Time for a change in policy? *South African Medical Journal*. **98**(10), 801 - 804.

Mak, T.K., Hesseling, A., Hussey, G.D. & Cotton, M. (2008). Making BCG vaccination programmes safer in the HIV era. *Lancet*. **372**, 786 - 787.

McCulloch, M. & Ray, P.E. (2008). Kidney Disease in HIV-Positive Children. *Seminars in Nephrology*. **28**(6), 585 - 594.

Muller, A., Bode, S., Myer, L., Roux, P. and Von Steinbuchel, N. (2008). Electronic Measurement of Adherence to Pediatric Antiretroviral Therapy in South Africa. *Pediatric Infectious Disease Journal*. **27**(3), 257 - 262.

Nuttall, J., Davies, M., Hussey, G.D. & Eley, B.S. (2008). Bacillus Calmette-Guerin (BCG) vaccine-induced complications in children treated with highly active antiretroviral therapy. *International Journal of Infectious Diseases*. **12**, e99-e105.

Pitcher, R. & Zar, H. J. (2008). Radiographic features of paediatric pneumocystis pneumonia - a historical perspective. *Clinical Radiology*. **63**(6), 666 - 672.

Skoler, S., Ramjee, G., Altini, L., Ahmed, K., Plagianos, M.G., Friedland, B., Govender, S., de Kock, A.E., Cassim, N., Palanee, T., Dozier, G., Maguire, R. & Lahteenmaki, P. (2008). Efficacy of carraguard for prevention of HIV infection in women in South Africa: A randomised, double-blind, placebo-controlled trial. *Lancet*. **372**(9652), 1977 - 1987.

Woods, D.L., Cope, F.A. & Eley, B.S. (2008). The challenge of providing HIV training to health professionals. *Southern African Journal of HIV medicine*. **9**(3), 15 - 17.

Zar, H.J. (2008). Chronic Lung Disease in Human Immunodeficiency Virus (HIV) Infected Children. *Pediatric Pulmonology*. **43**, 1 - 10.

Zar, H.J. (2008). Chronic Lung Disease in Human Immunodeficiency Virus (HIV) Infected Children. *Pediatric Pulmonology*. **43**, 1 - 10.

Zar, H.J., Eley, B.S., Roux, P., Cotton, M., Meyers, T., Moultrie, H., Mulenga, V., Chintu, C., Kankasa, C., Msellati, P., Fassinou, P., Elenga, N., Graham, S., Ellis, J., Weigel, R., Giaquinto, C., Nanyonga, M., Morelli, E., Atai, B., Pinto, J., Araujo, C., Carvalho, A., Carvalho, I., Diniz, A., Ferreira, F., Lobato, V., Sanchez, T., Duong, T., Dunn, D., Gibb, D.M. & Duff, C. (2008). Markers for predicting mortality in untreated HIV-infected children in resource-limited settings: a meta-analysis. *AIDS*. **22**(1), 97 - 105.

#### **Peer-reviewed Journals (not DoE Accredited)**

Davies, M., Boule, A.M., Fakir, T., Nuttall, J. & Eley, B.S. (2008). Adherence to antiretroviral therapy in young children in Cape Town, South Africa, measured by medication return and caregiver self-report: a prospective cohort study. *BMC Pediatrics*. **8**, 34.

Raiman, S., Michaels, D.C., Nuttall, J. & Eley, B.S. (2008). A 4-pronged approach to addressing antiretroviral adherence in children: a paediatric pharmacy perspective. *South African Pharmaceutical Journal*. **75**(8), 18 - 21.

Sharma, T.S., Hughes, E.J., Murillo, A., Riley, J.E., Soares, A.P., Little, F., Mitchell, C.D. & Hanekom, W.A. (2008). CD8+ T-Cell Interleukin-7 Receptor Alpha Expression as a Potential Indicator of Disease Status in HIV-Infected Children. *Plos ONE*. **3**(12), e3986.

Smith, L.J.T., Adnams, C.M. & Eley, B.S. (2008). Neurological and neurocognitive function of HIV-infected children commenced on antiretroviral therapy. *South African Journal of Child Health*. **2**(3), 108 - 112.

#### **Institute of Infectious Disease and Molecular Medicine (IDMM)**

##### **Active dissertations/theses**

Seldon, R. *Dissection of regenerating T cell responses against tuberculosis in HIV infected adults sensitized by Mycobacterium tuberculosis*. MSc, University of Cape Town.

Oni, T. *Application of Novel Diagnostic Methods in the Investigation of the Clinical Epidemiology of Tuberculosis in Khayelitsha, South Africa*. MD (research) 1<sup>st</sup> year upgrade Imperial College London.

Boulle, A. *Determinants of effectiveness in the Khayelitsha antiretroviral treatment programme*.

Meintjes, G. *The tuberculosis-associated immune reconstitution inflammatory syndrome*, PhD (in progress)

Davies, M. *Clinical epidemiology of paediatric antiretroviral therapy in Southern Africa*. PhD (in progress).

Osler, M. *The use of routine data for monitoring antiretroviral interventions in the Western Cape Province*. PhD (in progress).

Datay, I. (2009). *Case-control study of the associations with virologic failure in patients on antiretroviral therapy in the Western Cape Province of South Africa*. Phil, D., Oxford University.

White, C. *Reliability of CD4 cell count measures between tests and between laboratories*. MPH thesis (in progress).

Mankgopo, K. *Investigation of Antibody Responses to HIV-1C TAT, NEF and RT in H1VE – 1 Infected Individuals from Cape Town and Macaques Vaccinated with SAAVI DNA-C2 and SAAVI MVA-C*. MSc (in progress).

Yen Ju, S. *An Investigation into the Use of Lumpy Skin Disease Virus as a Vaccine Vector for a Potential HIV-1 Vaccine*. PhD (in progress).

Maribanyana, L. *Determination of Antigen Expression and Localisation Profiles of Different Candidate rBCG HIV-1 Subtype C GAG Vaccines Upon Infection of Macrophages*. PhD (in progress).

Mbele, P., *Development of Reverse Tetracycline Inducible System to Improve recombinant Bacille Calmette Guerin Stability*. PhD (in progress).

Mayat, N., (2009). *Development of a Novel Inducible Expression System in Recombinant Bacille Calmette G (rBCG) for Application to Vaccine Design*. MSc.

Mbulawa, Z. *A Study of Human Papillomavirus Infection and Immune Responses in Sexually Active South African Couples*. PhD (in progress).

Salimo, A. *Human Papillomavirus Diversity and Possible Recombination of the Virus in South African Women Infected with HIV*. MSc. (in progress).

Chin'ombe, N. *Recombinant Salmonella Enterica Serovar Typhimurium Vaccine Vector Expressing Green Fluorescent Protein as a Model Antigen or Human Immunodeficiency Virus Type 1 Subtype C. GAG*. PhD (in progress).

Treurnicht, F. *An investigation of virological properties of transmitted HIV-1 variants*.

Chopera, D. *An investigation of the timing and pathogenic implication of CTL escape in early HIV-1 infection*.

Zembe, L. *HIV-1 subtype C cross-clade reactivity.*

Andile Nofemela. *Investigation of fitness properties in HIV-1 dual infection.*

Roman Ntale. *Viral genetic determinants associated with early immunological escape mutations.*

Roberts, L. *Impact of sexually transmitted infections and inflammation in the female genital tract and blood on HIV-1 transmission and disease progression.*

Bandawe G. *Dynamics of HIV-1 early envelope evolution: an investigation of the affect of early selective pressures on HIV-1 evolution and its implications on immune responses and disease progression.*

Sheward, D. *Viral Dynamics in HIV-1 Dual Infection: Recombination, Replicative Fitness, Humoral Immunodominance, Variant Dominance and Disease Progression.*

Harvey, H. *The Characterisation of HIV Superinfection: Genetic Evolution, Adaptive Immune Response and Viral Fitness.*

Thebus, R. Identification of genetic characteristics of HIV-1 that elicits cross-reactive neutralizing antibody responses.

Pillay, S. *Optimization of chimaeric HIV-1 virus-like particle (VLP) production and immunogenicity testing of VLPs in mic.* Masters degree.

Valley-Omar, Z. *RNA transmission and expression from inert HIV candidate vaccine virus-like particles.* PhD.

Seldon, R. *The phenotypical analysis of M. tuberculosis specific CD4 T cells that expand during combined antiretroviral therapy in people with latent tuberculosis infection.*

Rangaka, M. *Evaluation of the predictive value for tuberculosis of T cell based assays vs tuberculosis skin test in HIV infected persons on combination antiretroviral therapy: a prospective study.* PhD, London School of Hygiene and Tropical Medicine.

Tadokera, R. *The Role of Matrix Metalloproteinases in HIV-TB associated Immune Reconstitution Inflammatory Syndrome (TB-IRIS)".* PhD.

## **Papers published**

### **Peer reviewed papers**

Kalsdorf, B., Scriba, T.J., Wood, K., Day, C.L., Dheda, K., Dawson, R., Hanekom, W. A., Lange, C. & Wilkinson, R.J. (2009). HIV-1 infection impairs the bronchoalveolar T cell response to mycobacteria *American Journal of Respiratory and Critical Care Medicine* published ahead of print on September 24, 2009.

Wilkinson, K.A., Seldon, R., Meintjes, G., Rangaka, M.X., Hanekom, W.A., Maartens, G. & Wilkinson, R.J. (2009). Dissection of regenerating T cell responses against tuberculosis in HIV infected adults sensitized by *Mycobacterium tuberculosis* *American Journal of Respiratory and Critical Care Medicine*. **180**(7), 674 - 83.

Meintjes, G.A., Rangaka, M.X., Maartens, G., Rebe, K., Morroni, C., Pepper, D.J., Wilkinson, K.A. & Wilkinson, R.J. (2009). Novel relationship between Tuberculosis Immune Reconstitution Inflammatory Syndrome and Antitubercular Drug Resistance. *Clinical Infectious Diseases*. **48**(5), 667 - 76.

Sarrazin, H., Wilkinson, K.A., Andersson, J., Rangaka, M.X., Radler, L., van Veen, K., Lange, C. & Wilkinson, R.J. (2009). Relationship between tuberculin skin test reactivity, the memory CD4 subset and circulating FoxP3 expressing cells in HIV infected persons. *Journal of Infectious Diseases*. **199**, 702 - 10.

Pepper, D.J., Marais, S., Maartens, G., Morroni, C., Rebe, K.B., Rangaka, M.X., Oni, T., Wilkinson, R.J. & Meintjes, G. (2009). Neurological Manifestations of Paradoxical Tuberculosis-associated Immune Reconstitution Inflammatory Syndrome: A Case Series *Clinical Infectious Diseases* **48**(11), e96 - 107.

Davies, M.A., Connell, T., Johannisen, C., Wood, K., Pienaar, S., Wilkinson, K.A., Wilkinson, R.J., Zar, H.J., Eley, B., Beatty, D., Curtis, N. & Nicol, M. (2009). Detection of tuberculosis in HIV-infected children using an enzyme-linked immunospot assay *AIDS*. **23**(8), 961 - 9.

Pepper, D.J., Rebe, K., Morroni, C., Wilkinson, R.J., & Meintjes, G.A. (2009). Clinical Deterioration during Antitubercular Treatment at a District Hospital in South Africa: The Importance of Drug Resistance and AIDS Defining Illnesses *PLoS ONE*. **4**(2), e4520.

Richards, J.C., Maartens, G. & Davidse, A.J. (2009). Course and complications of varicella zoster ophthalmicus in a high HIV seroprevalence population (Cape Town, South Africa). *Eye*. **23**(2), 376 - 81.

Ren, Y., Nuttall, J.J., Egbers, C., Eley, B.S., Meyers, T.M., Smith, P.J., Maartens, G. & McIlleron, H. M. (2009). Effect of rifampicin on efavirenz pharmacokinetics in HIV-infected children with tuberculosis. *Journal of Acquired Immune Deficiency Syndromes*. **50**, 439 - 443.

Nachega, J.B., Hislop, M., Nguyen, H., Dowdy, D.W., Chaisson, R.E., Regensberg, L., Cotton, M. & Maartens, G. (2009). Antiretroviral therapy adherence, virologic and immunologic outcomes in adolescents compared with adults in Southern Africa. *Journal of Acquired Immune Deficiency Syndromes*. **51**, 65 - 71.

Kevany, S., Meintjes, G., Rebe, K., Maartens, G. & Cleary, S. (2009). Estimating the clinical and financial burdens of secondary level care in a public sector antiretroviral roll-out setting in South Africa: case study of the GF Jooste Hospital Antiretroviral Referral Unit. *South African Medical Journal*. **99**, 320 - 5.

Cohen, K., Grant, A., Dandara, C., McIlleron, H., Pemba, L., Churchyard, G., Smith, P. & Maartens, G. (2009). The effect of rifampicin-based antitubercular therapy and cytochrome P450 2B6 genotype on efavirenz mid-dosing interval concentrations in a South African HIV-infected population. *Antiviral Therapy*. **14**, 687- 95.

Meintjes, G.A., Wilkinson, K.A., Rangaka, M.X., Skolimowska, K.H., van Veen, K., Abrahams, M, Seldon, R., Pepper, D.J., Rebe, K., Mouton, P., van Cutsem, G., Nicol, M.P., Maartens, G. & Wilkinson, R.J. (2008). Th1 and FoxP3 positive T cells and the HIV-tuberculosis immune reconstitution inflammatory syndrome *American Journal of Respiratory and Critical Care Medicine*. **178**(10), 1083 - 9.

Cowley, D., Govender, D., February, B., Wolfe, M., Steyn, L., Evans, J., Wilkinson, R. J. & Nicol, M.P. (2008). Recent and Rapid Emergence of W/Beijing strains of *Mycobacterium tuberculosis* in Cape Town, South Africa *Clinical Infectious Diseases*. **15**;47(10), 1252 - 9.

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*Prof. Anna-Lise Williamson*

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*Prof. Carolyn Williamson*

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*Prof. Ed Rybicki*

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*Dr. Katalin Wilkinson*

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## **Books**

*Prof. Gary Maartens and Prof. Robert Wilkinson*

Eddleston, M., Davidson, R.N., Brent, A.B., Wilkinson, R.J. (Eds.) (2008). *Oxford Handbook of Tropical Medicine 3rd Edition*, Oxford: Oxford University Press.

Wilson, D., Bekker, L.-G., Cotton, M., Myers, T., Venter, F., Maartens, G. (2008). *Handbook of HIV Medicine, 2<sup>nd</sup> Edition*. Cape Town: Oxford University Press Southern Africa.

## **Chapters for edited volumes**

*Prof. Gary Maartens, Dr. Graeme Meintjes and Prof. Robert Wilkinson*

Nachega, J., and Maartens, G. (2009). Clinical aspects of tuberculosis in HIV-infected adults. **In:** Schaaf, H.S., Zumla, A. (eds). *Tuberculosis. A comprehensive clinical reference*. Elsevier, Saunders, 524 - 31.

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## **Other**

*Prof. Ed Rybicki*

Alter, G., Ananworanich, J., Pantophlet, R., Rybicki, E.P. and Buonaguro, L. (2009). Report on the AIDS Vaccine 2008 Conference. *Hum. Vaccin.* **5**(3),119 - 125.

## **Conference presentations**

*Prof. Robert Wilkinson*

'*Mycobacterium tuberculosis* antigen specific T cell expansions and the pathogenesis of the HIV-TB IRIS' Poster discussion. *Conference on retroviruses and opportunistic infections*, Boston MA, February 6<sup>th</sup> 2008.

'The pathogenesis of HIV-tuberculosis immune reconstitution inflammatory syndrome' *Physicians' refresher course*, Cape Town, February 22<sup>nd</sup> 2008.

'The T cell response to *M. tuberculosis* in HIV infected people'. Plenary speaker at the 7<sup>th</sup> *International Congress on the pathogenesis of mycobacterial diseases*, Stockholm, 29<sup>th</sup> June 2008.

'The T cell response to *M. tuberculosis* in HIV infected people'. Invited seminar at Forschungszentrum, Borstel, Germany, 8<sup>th</sup> July 2008.

'Th1 and FoxP3 positive T cells and the HIV-tuberculosis immune reconstitution inflammatory syndrome' Acid-Fast Club, Leicester, July 11<sup>th</sup> 2008.

'Novel association between antitubercular drug resistance and the HIV-tuberculosis associated immune reconstitution inflammatory syndrome'. Invited plenary speaker and session chair, *International Tuberculosis Research Center Annual Retreat*, Seoul, Korea, 24<sup>rd</sup> September 2008.

'Research priorities in immune reconstitution inflammatory syndrome'. Session chair and discussant *AIDS priorities: controversies in HIV* meeting. Perinatal HIV Research Unit, Cape Town, 29<sup>th</sup> September 2008.

'The T cell response to *M. tuberculosis* in HIV infected people'. *John Humphrey seminar*, Hammersmith Hospital London, 16<sup>th</sup> October 2008.

'Association between the HIV-tuberculosis associated immune reconstitution inflammatory syndrome and antitubercular drug resistance'. Plenary presentation to Symposium 10, 39<sup>th</sup> *World conference of the International Union against tuberculosis and lung disease*. 18<sup>th</sup> October 2008, Paris, France.

'The immune response to *M. tuberculosis* in HIV infected people'. Invited seminar Baylor Institute for Immunology Research, Dallas, TX, 13<sup>th</sup> February 2009.

'The HIV-tuberculosis associated immune reconstitution inflammatory syndrome'. Invited seminar at the *Marie Curie HIV-tuberculosis conference*, Nobel Forum, Karoliska Institutet, Stockholm, Sweden, June 5<sup>th</sup> 2009.

'Tuberculosis biomarkers: What we need' Invited panellist and speaker, *Global Health Research Congress*, Seattle, WA, June 16<sup>th</sup> 2009.

'Protective and pathogenic immune restoration in HIV associated tuberculosis' Invited seminar at the *Cambridge Institute for Medical Research*, July 13<sup>th</sup> 2009.

'Research priorities in HIV associated tuberculosis' Invited symposium speaker at the 19<sup>th</sup> *meeting of the European Respiratory Society* meeting Vienna 13-15<sup>th</sup> September 2009.

#### *Prof Gary Maartens*

'Strategies for co-treatment: first and second line ART and TB treatment.' Catalyzing TB/HIV research: innovation, funding and networking. Satellite meeting to 5<sup>th</sup> *International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention*, Cape Town, July, 2009. Organised by WHO, Consortium to Respond Effectively to the AIDS/TB Epidemic (CREATE), and IAS.

'A tale of two epidemics: HIV and tuberculosis'. *Gordon Research Conference on Tuberculosis Drug Development: Targets, Technologies and Trials*, Oxford, 16-21 August 2009.

*Dr Graeme Meintjes*

Meintjes, G. Latest developments in diagnosis and management of TB-IRIS. Catalyzing TB/HIV research: innovation, funding and networking. Satellite meeting to 5<sup>th</sup> International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention, Cape Town, July, 2009. Organised by WHO, Consortium to Respond Effectively to the AIDS/TB Epidemic (CREATE), and IAS.

Meintjes, G., Wilkinson, R.J., Morroni, C., Pepper, D.J., Rebe, K., Rangaka, M.X., Oni, T. & Maartens, G. Randomised placebo-controlled trial of prednisone for treatment of paradoxical TB-IRIS. *Conference on Retroviruses and Opportunistic Infections*, Montreal, 2009. Abstract 34 (Oral Presentation).

*Prof. Anna-Lise Williamson*

Kgatle, M., Williamson, A. and Chin'ombe, N. (2008) Expression of HIV-1 Subtype C Tat and Nef in Salmonella Vaccine Vector. *AIDS Research and Human Retroviruses*. **24**(1), 88.

Meyers, A.E., Shephard, E., Bastida, M., Heifetz, P., Williamson, A. and Rybicki, E. (2008). Immunogenicity of Plant-Produced HIV-1 Antigens. *AIDS Research and Human Retroviruses*. **24**(1), 95.

Lebeko, M., Williamson, A. and Chin'ombe, N. (2008). Purification of HIV-1 Subtype C Tat and Nef Expressed from Escherichia Coli. *AIDS Research and Human Retroviruses*. **24**(1), 96.

Lynch, A.G., Tanzer, F., Shephard, E., Williamson, A. and Rybicki, E. (2008). Continuous Production of HIV-1 Pr55Gag VLPs from Spodoptera Frugiperda Insect Cell Lines. *AIDS Research and Human Retroviruses*. **24**(1), 96 - 97.

Shen, Y., Douglass, N.J., Shephard, E. and Williamson, A. (2008). Lumpy Skin Disease Virus, a Novel Poxvirus Vector for Candidate HIV-1 Vaccines. **24**(1), 137 - 138.

Valley-Omar, Z., Meyers, A., Shephard, E., Williamson, A. and Rybicki, E. (2008). Analysis of Nucleic Acid Transfer from Baculovirus Expression System Produced HIV Gag Virus-like-Particles. *AIDS Research and Human Retroviruses*. **24**(1), 138 - 139.

Chin'ombe, N., Shephard, E.G., Williamson, A. and Rybicki, E. (2008). Immunogenicity of HIV-1 Subtype C Gag Plasmid-VLP Vaccine. *AIDS Research and Human Retroviruses*. **24**(1), 139.

Griffin, S., Williamson, A. and Chapman, R. (2008). Optimization of the pAL5000 Mycobacterial Replicon to Improve HIV Antigen Expression in Mycobacterial HIV Vaccines. *AIDS Research and Human Retroviruses*. **24**(1), 139 - 140.

Burgers, W.A., Chege, G.K., Muller, T.L., Shephard, E.G., Williamson, C. and Williamson, A. (2008). Development of Candidate HIV Vaccines: Comparison of the Ability of Two DNA Vaccines to Prime Responses to an MVA Vaccine in Rhesus Macaques. *AIDS Research and Human Retroviruses*. **24**(1), 140.

Muller, T.L., Burgers, W.A., Chege, G.K., Douglass, N., Williamson, C. and Williamson, A. (2008). Analysis of the Modified Vaccinia Ankara (MVA) – Specific Cellular and Humoral Immunity to a Candidate HIV Recombinant MVA Vaccine. *AIDS Research and Human Retroviruses*. **24**(1), 141.

Chege, G.K., Shephard, E.G., Meyers, A., Burgers, W.A., Stutz, H., Williamson, C., Rybicki, E.P. and Williamson, A. (2008). HIV-1 Subtype C Pr55gag Virus-like Particles Efficiently Boost Baboons that are Primed with Recombinant MVA Expressing HIV-1 Genes. *AIDS Research and Human Retroviruses*. 24(1), 142 - 143.

Stutz, H., Mayat, N. and Williamson, A. (2008). Design and Development of Stable Recombinant BCG HIV-1 Subtype C Vaccines. *AIDS Research and Human Retroviruses*. 24(1), 143.

Pillay, S., Meyers, A., Shephard, E., Williamson, A. and Rybicki, E. (2008). Chimaeric HIV-1 Sub-type C Virus-like Particles (VLPs) Enhance a Cellular Immune Response in Mice When Used in a Heterologous Prime-Boost Vaccine Strategy. *AIDS Research and Human Retroviruses*. 24(1), 144.

Regnard, G., Halley-Stott, R., Tanzer, F., Hitzeroth, I., Williamson, A. and Rybicki, E. (2008). Improved Expression of Vaccine Proteins in Plants through the Use of an Autonomously Replicating Plant Expression Vector. *AIDS Research and Human Retroviruses*. 24(1), 153.

Bredell, H., Rademeyer, C., Machaba, Uys, A., Sifile, C., Bekker, L., Gray, G., Churchyard, G., de Bruyn, G., Middelkoop, K., Williamson, A., Hoelscher, M. and Williamson, C. (2008). Molecular Epidemiology of HIV Type 1 in Proposed Phase IIb/III Vaccine Trial Sites in South Africa. *AIDS Research and Human Retroviruses*. 24(1), 154 - 155.

### **Conference papers**

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*Dr Andrew Boulle, Prof. Gary Maartens, Dr Graeme Meintjes and Prof. Robert Wilkinson*

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## Ongoing research projects

Projects presently underway include the following:

*How can tuberculosis infection in HIV infected people be more effectively prevented.* Two distinct studies examine the hypothesis that tuberculosis may be associated with a distinct transcriptomic and/or proteomic signature. The first of these is conducted in collaboration with the MRC National Institute for Medical Research in London and the other is a multicentre study administered by Brighton and Sussex Medical School that aims to evaluate the diagnostic potential of biosignature.

Poor agreement between tests of tuberculosis sensitisation (skin test and IGRA) means that prospective studies to determine which best predicts the subsequent risk of tuberculosis and benefit from isoniazid preventive therapy (IPT) are necessary. The opportunity to perform such evaluation has been taken in the context of a large (n=1500) clinical trial of IPT plus cART versus cART alone for the prevention of tuberculosis in HIV infected people. This study evaluates (i) the strength of the association between TST reactivity and in vitro reactivity to *M. tuberculosis* antigens, and the subsequent risk of active TB in HIV infected people on cART or cART+IPT.

*By what immune mechanisms do preventive therapies decrease susceptibility to TB?* The three preventive therapies under investigation are combined antiretroviral treatment (cART), IPT and vitamin D.

*What is the cause and best management of the HIV-Tuberculosis-associated Immune Reconstitution Inflammatory Syndrome (TB-IRIS)?* This study focuses on the role of IFN-gamma producing Th1 type cells and FoxP3 expressing T cells to elucidate the basis of the dysregulated immune response in TB-IRIS. Recent investigations are focusing on the pro- and anti-inflammatory cytokine mRNA profiling, and the role of Matrix Metalloproteinases in HIV-TB associated IRIS. This project is conducted at the secondary care facility of GF Jooste Hospital that serves a population in which over 10,000 people are prescribed cART.

*How does HIV infection influence the immune responses to Mycobacterium tuberculosis in the lung?* This study investigates the effect of HIV infection on alveolar macrophage and *M. tuberculosis* specific T cell numbers and activation status in the lung. The hypothesis is that the increased susceptibility to tuberculosis even during early HIV infection would be due to a deficit in the innate immune response.

*What is the pathogenesis of tuberculous pericarditis?* This is a collaborative project with the Department of Cardiology at Groote Schuur Hospital. It compares pericardial fluid and whole blood collected from HIV infected and HIV uninfected individuals who present with tuberculous pericarditis. This is the largest (~100 cases to date) and most comprehensive immunological study of pericardial tuberculosis ever undertaken and is of particular value because of our access to the disease site.

*Prof. Gary Maartens*

Doubling the dose of LOPINAVIR/ritonavir for TB/HIV-infected patients receiving rifampicin-based antitubercular treatment; paediatric study; PPK.DDK.

The concentrations of efavirenz in South African HIV-infected children with and without rifampicin-based TB treatment (PPK.EFV2006).

Pharmacokinetics of nevirapine in HIV-infected children younger than 3 years who are being treated with nevirapine-containing ART and rifampin-containing

antituberculosis treatment for HIV/TB co-infection; A pharmacokinetic study affiliated to the CHAPAS-1 trial.

The pharmacokinetics of lopinavir in South African HIV-infected volunteers receiving rifampicin with adjusted doses of lopinavir/ritonavir (600/150 mg and 800/200 mg) (APK.DDK).

The safety, effectiveness and pharmacokinetics of adjusted dose lopinavir and ritonavir when given with rifampicin-based antitubercular treatment in South African HIV-infected adults. (APK.LCM).

Pharmacokinetics of Rifabutin Combined with Antiretroviral Therapy in the Treatment of Tuberculosis Patients with HIV Infection in South Africa.

Bioavailability of the fixed dose formulation Rifafour containing isoniazid, rifampicin pyrazinamide, ethambutol and the WHO recommended first line antiretroviral drugs zidovudine, lamivudine, efavirenz administered to new TB patients at different levels of immunosuppression.

Clinical and immunological studies of Tuberculosis-associated Immune Reconstitution Inflammatory Syndrome after commencing Highly Active Antiretroviral Therapy.

Cost-effectiveness of public-private partnerships for HIV infection.

Isoniazid plus antiretroviral therapy to prevent tuberculosis: a randomised controlled trial.

Correlation of antiretroviral drug concentrations with lipid, glucose and lactate levels and body fat distribution in HIV infected South African adults.

Development of African HIV economic and disease models.

Diagnosis of HIV-associated tuberculosis.

Adherence to antiretroviral therapy.

Antiretroviral pharmacovigilance as a component of routine antiretroviral treatment programme programme monitoring and evaluation.

Pharmacokinetic interaction between the antimalarial combination artemether/lumefantrine and combination antiretroviral therapy including lopinavir/ritonavir in HIV-infected adults.

Pharmacokinetic interaction between the antimalarial combination artemether/lumefantrine and combination antiretroviral therapy including nevirapine in HIV-infected adults.

*Dr. Graeme Meintjes*

Studies examining the clinical presentations and immunopathogenesis of the paradoxical tuberculosis immune reconstitution inflammatory syndrome (TB-IRIS).

A series of studies regarding the optimum initial treatment of HIV-associated Cryptococcal Meningitis in collaboration with Professor Tom Harrison (St Georges Hospital, London).

A study examining incidence and reasons for clinical deterioration in patients on TB treatment at Site B and C TB clinic in Khayelitsha.

A study examining changes in incidence, presentation and outcome of patients with lactic acidosis due to ART following preventive interventions.

A study examining causes of death among HIV-infected patients at GF Jooste Hospital.

A study describing reasons for neurological deterioration during the first year of antiretroviral therapy.

Establishing the incidence, outcomes and health care utilisation of HIV-TB co-infected patients who develop drug-induced hepatitis.

*Prof. Carolyn Williamson*

Acute HIV-1 Infection Prospective Cohort Study Viral and Host Determinants of HIV-1 Transmission, Persistence, and Containment in Natural Human Infection: Application to AIDS Vaccine Design (CHAVI 001) (PI B. Haynes) (National Institutes of Health/NIAD) Role: Co-investigator and director of the South African HIV-1 sequencing and molecular biology core laboratory.

Comprehensive Vaccine Immune Monitoring Consortium Antibody Component, Global HIV/AIDS Vaccine Enterprise. (PI DC Montefiori) Role: Co-Investigator and Director of South African Sequencing and Cloning Collaborating Laboratory as part of the standard virus panel consortium and neutralization serotype discovery programme.

Collaborative AIDS Programme of Research in South Africa (CAPRISA). (PI SS Abdool Karim) National Research Foundation (NRF). A multi-institutional programme that contributes to understanding HIV pathogenesis. The CAPRISA Acute Infection Study identifies individuals with acute infection to determine viral load set-point, disease progression as well as immunological factors associated with control of HIV replication in early and chronic infection. Role: Protocol Chair of Acute infection Study and laboratory leader of Viral Diversity Core Laboratory

National Institutes of Health/NIAD

The Role of CTL Escape Mutations in Attenuating HIV-1 Subtype C Infection.

HIV Vaccine Trials Network

National Institutes of Health/NIAD

Sequencing of Breakthrough Infections from the Phambili Study

*Prof. Jonathan Blackburn*

Proteomic and phosphoproteomic studies on HIV-associated dementia

Proteomic studies on HIV-associated TB immune reconstitution inflammatory syndrome (TB-IRIS).

*In vitro* evolution of novel HIV protease inhibitors.

**Institute of Infectious Disease and Molecular Medicine (IIDMM)**  
**Desmond Tutu HIV Centre (DTHC)**

**Active dissertations / theses**

Keren Middelkoop. The Impact of the HIV Epidemic on Tuberculosis Incidence, Prevalence and Transmission within a Township Community.

Daniella Mark. Predicting adherence to antiretroviral therapy: Effects of baseline biopsychosocial status and HIV-associated cognitive dysfunction.

Katharina Kranzer. Tuberculosis control in a South African community with high HIV prevalence: the role of antiretroviral therapy and intensified case-finding. Stephen Lawn & Robin Wood.

**Papers published**

**Peer reviewed papers**

Bacaer, N., Oufliki, R., Pretorius, C., Wood, R. & Williams, B. (2008). Modeling the joint epidemics of TB and HIV in a South African township. *Journal of Mathematical Biology*. **57**(4), 557 - 93.

Middelkoop, K., Wood, R., Myer, L. & Bekker, L-G. (2008). Tuberculin skin test survey in a community with high HIV and tuberculosis prevalence. *CID*. **47**(3), 349 - 55.

Wood, R., Kaplan, R., Bekker, L-G., Brown, S. & Rivett, U. (2008). The utility of pharmacy dispensing data for ART program evaluation and early identification of patient loss to follow-up. *S African Journal of HIV Medicine*. **30**, 44 - 48.

Keiser, O., Orrell, C., Egger, M., Wood, R., Brinkhof, M.W.G., Furrer, H., van Cutsem, G., Ledergerber, B. & Boule, A. (2008). For the Swiss HIV Cohort Study and the International Epidemiologic Databases to Evaluate AIDS in Southern Africa (IeDEA SA). The public health and individual approach to antiretroviral therapy compared: Virologic response, treatment changes and mortality in township South Africa and Switzerland. *Plos Med*. **5**(7), e148.

Lawn, S.D., Harries, A., Anglaret, X. & Wood, R. (2008). Early mortality among adults accessing antiretroviral treatment programmes in sub-Saharan Africa. *AIDS*. **22**(15), 1897 - 908.

Badri, M., Lawn, S.D. & Wood, R. (2008). Utility of CD4 count in predicting virological failure: implications for monitoring HAART in resource-poor settings. *BMC Infect Dis*. **4**(8), 89.

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Nash, D., Katyal, M., Brinkhof, M., Keiser, O., May, M., Hughes, R., Dabis, F., Wood, R., Sprinz, E. & Egger, M. (2008). Long-term immunologic response to antiretroviral therapy in low income countries: A collaborative analysis of prospective studies. *AIDS*. **22**, 2291 - 2302.

- Lawn, S.D., Little, F, Bekker, L.G., Kaplan, R., Campbel, E., Orrell, C. & Wood, R. (2009). Changing mortality risk associated with CD4 cell response to antiretroviral therapy in South Africa. *AIDS*. **23**(3), 335 - 42.
- Jarvis, J.N., Lawn, S.D., Vogt, M., Bangani, N., Wood, R. & Harrison, T.S. (2009). Screening for cryptococcal antigenaemia in patients accessing antiretroviral treatment program in South Africa. *CID*. **48**(7), 856 - 62.
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- Pitt, J., Myer, L. & Wood, R. (2009). Quality of life and the impact of drug toxicities in a South African community based antiretroviral programme. *J Int AIDS Soc*. **12**(1), 5.
- Orrell, C., Walensky, R.P., Losina, E., Freedberg, K.A. & Wood, R. (2009). HIV-1 clade C resistance genotypes after first virological failure in a large community ART programme. *Antiviral Therapy*. **14**(4), 523 - 31.
- Bicanic, T.A., Meintjes, G.A., Rebe, K., Williams, A., Loyse, A., Wood, R., Hayes, M., Jaffar, S. & Harrison, T.S. (2009). Immune reconstitution syndrome in HIV-associated cryptococcal meningitis: a prospective study. *J Acquir Immune Defic Syndr*. **51**(2), 130 - 4.
- April, D.A., Walensky, R.P., Chang, Y., Pitt, J., Freedberg, K.A., Losina, E., Paltiel, D. & Wood, R. (2009). Trends in HIV testing rates and outcomes in a South African township. 2001-2006: implications for expanded screening policies. *J Acquir Immune Defic Syndr*. **51**(3), 310 - 6.
- Cornell, M., Myer, L., Kaplan, R., Bekker, L-G. & Wood, R. (2009). The impact of gender and income on survival and retention in a South African antiretroviral therapy programme. *Trop Med Int Health*. **14**(7), 722 - 31.
- Bendavid, E., Wood, R., Katzenstein, D.A., Bayoumi, A.M. & Owens, D.K. Expanding Antiretroviral options in resource-limited- A Cost Effective Analysis. *J Acquir Immune Defic Syndr*. **52**(1), 106 - 13.
- Lawn, S.L., Myer, L., Edwards, D., Bekker, L-G. & Wood, R. (2009). Short-term and long term risk of tuberculosis associated with CD4 cell recovery during antiretroviral therapy in South Africa.. *AIDS*. **23**(13), 1717 - 25.
- Walensky, R., Wolf, L., Wood, R., Freedberg, K.A., Martinson, N.A., Paltiel, A.D., Anglaret, X., Ribaldo, H., Weimstein, M.C. & Losina, E. (2009). When to start antiretroviral therapy and preventive treatment for latent tuberculosis infection for HIV-infected patients in resource-limited settings. *Ann Intern Med*. **151**(3), 157 - 66.
- Bicanic, T., Muzoora, C., Brouwer, A.E., Meintjes, G., Longley, N., Taseera, K., Rebe, K., Loyse, A., Jarvis, J., Bekker, L.G., Wood, R., Limmathurotsakul, D., Chierakul, W., Stepniewska, K., White, N.J., Jaffar, S. & Harrison, T.S. (2009). Independent Association between Rate of Clearance of Infection and Clinical Outcome of HIV-Associated Cryptococcal Meningitis: Analysis of a Combined Cohort of 262 Patients. *Clin Infect Dis*. **49**(5), 702 - 9.

Middelkoop, K., Bekker, L\_G., Mathema, B., Shashkina, E., Kurepina, N., Whitelaw, A., Morrow, C., Kreiswirth, B., Kaplan, G. & Wood, R. (2009). Molecular epidemiology of Mycobacterium tuberculosis in a South African community with high HIV prevalence. *JID*. **200**(8), 1207 - 11.

Davies, M-A., Keiser, O., Technau, K., Eley, B., Rabie, H., Van Cutsem, G., Giddy, J., Wood, R., Boule, A., Egger, M., & Moultrie, H. (2009). For the International epidemiological Databases to Evaluate Aids Southern Africa (IeDEA-SA) collaboration. Outcomes of the South African National Antiretroviral Treatment (ART) programme for children – The IeDEA Southern Africa Collaboration. *SAMJ*. **99**(9), 653 - 660.

Keiser, O., MacPhail, P., Boule, A., Wood, R., Schechter, M., Dabis, F., Sprinz, E. & Egger, M. (2009). ART-LINC Collaboration of the International Databases to Evaluate AIDS (IeDEA). Accuracy of WHO CD4 cell count criteria for virological failure of antiretroviral therapy. *Trop Med Int Health*. **14**(10), 1220 - 5.

Ferrand, R.A., Corbett, E.L., Wood, R., Hargrove, J., Ndlovu, C., Cowan, F.M. & Williams, B.G. (2009). AIDS among older children and adolescents in Southern Africa: projecting the time course and magnitude of the epidemic. *AIDS*. **23**(15), 2039 - 46.

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Lawn, S.D., Kranzer K. & Wood, R. (2009). Antiretroviral Therapy in the Control of the HIV-associated Tuberculosis Epidemic in Resource-Limited Settings. *Clinics in Chest Medicine of North America*. **30**(4), 685 - 699.

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Antiretroviral Treatment Programme, 2003-2007: the leDEA Southern Africa collaboration. *South African Medical Journal*. **99**(9), 653 - 60.

Tuboi, S.H., Pacheco, A.G., Harrison, L.H., Stone, R.A., May, M., Brinkhof, B.W.G., Dabis, F., Egger, M., Nash, D., Bangsberg, D., Braitstein, P., Yiannoutsos, C.T., Wood, R., Sprinz, E. & Schechter, M. (2010). Mortality Associated With Discordant Responses to Antiretroviral Therapy in Resource-Constrained Settings. *Journal of Acquired Immune Deficiency Syndrome*. **53**(1), 70 - 77.

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### **Books**

Men who have sex with men: An Introductory Manual for African Health Workers.

### **Working papers**

Hepatitis B prevalence in a cohort of South African MSM.

Sexual Risk Behaviors and HIV Prevalence Among Men Who Have Sex with Men (MSM) in Cape Town, South Africa.

Sexual Risk Behaviours and HIV-1 Prevalence Among Urban Men Who Have Sex with Men (MSM) in Cape Town, South Africa.

HIV Prevalence and Human Rights Violations among Men Who Have Sex with Men (MSM) in Peri-Urban Cape Town, South Africa.

### **Conferences**

Plenary speaker HIV/TB Control: Can it be achieved in South Africa? *4<sup>th</sup> South African AIDS Conference*. Durban 31<sup>st</sup> March-3<sup>rd</sup> April 2009.

Plenary Speaker: HIV and TB Con-infection *3<sup>rd</sup> Symposium on Emerging and Reemerging Infectious Diseases*. Tokyo Japan 17 -18 February 2009.

Plenary Speaker TB in Late Presenters. Solving Key Issues in HIV Medicine Karolinska TB/HIV when to start? University Hospital. 2009 June 4<sup>th</sup> Stockholm.

Catalysing HIV/TB Research: Innovation, Funding and networking: Impact of ART on TB Prevention. *International Aids Society Satellite Meeting*. Cape Town 18 July 2009. Co- Chair of Scientific Session Monitoring ART in Resource Poor Settings: Option or Necessity? *IAS 2009 Meeting*. Cape Town 20 July 2009.

Optimising Treatment and Prevention Synergies. 'When to Start ART?' *International Aids Society Satellite Meeting* Cape Town 20 July 2009.

Catalysing HIV/TB Research - Innovation, Funding and networking HIV TB Research 'Where Do We Stand and what are the Priorities?' *International Aids Society Satellite Meeting*. Cape Town 23 June 2009.

## Conference presentations

R., Wood, R., Fofana, M., Martinson, N., Losina, E., Weinstein, M., April, M., Bassett, I., Morris, B., Freedberg, K. & Paltiel, D. (2009). *IWHOD Lisbon*. The clinical impact and cost-effectiveness of routine voluntary HIV testing in South Africa. Walensky,

April, M., Walensky, R., Chang, Y., Pitt, J., Freedberg, K., Losina, E., Paltiel, D. & Wood, R. (2009). Trends in HIV Testing Rates and Outcomes in a South African Community 2001 to 2006: Implications for Expanded Screening Policies. [Poster 1050]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Ferrand, R., Corbett, E., Wood, R., Ndhlovu, C., Mason, P., Cowan, F., Hargrove, J. & Williams, B. (2009). An Emerging Epidemic of AIDS among Adolescents in Southern Africa: Projecting Time Course and Magnitude. [Poster 1048]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Lawn, S., Little, F., Bekker, L-G., Kaplan, R., Campbell, E., Orrell, C. & Wood, R. (2009). Changing Mortality Risk Associated with CD4 Cell Response to Long-term ART: Sub-Saharan Africa. [Poster 902]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Walensky, R., Wolf, L., Wood, R., Fofana, M., Freedberg, K., Martinson, N., Paltiel, D., Anglaret, X., Weinstein, M. & Losina, E. (2009). When to start ART-A Policy Evaluation while awaiting Trial Results: Southern Africa. [Poster 140]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Edwards, D., Vogt, M., Bangani, N., Ntobongwana, M., Socenywa, P., Nicol, M., Bekker, L-G., Wood, R. & Lawn, S. (2009). Baseline Screening for TB among Patients Enrolling in an ART Service in South Africa. [Poster 596b]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Lawn, S., Myer, L., Edwards, D. & Wood, R. Short- and Long-term Risks of TB associated with CD4 Cell Response to ART in South Africa. [Poster 780]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Keiser, O., Tweya, H., Boule, A., Braitstein, P., Schechter, M., Brinkhof, M.W.G., Dabis, F., Tuboi, S., Sprinz, E., Pujades-Rodriguez, M., Calmy, A., Kumarasamy, N., Nash, D., MacPhail, P., Luthy, R., Wood, R. & Egger, M. (2009). For the ART in Lower Income Collaboration (ART-LINC) of the International epidemiological databases to Evaluate AIDS (IeDEA). Switching to second-line ART and mortality in resource-limited settings. [Poster 788]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Burrell, E. Recruiting High-Risk Men Who Have Sex With Men (MSM) for an HIV Prevention Clinical Trial in Cape Town, South Africa. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Desmond Tutu HIV Centre staff also presented at the following conferences:

Comparison of Sexual Risk Behaviors and HIV Prevalence Among Men Who Have Sex With Men (MSM) in Traditionally Black and Coloured Townships in Cape Town, South Africa.

[Bisexual concurrency and bisexual practices among men who have sex with men (MSM) in Peri-Urban Cape Town, South Africa.

Assessing African MSM for HIV research. Plenary speaker HIV/TB Control: Can it be achieved in South Africa? *4<sup>th</sup> South African AIDS Conference*. Durban, 31<sup>st</sup> March-3<sup>rd</sup> April 2009.

Plenary Speaker: HIV and TB Con-infection *3<sup>rd</sup> Symposium on Emerging and Reemerging Infectious Diseases*.

Plenary Speaker. TB in Late Presenters. Solving Key Issues in HIV Medicine Karolinska TB/HIV when to start? Tokyo Japan 17 -18 February, 2009.

Catalysing HIV/TB Research: Innovation, Funding and networking: Impact of ART on TB Prevention. *Stockholm International Aids Society Satellite Meeting*. University Hospital, June 4<sup>th</sup>, 2009.

Co-Chair of Scientific Session at *IAS 2009 Meeting*. Monitoring ART in Resource Poor Settings: Option or Necessity. Cape Town, 18th July, 2009.

Optimising Treatment and Prevention Synergies. 'When to Start ART?' *International Aids Society Satellite Meeting - Cape Town*, 20th July, 2009.

Catalysing HIV/TB Research - Innovation, Funding and networking HIV TB Research 'Where Do We Stand and What are the Priorities?' conference title? Cape Town, 23rd June, 2009.

### **Conference papers**

May, M., Wood, R., Myer, L. & Egger, M. (2009). For the Cape Town AIDS Cohort (CTAC) and the Swiss HIV Cohort Study (SHCS). CD4 T-cell Declines by Race in Untreated HIV-1 Infected Patients in South Africa and Switzerland. *IWHOD*. Lisbon.

Walensky, R., Wood, R., Fofana, M., Martinson, N., Losina, E., Weinstein, M., April, M., Bassett, I., Morris, B., Freedberg, K. & Paltiel, D. (2009). The clinical impact and cost-effectiveness of routine voluntary HIV testing in South Africa. [Poster 1050]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

April, M., Walensky, R., Chang, Y., Pitt, J., Freedberg, K., Losina, E., Paltiel, D. & Wood, R. (2009). Trends in HIV Testing Rates and Outcomes in a South African Community 2001 to 2006: Implications for Expanded Screening Policies. [Poster 1048]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*. February 8-11<sup>th</sup> 2009, Montreal, Canada.

Ferrand, R., Corbett, E., Wood, R., Ndhlovu, C., Mason, P., Cowan, F., Hargrove, J. & Williams, B. (2009). An Emerging Epidemic of AIDS among Adolescents in Southern Africa: Projecting Time Course and Magnitude. [Poster 902]. *16<sup>th</sup>*

*Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Lawn, S., Little, F., Bekker, L-G., Kaplan, R., Campbell, E., Orrell, C. & Wood, R. (2009). Changing Mortality Risk Associated with CD4 Cell Response to Long-term ART: Sub-Saharan Africa. [Poster 140]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Walensky, R., Wolf, L., Wood, R., Fofana, M., Freedberg, K., Martinson, N., Paltiel, D., Anglaret, X., Weinstein, M. & Losina, E. (2009). When to start ART-A Policy Evaluation while awaiting Trial Results: Southern Africa. [Poster 596b]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Edwards, D., Vogt, M., Bangani, N., Ntobongwana, M., Socenywa, P., Nicol, M., Bekker, L-G., Wood, R. & Lawn, S. (2009). Baseline Screening for TB among Patients Enrolling in an ART Service in South Africa. [Poster 780]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Lawn, S., Myer, L., Edwards, D. & Wood, R. (2009). Short- and Long-term Risks of TB associated with CD4 Cell Response to ART in South Africa. [Poster 788]. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Keiser, O., Tweya, H., Boule, A., Braitstein, P., Schechter, M., Brinkhof, M.W.G., Dabis, F., Tuboi, S., Sprinz, E., Pujades-Rodriguez, M., Calmy, A., Kumarasamy, N., Nash, D., MacPhail, P., Luthy, R., Wood, R. & Egger, M. (2009). For the ART in Lower Income Collaboration (ART-LINC) of the International epidemiological databases to Evaluate AIDS (IeDEA). Switching to second-line ART and mortality in resource-limited settings. *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections*, February 8-11<sup>th</sup> 2009, Montreal, Canada.

Plenary Speaker: HIV and TB Con-infection. *3<sup>rd</sup> Symposium on Emerging and Reemerging Infectious Diseases*. Tokyo, Japan 17 -18 February, 2009.

Plenary Speaker. TB in Late Presenters. Solving Key Issues in HIV Medicine Karolinska TB/HIV when to start? University Hospital. Stockholm, June 4<sup>th</sup>, 2009,

Catalysing HIV/TB Research: Innovation, Funding and networking: Impact of ART on TB Prevention. *International Aids Society Satellite Meeting*. Cape Town. 18th July, 2009.

Co- Chair of Scientific Session. Monitoring ART in Resource Poor Settings: Option or Necessity – Monitoring ART in Resource Poor Settings: Option or Necessity. *IAS 2009 Meeting*.

Optimising Treatment and Prevention Synergies. 'When to Start ART?' *International Aids Society Satellite Meeting*. Cape Town, 20th July, 2009.

Catalysing HIV/TB Research - Innovation, Funding and networking HIV TB Research 'Where Do We Stand and What are the Priorities?' Cape Town 23rd June, 2009.

### **Ongoing research projects**

Iprex (Chemoprophylaxis for the prevention of HIV among men).

Men who have sex with men social networks and HIV subtype study.

### **HIV Diversity and Pathogenesis Group, IIDMM**

#### **Active dissertations / theses**

Florette Treurnicht registered for PhD (2003-2009). *An investigation of virological properties of transmitted HIV-1 variants.*

Denis Chopera registered for PhD (2006-2009). *An investigation of the timing and pathogenic implication of CTL escape in early HIV-1 infection.*

Lycias Zembe registered for PhD (co-supervision) (2008-). *HIV-1 subtype C cross-clade reactivity.*

Andile Nofemela registered for PhD (2008-). *Investigation of fitness properties in HIV-1 dual infection.*

Roman Ntale registered for PhD (2008-). *Viral genetic determinants associated with early immunological escape mutations.*

Lindi Roberts registered for PhD (co-supervision) (2008-). *Impact of sexually transmitted infections and inflammation in the female genital tract and blood on HIV-1 transmission and disease progression.*

Gama Bandawe registered for PhD (2009-) *Dynamics of HIV-1 early envelope evolution: an investigation of the affect of early selective pressures on HIV-1 evolution and its implications on immune responses and disease progression.*

Daniel Sheward registered for MSc (2009-) *Viral Dynamics in HIV-1 Dual Infection: Recombination, Replicative Fitness, Humoral Immunodominance, Variant Dominance and Disease Progression.*

Hayley Harvey registered for MSc (2009-) *The Characterisation of HIV Superinfection: Genetic Evolution, Adaptive Immune Response and Viral Fitness.*

Ruwayhida Thebus registered for MSc (2009-) *Identification of genetic characteristics of HIV-1 that elicits cross-reactive neutralizing antibody responses.*

#### **Peer reviewed papers**

Moore, P.L., Ranchobe, N., Lambson, B.E., Gray, E.S., Cave, E., Abrahams, M.R., Bandawe, G., Mlisana, K., Abdool Karim, S.S., Williamson, C. & Morris, L. (2009). The CAPRISA 002 study and the NIAID Center for HIV/AIDS Vaccine Immunology (CHAVI). Limited Neutralizing Antibody Specificities Drive Neutralization Escape in Early HIV-1 Subtype C Infection. *PLoS Pathog.* **5**(9), e1000598. Epub 2009 Sep 18.

Morris, L., Williamson, C., Mlisana, K. & Gray, G. (2009). Where are we going with HIV vaccines? *South African Journal of Science* **105**, 1 - 2.

Woodman, Z. & Williamson, C. (2009). HIV molecular epidemiology: transmission and adaptation to human populations. *Current Opinion in HIV and AIDS.* **4**, 247 – 252.

Burgers, W.A., Riou, C., Mlotshwa, M., Maenetje, P., de Assis Rosa, D., Brenchley, J., Mlisana, K., Douek, D.C., Koup, R., Roederer, M., de Bruyn, G., Karim, S.A., Williamson, C., Gray, C.M.; & the CAPRISA 002 Acute Infection Study Team. (2009). Association of HIV-specific and total CD8+ T memory phenotypes in subtype C HIV-1 infection with viral set point. *J Immunol.* **182**(8), 4751 – 61.

Abrahams, M.R., Anderson, J.A., Giorgi, E.E., Seoighe, C., Mlisana, K., Ping, L.H., Athreya, G.S., Treurnicht, F.K., Keele, B.F., Wood, N., Salazar-Gonzalez, J.F., Bhattacharya, T., Chu, H., Hoffman, I., Galvin, S., Mapanje, C., Kazembe, P., Thebus, R., Fiscus, S., Hide, W., Cohen, M.S., Karim, S.A., Haynes, B.F., Shaw, G.M., Hahn, B.H., Korber, B.T., Swanstrom, R. & Williamson, C. (2009). Quantitating the multiplicity of infection with HIV-1 subtype C reveals a non-Poisson distribution of transmitted variants for the CAPRISA Acute Infection Study Team and the Center for HIV-AIDS Vaccine Immunology Consortium. *Journal of Virology.*

Burgers, W.A., Chege, G.K., Müller, T.L., van Harmelen, J.H., Khoury, G., Shephard, E.G., Gray, C.M., Williamson, C., Williamson, A.L. (2009). Broad, high-magnitude and multifunctional CD4+ and CD8+ T-cell responses elicited by a DNA and modified vaccinia Ankara vaccine containing human immunodeficiency virus type 1 subtype C genes in baboons. *J Gen Virol.* **90**(2), 468 – 80.

## **Conferences**

### **Conference presentations**

Chopera, D.R., Woodman, Z.L., Mlisana, K., Mlotshwa, M., Martin, D.P., de Assis Rosa, D., Abdool Karim, S., Gray, C.M., Williamson C. & the CAPRISA 001 Study Team. (2009). Impact of CTL Escape and Reversion in B57/5801 Epitopes on Disease Progression. *16th Conference on Retroviruses and Opportunistic Infections.* Montreal, February 8th -11th, 2009.

Bandawe, G., Nofemela, A., Thebus, R., Marais, J., Wood, N., Maboko, L., Hoelscher, C. & Williamson, M. (2009). Genetic characterization and determination of multiplicity of infection using single genome amplification of recently transmitted HIV-1 *env* variants from a cohort with multiple circulating HIV-1 subtypes in Mbeya, Tanzania. *5th IAS Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, July 19th-22<sup>nd</sup> 2009.

C. Williamson. (2009). HIV transmission and early CTL escape in HIV-1 Subtype C infected individuals with differing disease progression profiles. *4th International Workshop on HIV Transmission-Principles of Intervention.* Cape Town, 17th-18th July 2009.

Sheward, D., Bandawe, G., Abrahams, M-R., Thebus, R., Woodman, Z., Abdool Karim, S., Mlisana, K., Williamson, C. & the CAPRISA 002 Acute Infection Study Team. (2009). Comparison of the entry efficiency of transmitted HIV subtype C variants from an individual infected with a genetically diverse viral population. *4th SA AIDS Conference.* Durban, March 31st-April 3rd 2009.

Thebus, R., Treurnicht, F., Abrahams, M-R., Mlisana, K., Abdool-Karim, S., Williamson, S. and the CAPRISA 002 acute infection study team. (2009). A comparison of methods for staging primary HIV-1 subtype C infection based on clinical data and laboratory markers. *4th SA AIDS Conference.* Durban, March 31st-April 3rd 2009.

Nofemela, A., Bandawe, G., Thebus, R., Marais, J., Woodman, Z., Maboko, L., Hoelscher, M. & Williamson, C. (2009). Genetic characterization of transmitted HIV-1 env variants from Mbeya, Tanzania. *4th SA AIDS Conference*. Durban, March 31st-April 3rd 2009.

### **Ongoing research projects**

Acute HIV-1 Infection Prospective Cohort Study Viral and Host Determinants of HIV-1 Transmission, Persistence, and Containment in Natural Human Infection: Application to AIDS Vaccine Design (CHAVI 001) (PI B. Haynes) (National Institutes of Health/NIAD).

Role: Co-investigator and director of the South African HIV-1 sequencing and molecular biology core laboratory.

Comprehensive Vaccine Immune Monitoring Consortium Antibody Component, Global HIV/AIDS Vaccine Enterprise. (PI DC Montefiori).

Role: Co-Investigator and Director of South African Sequencing and Cloning Collaborating Laboratory as part of the standard virus panel consortium and neutralization serotype discovery programme.

Collaborative AIDS Programme of Research in South Africa (CAPRISA). (PI SS Abdool Karim) National Research Foundation (NRF).

A multi-institutional programme that contributes to understanding HIV pathogenesis. The CAPRISA Acute Infection Study identifies individuals with acute infection to determine viral load set-point, disease progression as well as immunological factors associated with control of HIV replication in early and chronic infection.

Role: Protocol Chair of Acute infection Study and laboratory leader of Viral Diversity Core Laboratory.

National Institutes of Health/NIAD.

The Role of CTL Escape Mutations in Attenuating HIV-1 Subtype C Infection .

HIV Vaccine Trials Network.

National Institutes of Health/NIAD.

Sequencing of Breakthrough Infections from the Phambili Study.

### **Centre for Infectious Disease Epidemiology**

#### **Papers published**

#### **Peer reviewed papers**

Nkwanyana, N.N., Gumbi, P.P., Roberts, L., Denny, L., Hanekom, W., Soares, A., Allan, B., Williamson, A.L., Coetzee, D., Olivier, A.J., Burgers, W.A. & Passmore, J.A. (2009). Impact of human immunodeficiency virus 1 infection and inflammation on the composition and yield of cervical mononuclear cells in the female genital tract. *Immunology*. **128**, S746 - 57.

Palmer, A., Tomkinson, J., Phung, C., Ford, N., Joffres, M., Fernandes, K. A., Zeng, L., Lima, V., Montaner, J. S., Guyatt, G. H. & Mills, E. J. (2009). Does ratification of human-rights treaties have effects on population health? *Lancet*. **373**, 1987 – 92.

Trollip, A. P., Albert, H., Mole, R., Marshall, T., van Cutsem, G. & Coetzee, D. (2009). Performance of FASTPlaqueTB and a modified protocol in a high HIV prevalence community in South Africa. *Int J Tuberc Lung Dis.* **13**, 791 – 3.

Decroo, T., Panunzi, I., das Dores, C., Maldonado, F., Biot, M., Ford, N. & Chu, K. (2009). Lessons learned during down referral of antiretroviral treatment in Tete, Mozambique. *J Int AIDS Soc.* **12**, 6.

Ford, N., Mills, E. & Calmy, A. (2009). Rationing antiretroviral therapy in Africa--treating too few, too late. *N Engl J Med.* **360**, 1808 – 10.

Lingappa, J. R., Kahle, E., Mugo, N., Mujugira, A., Magaret, A., Baeten, J., Bukusi, E. A., Cohen, C. R., Katabira, E., Ronald, A., Kiarie, J., Farquhar, C., Stewart, G. J., Makhema, J., Essex, M., Were, E., Fife, K., Debruyne, G., Gray, G., McIntyre, J., Manongi, R., Kapiga, S., Coetzee, D., Allen, S., Inambao, M., Kayitenkore, K., Karita, E., Kanweka, W., Delany, S., Rees, H., Vwalika, B., Coombs, R. W., Morrow, R., Whittington, W., Corey, L., Wald, A. & Celum, C. (2009). Characteristics of HIV-1 discordant couples enrolled in a trial of HSV-2 suppression to reduce HIV-1 transmission: the partners study. *PLoS One.* **4**, e5272.

Brinkhof, M. W., Boule, A., Weigel, R., Messou, E., Mathers, C., Orrell, C., Dabis, F., Pascoe, M. & Egger, M. (2009). Mortality of HIV-infected patients starting antiretroviral therapy in sub-Saharan Africa: comparison with HIV-unrelated mortality. *PLoS Med.* **6**, e1000066.

Pitt, J., Myer, L. & Wood, R. (2009). Quality of life and the impact of drug toxicities in a South African community-based antiretroviral programme. *J Int AIDS Soc.* **12**, 5.

Mbulawa, Z. Z., Coetzee, D., Marais, D. J., Kamupira, M., Zwane, E., Allan, B., Constant, D., Moodley, J. R., Hoffman, M. & Williamson, A. L. (2009). Genital human papillomavirus prevalence and human papillomavirus concordance in heterosexual couples are positively associated with human immunodeficiency virus coinfection. *J Infect Dis.* **199**, 1514 – 24.

Cooper, D., Moodley, J., Zweigenthal, V., Bekker, L. G., Shah, I. & Myer, L. (2009). Fertility intentions and reproductive health care needs of people living with HIV in Cape Town, South Africa: implications for integrating reproductive health and HIV care services. *AIDS Behav.* **13**(1), 38 – 46.

Davies, M. A., Connell, T., Johannisen, C., Wood, K., Pienaar, S., Wilkinson, K. A., Wilkinson, R. J., Zar, H. J., Eley, B., Beatty, D., Curtis, N. & Nicol, M. P. (2009). Detection of tuberculosis in HIV-infected children using an enzyme-linked immunospot assay. *AIDS.* **23**, 961 - 9.

Nicol, M. P., Davies, M. A., Wood, K., Hatherill, M., Workman, L., Hawkrige, A., Eley, B., Wilkinson, K. A., Wilkinson, R. J., Hanekom, W. A., Beatty, D. & Hussey, G. (2009). Comparison of T-SPOT.TB assay and tuberculin skin test for the evaluation of young children at high risk for tuberculosis in a community setting. *Pediatrics.* **123**, 38 – 43.

Myer, L., Seedat, S., Stein, D. J., Moomal, H. & Williams, D. R. (2009). The mental health impact of AIDS-related mortality in South Africa: a national study. *J Epidemiol Community Health.* **63**, 293 – 8.

Steyn, F., Schneider, H., Engelbrecht, M. C., van Rensburg-Bonthuyzen, E. J., Jacobs, N. & van Rensburg, D. H. (2009). Scaling up access to antiretroviral drugs in a middle-income country: public sector drug delivery in the Free State, South Africa. *AIDS Care.* **21**, 1 – 6.

Bourne, D. E., Thompson, M., Brody, L. L., Cotton, M., Draper, B., Laubscher, R., Abdullah, M. F. & Myers, J. E. (2009). Emergence of a peak in early infant mortality due to HIV/AIDS in South Africa. *AIDS*. **23**, 101 – 6.

Müller, A. D., Myer, L. & Jaspan, H. (2009). Virological suppression achieved with suboptimal adherence levels among South African children receiving boosted protease inhibitor-based antiretroviral therapy. *Clin Infect Dis*. **48**, e3 – 5.

Turner, A. N., De Kock, A. E., Meehan-Ritter, A., Blanchard, K., Sebola, M. H., Hoosen, A. A., Coetzee, N. & Ellertson, C. (2009). Many vaginal microbicide trial participants acknowledged they had misreported sensitive sexual behaviour in face-to-face interviews. *J Clin Epidemiol*. **62**, 759 – 65.

### **Chapters for edited volumes**

Coetzee, D. (2009). Communicable and non-communicable diseases. In: *Primary Health Care Fresh Perspectives*. Cape Town: Pearson Education and Prentice Hall.

### **Conferences**

#### **Conference presentations**

Coetzee, D. (2009). Epidemiology of HIV in Cape Town, South Africa. *Conference on Retroviruses and Opportunistic Infections*. February 2009.

#### **Ongoing research projects**

Research on cohort of people with suspected TB in an area with a high prevalence of HIV in Gugulethu.

Research on ART cohort in Khayelitsha & Gugulethu.

Research on integrating of HIV and TB services in the primary health care setting.

Phase III Randomized Placebo-Controlled Trial of HSV-2 Suppression to Prevent HIV Transmission Among HIV-Discordant Couples.

Models of care for antiretroviral treatment and adherence support in South Africa.

Monitoring HIV and TB programmes in the Western Cape.

Development of tools to monitor the effectiveness of programmes to prevent mother-to-child transmission of HIV in lower-income countries.

International Epidemiological Databases to Evaluate Aids (IeDEA) Cohort Collaboration.

Effects of antiretroviral therapy on rates and transmission of tuberculosis.

Structural intervention to integrate reproductive health into HIV care.

Fertility intentions, contraceptive service needs and reproductive decision-making among HIV-infected women and men in Cape Town.

Interactions of HIV and mental health.

## Department of Medicine

### Active dissertations / theses

#### PhDs

Andrew Boule. Determinants of effectiveness in the Khayelitsha antiretroviral treatment programme (Supervisors: G Maartens & J Myers – registered in Public Health) – active.

Yuan Ren. Investigation of the pharmacokinetic interactions between antiretroviral and antituberculosis treatment in children. (Supervisors: H McIlleron, PJ Smith) - active

Jan-Stefan Van der Walt. Nonlinear mixed effect model approaches to characterize the population pharmacokinetic/pharmacodynamic relationships in HIV-infected South African adults (Supervisors: H McIlleron, MO Karlsson) - active

Ms Suhashni Naiker (UKZN). A pharmacokinetic study of rifabutin and its interactions with antiretrovirals in TB/HIV co-infection. (Supervisor: A Pym – UKZN; Co-supervisor: H McIlleron) – active

Chao Zhang. Population pharmacokinetics of lopinavir and ritonavir with and without rifampicin-based TB treatment. (Supervisors: H McIlleron, P Denti, MO Karlsson) - active.

#### Masters

Phumla Sinxadi. Pharmacokinetic-pharmacodynamic correlation between antiretrovirals and metabolic complications – active

Tamara Kredo. The clinical role of therapeutic drug monitoring of antiretrovirals - A Cochrane systematic review – completed and graduated 2008

Eric Decloedt. Pharmacokinetics of boosted lopinavir with rifampicin - active

#### Peer reviewed papers

Meintjes, G., Rangaka, M.X., Maartens, G., Rebe, K., Morroni, C., Pepper, D.J., Wilkinson, K.A. & Wilkinson, R.J. (2009). Novel relationship between tuberculosis immune reconstitution inflammatory syndrome and antitubercular drug resistance. *Clinical Infectious Diseases*. **48**, 667 - 76.

Richards, J.C., Maartens & G., Davidse, A.J. (2009). Course and complications of varicella zoster ophthalmicus in a high HIV seroprevalence population (Cape Town, South Africa). *Eye*. **23**(2), 376 - 81.

Ren, Y., Nuttall, J.J., Egbers, C., Eley, B.S., Meyers, T.M., Smith, P.J., Maartens, G. & McIlleron, H.M. (2009). Effect of rifampicin on efavirenz pharmacokinetics in HIV-infected children with tuberculosis. *Journal of Acquired Immune Deficiency Syndromes*. **50**, 439 – 443.

Nachega, J.B., Hislop, M., Nguyen, H., Dowdy, D.W., Chaisson, R.E., Regensberg, L., Cotton, M. & Maartens, G. (2009). Antiretroviral therapy adherence, virologic and

immunologic outcomes in adolescents compared with adults in Southern Africa. *Journal of Acquired Immune Deficiency Syndromes*. **51**, 65 - 71.

Kevany, S., Meintjes, G., Rebe, K., Maartens, G. & Cleary, S. (2009). Estimating the clinical and financial burdens of secondary level care in a public sector antiretroviral roll-out setting in South Africa: case study of the GF Jooste Hospital Antiretroviral Referral Unit. *South African Medical Journal*. **99**, 320 - 5.

Pepper, D.J., Marais, S., Maartens, G., Rebe, K., Morroni, C., Rangaka, M.X., Oni, T., Wilkinson, R.J. & Meintjes, G. (2009). Neurological manifestations of paradoxical tuberculosis-associated immune reconstitution inflammatory syndrome: a case series. *Clinical Infectious Diseases*. **48**, e 96 – 107.

Elsherbiny, D., Cohen, K., Jansson, B., Smith, P., McIlleron, H. & Simonsson, U.S. (2009). Population pharmacokinetics of nevirapine in combination with rifampicin-based short course chemotherapy in HIV- and tuberculosis-infected South African patients. *Eur J Clin Pharmacol*. **65**, 71 – 80.

Cohen, K., Grant, A., Dandara, C., McIlleron, H., Pemba, L., Churchyard, G., Smith, P. & Maartens, G. (2009). The effect of rifampicin-based antitubercular therapy and cytochrome P450 2B6 genotype on efavirenz mid-dosing interval concentrations in a South African HIV-infected population. *Antiviral Therapy*. **14**, 687 - 95.

Kredo, T., Van der Walt, J.S., Siegfried, N. & Cohen, K. (2009). Therapeutic drug monitoring of antiretrovirals for people with HIV. *Cochrane Database Syst Rev*. **8**(3), CD007268

Schaaf, H.S., Willemsse, M., Cilliers, K., Labadarios, D., Maritz, J.S., Hussey, G.D., McIlleron, H., Smith, P. & Donald, P.R. Rifampin pharmacokinetics in children, with and without human immunodeficiency virus infection, hospitalized for the management of severe forms of tuberculosis. *BMC Med*. **7**, 19.

## **Books**

Wilson, D., Bekker, L-G., Cotton, M., Myers, T., Venter, F. & Maartens, G. (2008). *Handbook of HIV medicine*, 2<sup>nd</sup> edition. Cape Town: Oxford University Press Southern Africa.

## **Chapters for edited volumes**

Nachega, J. & Maartens, G. (2009). Clinical aspects of tuberculosis in HIV-infected adults. **In:** Schaaf, H.S., Zumla, A. (eds). *Tuberculosis. A comprehensive clinical reference*. Elsevier: Saunders, 524 - 31.

Meintjes G. & Maartens, G. (2009). Deteriorating tuberculosis in a HIV-infected man despite treatment: immune reconstitution, resistance or drug malabsorption. **In:** Schaaf, H.S., Zumla, A. (eds). *Tuberculosis. A comprehensive clinical reference*. Elsevier: Saunders, 852 - 3.

Maartens, G. (2009). Clinical features and diagnosis of tuberculosis in HIV-infected patients. **In:** Basow, D.S. (ed). *UpToDate*. Waltham, MA.

## Conferences

### Conference presentations

Maartens, G. (2009) Strategies for co-treatment: first and second line ART and TB treatment, Catalyzing TB/HIV research: innovation, funding and networking. Satellite meeting to 5<sup>th</sup> *International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention*. Cape Town, July 2009. Organised by WHO, Consortium to Respond Effectively to the AIDS/TB Epidemic (CREATE), and IAS.

Maartens, G. (2009) A tale of two epidemics: HIV and tuberculosis. *Gordon Research Conference on Tuberculosis Drug Development: Targets, Technologies and Trials*. Oxford, 16-21 August 2009.

Barnes, K.I. (2009). How do malaria and HIV / AIDS interact? 5<sup>th</sup> *International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention*. Cape Town, South Africa, 19 – 22 July 2009.

### Conference papers

Meintjes, G., Wilkinson, R., Morroni, C., Pepper, D., Rebe, K., Rangaka, M., Oni, T. & Maartens, G. (2009). Randomized Placebo-controlled Trial of Prednisone for the TB Immune Reconstitution Inflammatory Syndrome. Oral #34. 16<sup>th</sup> *Conference on Retroviruses and Opportunistic Infections*. Montreal, February 8-11, 2009.

Nachega, J., Goliath, R., Efron, A., Chaudhary, M., Ram, M., Morroni, C., Schoeman, H., Chaisson, R. & Maartens, G. (2009). Randomized Trial of Trained Patient-nominated Treatment Supporters Providing Partial Directly Observed ART in South African Adults Initiating HIV Therapy. Oral #143. 16<sup>th</sup> *Conference on Retroviruses and Opportunistic Infections*. Montreal, February 8-11, 2009.

McIlleron, H., Ren, Y., Nuttall, J., Riddick, A., Kleynhans, L., Rabie, H., Cotton, M., Eley, B., Merry, C. & Maartens, G. (2009). Double-dose Lopinavir/Ritonavir Provides Insufficient Lopinavir Exposure in Children Receiving Rifampicin-based Anti-TB Treatment. Oral #98. 16<sup>th</sup> *Conference on Retroviruses and Opportunistic Infections*, Montreal. February 8-11, 2009.

Wilkinson, K.A., Meintjes, G., Rangaka, M.X., Maartens, G., Rebe, K., Pepper, D., Skolimowska, K. & Wilkinson R.J. (2009). Immunological analysis of the overlap between Tuberculosis immune reconstitution inflammatory syndrome (TB-IRIS) and antitubercular drug resistance. TUPEB130. 5<sup>th</sup> *International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention*. Cape Town, 19-22 July 2009.

Tadokera, R., Meintjes, G., Wilkinson, K., Rangaka, M., van Veen, K., Skolimowska, K., Maartens, G. & Wilkinson R.J. (2009). Pro- and anti-inflammatory cytokine mRNA profiling of the HIV-tuberculosis Immune reconstitution inflammatory Syndrome (TB-IRIS). TUPEB140. 5<sup>th</sup> *International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention*, Cape Town. 19-22 July, 2009.

Skolimowska, K., Meintjes, G., Wilkinson, K.A., Pepper, D.J., Maartens, G., Rangaka, M.X., van Veen, K., Seldon, R., Rebe, K., Tadokera, R., Wilkinson, R.J. (2009). Effect of steroids on T cell expansions in HIV-tuberculosis immune reconstitution inflammatory syndrome. TUPEB146. 5<sup>th</sup> *International AIDS Society*

*Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, 19-22 July, 2009.

Rangaka, M., du Toit, E., van Cutsem, G., Mathee, S., Hildebrand, K., Boulle, A., Wilkinson, R.J. & Maartens, G. (2009). Tuberculosis screening and intensified case finding at an integrated HIV/TB clinic in Khayelitsha, Cape Town TUPEB153. *5<sup>th</sup> International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, 19-22 July, 2009.

Gideon, H.P., du Toit, E., Maartens, G., van Cutsem, G., Wilkinson, K.A., Wilkinson, R.J. & Rangaka, M.X. (2009). Evaluation of IGRA for detection of prevalent tuberculosis (TB) amongst asymptomatic HIV-1 infected adults on combined antiretroviral treatment (ART) being screened for a TB prevention study in Khayelitsha, South Africa TUPEB154. *5<sup>th</sup> International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, 19-22 July, 2009.

Leisegang, R., Cleary, S., Hislop, M., Davidse, A., Regensberg, L. & Maartens G. (2009). Early and late determinants of direct costs in a Southern African antiretroviral programme. WEPEB285. *5<sup>th</sup> International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, 19-22 July, 2009.

Boulle, A., Van Cutsem, G., Hilderbrand, K., Cragg, C., Abrahams, M., Mathee, S., Ford, N., Knight, L., Osler, M., Myers, J., Goemaere, E., Coetzee, D., & Maartens G. (2009). Good outcomes on ART sustained at five years in Khayelitsha in spite of massive scale up. WEPED211. *5<sup>th</sup> International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, 19-22 July, 2009.

Kredo, T., Cohen, K., Maartens, G., Smith, P. & Leisegang, R. (2009). Initial experience with an antiretroviral therapeutic drug monitoring service in South Africa. WEPEB258. *5<sup>th</sup> International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, 19-22 July, 2009.

Pepper, D.J., Marais, S., Wilkinson, R.J., Bhaijee, F., Maartens, G., McIleron, H., Rebe, K., De Azevedo, V., Cox, H., McDermid, C., Sokhela, S., Patel, J., & Meintjes G. (2009). Clinical deterioration during TB chemotherapy in HIV-1 infected patients. LBPED07. *5<sup>th</sup> International AIDS Society Conference on HIV Pathogenesis, Treatment and Prevention.* Cape Town, 19-22 July, 2009.

Tamara, K., van der Walt, J.S., Siegfried, N. & Cohen, K. (2009). Therapeutic Drug Monitoring of Antiretroviral Therapy – A Cochrane Systematic Review. N134 *16<sup>th</sup> Conference on Retroviruses and Opportunistic Infections.* Montreal, February 8-11, 2009.

### **Ongoing research projects**

Doubling the dose of LOPINAVIR/ritonavir for TB/HIV-infected patients receiving rifampicin-based antitubercular treatment; paediatric study; PPK.DDK.

The concentrations of efavirenz in South African HIV-infected children with and without rifampicin-based TB treatment (PPK.EFV2006).

Pharmacokinetics of nevirapine in HIV-infected children younger than three years who are being treated with nevirapine-containing ART and rifampin-containing antituberculosis treatment for HIV/TB co-infection; A pharmacokinetic study affiliated to the CHAPAS-1 trial.

The pharmacokinetics of lopinavir in South African HIV-infected volunteers receiving rifampicin with adjusted doses of lopinavir/ritonavir (600/150 mg and 800/200 mg) (APK.DDK).

The safety, effectiveness and pharmacokinetics of adjusted dose lopinavir and ritonavir when given with rifampicin-based antitubercular treatment in South African HIV-infected adults (APK.LCM) .

Pharmacokinetics of Rifabutin Combined with Antiretroviral Therapy in the Treatment of Tuberculosis Patients with HIV Infection in South Africa.

Bioavailability of the fixed dose formulation Rifafour containing isoniazid, rifampicin pyrazinamide, ethambutol and the WHO recommended first line antiretroviral drugs zidovudine, lamivudine, efavirenz administered to new TB patients at different levels of immunosuppression.

Clinical and immunological studies of Tuberculosis-associated Immune Reconstitution Inflammatory Syndrome after commencing Highly Active Antiretroviral Therapy.

Cost-effectiveness of public-private partnerships for HIV infection. Isoniazid plus antiretroviral therapy to prevent tuberculosis: a randomised controlled trial.

Correlation of antiretroviral drug concentrations with lipid, glucose and lactate levels and body fat distribution in HIV infected South African adults.

Development of African HIV economic and disease models.

Diagnosis of HIV-associated tuberculosis.

Adherence to antiretroviral therapy.

Antiretroviral pharmacovigilance as a component of routine antiretroviral treatment programme programme monitoring and evaluation.

Pharmacokinetic interaction between the antimalarial combination artemether/lumefantrine and combination antiretroviral therapy including lopinavir/ritonavir in HIV-infected adults.

Impact of malnutrition on TB-IRIS and pharmacokinetics of TB and ARV cotreatment.

Expanding the Availability of Fixed Dose Combinations for First-line Treatment of HIV-infected Children.

Pilot Study of the Impact of Rifampin on Nevirapine Levels and MTCT among Pregnant Women with TB and HIV.

Population pharmacokinetic-pharmacodynamic modelling to optimise treatments for HIV, TB and malaria.

Impact of TB on Outcome of HIV in Pregnant Women (R01 HD064354-01).

## **Gender Health and Justice Research Unit**

### **Peer reviewed papers**

Roehrs, S. (2009). Privacy, HIV/AIDS & Public Health Interventions. *South African Law Journal*.

### **Non-peer reviewed papers**

Artz, A. & Roehrs, S. (2009). Criminal Law (Sexual and Related Matters) Amendment Act (No 32 of 2007): Emerging Issues for the Health Sector. *South Africa's Continuing Medical Education Monthly*. 27(10).

Roehrs, S. (2009). Compulsory HIV testing of alleged sexual offenders: Role of the health care professional. *South Africa's Continuing Medical Education Monthly*, 27(10).

### **Book Chapter in non-edited volume**

Roehrs, S. (2008). Half-Hearted HIV-Related Services for Victims. In: Artz, L. & Smythe D. (eds). *Should We Consent?* 175 - 197.

### **Conference presentations**

Roehrs, S. (2009). Compulsory HIV Testing of Alleged Sexual Offenders. *International Commission of Jurists*. Nairobi, Kenya, May 2009,

"Gender and HIV – what does it mean for UNICEF?", *UNICEF ESARO, Sonke Gender Justice & Raising Voices*, Johannesburg, October 2009.

Roehrs, S. (2009). HIV Prevention for Victims of Sexual Offences – HIV-Related Services under South Africa's Sexual Offences Act.

### **Ongoing research projects**

Two-year project was started in May 2009: "Post-exposure prophylaxis (PEP) for Rape Survivors – Identifying Barriers to HIV-Related Health Care Services".

## **Obstetrics and Gynaecology**

### **Papers published**

Denny, L., Boa, R., Williamson, A-L., Allen, B., Hardie, D. & Myer, L. (2008). Human Papillomavirus Infection and Cervical Disease. Human Immunodeficiency Virus-1 Women. *Obstet Gynecol*. 111, 1380 – 97.

### **Conference presentations**

Cervical Pathology in HIV positive women. *XIX FIGO World Congress of Gynecology and Obstetrics*. 4 - 9th October, 2009.

HIV and cervical disease in HIV infected women. *3rd Stop Cervical Cancer in Africa Conference*. 19 - 21st July 2009.

Batra, P., Kuhn, L. & Denny, L. (2009). Outcomes of excisional therapy for cervical intraepithelial neoplasia (CIN) in a South African population with high HIV prevalence. *International AIDS Society Conference*. Cape Town, July 2009.

### **Ongoing research projects**

Management of Abnormal Cytology in HIV-1 infected women. This study began in 2002 by enrolling 400 HIV positive women who underwent cervical cancer screening and hPV DNA testing 6 monthly. Approximately 160 women are retained in the cohort and continue to be followed up.

### **Division of Nephrology and Hypertension**

#### **Non-peer reviewed papers**

Donation after Cardiac Death. *Transplant News* 8(27),

#### **Working papers**

*HIVAN – the old and new* is being prepared for Kidney International.

*HIV and acute renal failure* for Nephrology Dialysis and Transplantation.

Ethics in HIV transplantation.

First results of HIV positive donor to HIV positive recipient transplantation.

Donation after cardiac death.

Organ donation – declining numbers at Groote Schuur Hospital.

Vascular Access – results 2007/8.

#### **Conferences**

Arendse, C. (2008). Outcomes in HIV+ve patients with acute renal failure. *The South African Renal Society*. Durban, 2008.

Wearne, N. (2009). HIV and the kidney. *Dept of Medicine Thursday forum*. Cape Town.

Muller, E. (2009). World Health Organization: Technical Workshop on assessing the potential supply of organs from Deceased donors. Presented on deceased donation in South Africa. Geneva Switzerland, (5-6 March 2009).

Muller, E. (2009). HIV positive donor to HIV positive recipients – outcome of the first for renal transplants at Groote Schuur Hospital. *23<sup>rd</sup> Congress of the Southern African Transplantation Society*. Spier, Cape Town 24-27 September.

Muller, E. (2009). Applicability of the pre-agreed upon methodology in different resource environments. *Organ Donation Congress 10<sup>th</sup> ISODP & 16<sup>th</sup> ETCO*. Oct 4-7, Berlin, Germany.

Muller, E. (2009). Deceased Donation in a Developing country. *Regional Consultation in the African Region World Health Organization workshop*. Abuja, Nigeria, 29-31 July.

Muller, E. (2009). Evaluating research harms and benefits in medical and social science research – case discussion in HIV transplantation. *IRENSA*. Cape Town, 25 June.

Muller, E. (2009). HIV+ deceased donors: challenges and experience in South Africa. Solid Organ Transplantation in HIV: Multi-Site Study. *NIH Investigator Meeting*. Washington DC, USA, 30 April.

Muller, E. (2009). Vascular access for the general surgeon. *Surgical Update Conference*. Cape Town, 21-22 March.

Muller, E. (2009). Deceased Donation in a Developing country. *Regional Consultation in the African Region World Health Organization workshop*. Abuja, Nigeria, 29-31 July.

### **Ongoing research projects**

HIV +ve to HIV+ve Kidney Transplantation.

Donation after cardiac death.

Vascular access for renal failure patients.

### **Knowledge Translation Unit (KTU)**

#### **UCT Lung Institute**

### **Ongoing research projects**

*PALSA PLUS (Practical Approach to Lung Health and HIV/AIDS in South Africa):* an on-site training programme that equips primary care nurses to diagnose and manage respiratory diseases including TB, HIV & AIDS and STIs.

*KTU is involved in a STRETCH (Streamlining Tasks and Roles to Expand Treatment and Care for HIV) trial:* STRETCH builds on PALSA PLUS, and comprises step-wise task shifting of HIV care, including ART prescription by nurses, with re-organisation of HIV services. Currently KTU is supporting nurse re-prescription of ART in 16 clinics and nurse initiation in 14.

### **Papers published**

#### **Peer reviewed papers**

Stein, J., Lewin, S., Fairall, L., Mayers, P., English, R., Bheekie, A., Bateman, E. & Zwarenstein, M. (2008). Building capacity for antiretroviral delivery in South Africa: A qualitative evaluation of the Practical Approach to Lung Health and HIV/AIDS (PALSA Plus) nurse training. *BMC Health Services Research*. **8**, 240.

English, R.G., Zwarenstein, M., Bateman, E.D., Fairall, L.R., Bheekie, A., Bachmann, M.O., Majara, B.P., Ottmani, S. & Scherpbier, R. (2008). Development of a South African integrated syndromic respiratory disease guideline for primary care. *Prim Care Respir J*. **17**(3) ,156 - 63.

Fairall, L.R., Bachmann, M.O., Zwarenstein, M.F., Lombard, C.J., Uebel, K., van Vuuren, C., Steyn, D., Boulle, A. & Bateman, E.D. (2008). Streamlining tasks and roles to expand treatment and care for HIV: randomised controlled trial protocol. *Trials*. **9**, 21.

### **Non-peer reviewed papers**

Zwarenstein, M., Fairall, L.R., & Lombard C. for the PALSA PLUS study group: Mayers, P., Bheekie, A., English, R.G., Lewin, S., Shai-Mhatu, P., Bachmann, M.O. & Bateman E.D. (submitted). Successful integration of HIV, tuberculosis and adult ambulatory care through outreach education and syndromic guidelines: pragmatic cluster randomised trial. *NEJM*.

### **Conferences**

#### **Conference presentations**

Draper B. (2009). Streamlining Tasks and Roles to Expand Treatment and Care for HIV in the Western Cape., *AIDS conference*. Durban 2009.

Timmerman, V., Ingle, S., Fairall, L., Sterne, J., Egger, M. & May, M. (2009). Monitoring retention in care and mortality in the Free State ARV Programme, South Africa. *AIDS conference*. Durban 2009.

Zwarenstein, M., Fairall, L., Lombard, C., Mayers, P., Bheekie, A., English, R.G., Stein, J., Lewin, S., Shai-Mhatu, P., Bachmann, M. O. & Bateman, E. D. (2009). Integration through outreach education and mentoring improves adult HIV/AIDS and tuberculosis primary care: the PALSA PLUS pragmatic cluster randomised trial *AIDS conference*. Durban.

Georgeu, D., Lewin, S. & Fairall, L. (2009). PALSA PLUS nurse-training for integrated primary health care, including ART provision: A qualitative process evaluation in the Western Cape Province of South Africa. *AIDS conference*. Durban.

### **Ongoing research projects**

STRETCH trial: Recruitment has closed, and patients are being followed-up to evaluate the effects on ART access and quality of ART care. Final results will be available in September 2010.

PhD thesis in progress 2009. Data integration to address priority questions for the TB and HIV programmes in the Free State, Timmerman V.

## **Faculty of Humanities**

### **Centre for Social Science Research** **AIDS and Society Research Unit (ASRU)**

#### **Papers published**

Brandt, R. (2009). The mental health of people living with HIV/AIDS in Africa: a systematic review. *African Journal of AIDS Research*. **8**(2), 123 – 133.

Bray, R. (2009). How does AIDS illness affect women's residential decisions? Findings from an ethnographic study in a Cape Town township. *African Journal of AIDS Research*. **8**(2), 167 – 179.

Geffen, N. (2009). Beyond HAART: scientists and activists need to work together. *Lancet*, Early online publication.

Geffen, N. (2009). Justice After AIDS Denialism: Should There Be Prosecutions and Compensation? *Journal of Acquired Immune Deficiency Syndromes*. **51**(4), 454 – 455.

Nattrass, N. (2009). Poverty, Sex and HIV. *AIDS and Behavior*. **13**, 833 – 840.

### **Non-peer reviewed papers**

Wreford, J. (2009). The pragmatics of knowledge transfer: an HIV/AIDS intervention with traditional health practitioners in South Africa. *African Journal of Anthropology*, forthcoming.

### **Working papers**

Cooper, S. and Harries, J. (2009). If I Could Properly Understand and Get the Right Information: A Qualitative Study on the Sexual and Reproductive Health Needs and Rights of HIV-positive Women. *CSSR. Working Paper No. 256*.

Geffen, N and Cameron, E. (2009). The deadly hand of denial: Governance and politically-instigated AIDS denialism in South Africa. *CSSR. Working Paper No. 257*.

Grebe, E. (2009). Leaders, networks and coalitions in the AIDS response: A comparison of Uganda and South Africa. *CSSR. Working Paper No. 241*.

Kane, D. (2009). Multi-dimensional forms of poverty experienced by unemployed HIV-positive mothers living in Khayelitsha. *CSSR. Working Paper No. 243*.

Kane, D. (2009). Responding to Multi-Dimensional Poverty: Exploring the Impacts of Government, Community, and the Individual Resilience of HIV-positive Unemployed Mothers in Khayelitsha. *CSSR. Working Paper No. 246*.

Lane, H. (2009). Factors Influencing the Decision to Voluntarily Test for HIV: The Perceived Threats of Being HIV Positive. *CSSR. Working Paper No. 245*.

Li, R. (2009). Growing up on HAART: The experiences and needs of HIV positive adolescents in care and treatment in the Western Cape Province of South Africa. *CSSR. Working Paper No. 249*.

Mackintosh, D. (2009). The politicisation of HIV/AIDS in South Africa: Responses of the Treatment Action Campaign and South African government, 1994-2004 – A literature review. *CSSR. Working Paper No. 244*.

Mah, T. and Maughan-Brown, B. (2009). Social and cultural concurrency in Khayelitsha. *CSSR. Working Paper No. 251*.

Maughan-Brown, B. (2009). Changes in HIV-related stigma among young adults in Cape Town, South Africa. *CSSR. Working Paper No. 242*.

Mills, E & Maughan-Brown, B. (forthcoming). Ties that Bind: HIV-Disclosure as Consequence and Catalyst of Stigma and Support in Households. *CSSR. Working Paper*.

Mills, E. & Magazi, B. (2009). From Rhetoric to Reality: An Empirical Appraisal of South Africa's 2007-2011 HIV/AIDS National Strategic Plan. *CSSR. Working Paper No. 258*.

Mills, E., de Paoli, M., & Grønningsæter, A.B. (2009). Love in the Time of AIDS: The Relational Gender Dynamics of Prevention, Testing and Treatment. *CSSR. Working Paper No. 252*.

Nattrass, N. (2009). Cultural obstacles to the rollout of antiretrovirals: language, region and the backlash against AIDS funding. *CSSR. Working Paper No. 253*.

Nattrass, N. & Gonsalves, G. (2009). Economics and the Backlash against AIDS-Specific Funding. *CSSR. Working Paper No. 254*.

Veenstra, N., Whiteside, A., Lalloo, D. & Gibbs, A. (2009). Unplanned ART treatment interruptions in southern Africa: a literature review. *CSSR. Working Paper No. 247*.

Venkataramani, A., Maughan-Brown, B., Nattrass, N. & Ruger, J. (2009). Disability grants and individual and household welfare among HAART patients in South Africa. *CSSR. Working Paper No. 240*.

Wreford, J. (2009). Adaptations, alterations and shifted strategies: the pragmatics of knowledge transfer in HIV and AIDS interventions in South Africa. *CSSR. Working Paper No. 248*.

Wreford, J. (2009). The pragmatics of knowledge transfer: an HIV/AIDS intervention with traditional health practitioners in South Africa. *CSSR. Working Paper No. 260*.

Wreford, J. (2009). Worlds Apart? Religious interpretations and witchcraft in interpretations and witchcraft in for HIV/AIDS in South Africa. *CSSR. Working Paper No. 262*.

### **Conference presentations**

Coetzee, C. Living and working with HIV. *ASRU-Sanpad Symposium*.

Chidanyika, T. (2009). Healing the Nation: The role of local musicians in breaking the silence around HIV/AIDS. *ASRU-Sanpad Symposium*. Masvingo, Zimbabwe.

### **Other**

Elizabeth Mills, ASRU – CSSR seminar  
Rethinking masculinity: Gender dynamics of HIV, sex and stigma.

Eduard Grebe, ASRU – CSSR seminar  
Leaders, networks and coalition in the AIDS response: A comparison of Uganda and South Africa.

Nathan Geffen, Treatment Action Campaign – CSSR seminar  
“The political causes of AIDS quackery in South Africa”.

Nicoli Nattrass, CSSR – CSSR seminar  
The international backlash against AIDS-specific funding.

Dr. Kereng Masupu, Executive Director, Champions for an HIV-Free Generation – CSSR seminar  
Mobilising elites for HIV prevention.

Chris Kenyon, UCT, Medical School – CSSR seminar  
Sex in the city of Cape Town: A network level explanation for differential racial HIV rates.

Per Strand, CSSR – CSSR seminar  
Holding governments accountable for their response to AIDS: The AAI Country Scorecard.

Alison Stanley, London School of Tropical Medicine and Hygiene – CSSR seminar  
'I have chosen to be in love with someone who understands me': Disclosure, support and condom use in relationships where both partners take ART.

Natália Salgado Bueno – CSSR seminar  
Political Participation, Race and Resources in Brazil and South Africa: Evidence from Belo Horizonte and Cape Town.

**Centre for Social Science Research**  
**Democracy in Africa Research Unit: AIDS, Democracy & Governance Project (AGD)**

**Non-peer reviewed papers**

Masuku, T., Strand, P. (2009). A Mountain to Climb: An Assessment of the Impact of HIV/AIDS on the Institutional Capacity of the Lesotho Mounted Police Service. Report for the Centre for the Study of Violence and Reconciliation.

**Conferences**

From 18-20 May 2009, Per Strand hosted a workshop on the theme "Political Leadership in the Response to HIV/AIDS". With participants from NGO's, universities, UNAIDS and funders from Southern and Eastern Africa, the workshop discussed ongoing research and advocacy projects that seek to mobilise stronger leadership in the response to HIV/AIDS. The workshop resulted in the launch of the "Movement for Prevention" which subsequently has led to SADC agreeing on a set of commitments for reducing the number of new infections by 50% by 2015.

**Conference presentations**

Per Strand was a participant in a panel discussion on the theme "Global Health Challenges" at the European Development Days that were organized by the Swedish Ministry for Foreign Affairs, in Stockholm on 22 October. He also gave a presentation to a SADC delegation of women parliamentarians at a SADC-PF-organised workshop on accountability and leadership in the response to AIDS in Johannesburg on 26 November.

## Ongoing research projects

AGD's main project during 2009 was called "What Makes Political Champions on HIV/AIDS? This research project looks at the factors that determine effective political leadership on HIV prevention in the hyperendemic countries. It will carry on until March 2011 and it is funded by the Swedish/Norwegian HIV/AIDS Team in Lusaka, Zambia.

A smaller project, called "The Impact of AIDS on Democracy and Governance", will come to an end during 2010.

**Benchmark:** The HE sector is described by HEAIDS<sup>59</sup> as "charged with the mandate of generating new technologies, practices, and understanding through research". HEAIDS<sup>60</sup> urges both externally and internally oriented research, which focuses "equally on the knowledge, understanding and information needs of society, as well as on the needs of the sector itself" – pure and applied research and relevant research within all disciplines. HEAIDS identifies the importance of generating new knowledge "about how to address HIV/AIDS in the higher education sector". With this in mind, it is important to identify and appropriately support "strong and relevant institutional research entities and individual researchers"<sup>61</sup>.

UNESCO (2006)<sup>62</sup> describes "promising examples of research programmes contributing to national policies and programmes" at 12 reviewed HEIs (2006:9). It describes an extensive dissemination of research internationally, but also the lack of information sharing on HIV and AIDS research and related services (2006:30), as there is no mechanism to "monitor and track the output of HIV-related research". Rather than being institutional, research is mostly motivated by donor demands, personal interests of academic staff and demands from policy-makers. Additionally, institutions fail to collaborate effectively internally, focusing rather on external partnerships, and biomedical research predominates (2006:31-32).

Kelly (2006) states, "...it is difficult to think of any field of human inquiry where UCT is not engaged in some form of first-rate AIDS-related research". However, he also stresses the need for more inter-faculty collaborations: "AIDS calls for an interdisciplinary approach, within identified scientific areas and across the boundaries of the various sciences. Further discussions are needed across the University [UCT] on how to reduce the barriers to interdisciplinary research". UCT needs to remove the barriers to collaborative projects across Faculties, allowing innovative research to emerge and findings to be disseminated which often benefit surrounding communities.

Kelly (2006) applauds the way in which UCT's "postgraduate research work feeds into further research, generates publications and enhances teaching". UCT's annual bibliography of HIV/AIDS research gives a picture of the research being undertaken within broad disciplinary areas.

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<sup>59</sup> HEAIDS Draft HIV/AIDS policy Framework for the Higher Education Sector in South Africa. October 2008 (Version 5).

<sup>60</sup> HEAIDS Strategic Framework 2006-2009 and beyond. Higher Education HIV/AIDS Programme (HEAIDS)

Available at: <http://www.hesa.org.za/resources/HEAIDS%20Strategic%20Framework%20Final.pdf>

<sup>61</sup> HEAIDS Draft HIV/AIDS policy Framework for the Higher Education Sector in South Africa. October 2008 (Version 5).

<sup>62</sup> UNESCO (2006)

## **Appendix D: Social Responsiveness, Consulting and Materials Development**

### **Faculty of Commerce**

#### **Centre for Actuarial Research (CARE)**

Professor Rob Dorrington assisted the National Department of Health in deriving national and provincial estimates of prevalence of women attending public antenatal clinics from data collected in the 2007 and 2008 survey. He also assisted the Western Cape Department of Health with correcting the weights used in deriving their (independent of National) provincial estimates of the prevalence of women attending public antenatal clinics in the province and reviewed the reports by the HEAIDS on prevalence and risk factors at higher education insitutions.

Professor Rob Dorrington is an active member of the Monitoring and Evaluation task team of the South African National AIDS Council and in 2009 attended a National Department of Health workshop on cost implications of meeting the need for ART. Leigh Johnson provided input on the likely effect of changing the antiretroviral treatment initiation criteria in South Africa, to a group of economists working with National Treasury and the Department of Health.

### **Faculty of Health Sciences**

#### **Children's Institute**

All the CI's work is aimed at contributing to policy development to address the needs of vulnerable children. Researchers engage actively with policy development and implementation processes at a national, provincial and sometimes local government level in order to contribute evidence to these processes. They also have dedicated advocacy and communications staff who ensure that academic evidence is packaged colloquially so that it can reach members of parliament, government officials, NGOs, and child service practitioners such as nurses, social workers and teachers.

CI staff have also been members of the following government and civil society structures concerned with responding to HIV (among other things) in 2009:

- Advisory Committee of the Children's HIV/AIDS network (CHAIN)
- National Department of Social Development reference team for research project to cost and appraise cluster foster care in South Africa
- National Department of Social Development Task Team on Alternative Care
- Executive of Western Cape Child Rights Advisory Council (WCCRAC)
- Caring School Network (CASNET) Task Team, and helped to establish Western Cape Chapter
- STOP AIDS NOW! (SAN) South African partnership
- Alliance for Children's Entitlement to Social Security (ACCESS) Board
- National Department of Social Development Child Care and Protection Forum
- National Department of Social Development Child Protection Committee

## Growing up in a time of AIDS: Abaqophi BakwaZisize Abakhanyayo Children's Radio Project

Now in its fifth year, this child-participatory radio project is designed to contribute to developing public awareness and appropriate responses to children in the context of poverty and the HIV/AIDS pandemic. By providing children with the opportunity to depict their lives, insights and concerns through the production of radio programmes, the project aims to provide children with life-skills as well as to enable their stories and interests to reach a large audience. The project is a collaboration between the Children's Institute, Zisize Educational Trust and the Okhayeni Primary School in rural northern KwaZulu-Natal, and the Radio Workshop.

### **Institute of Infectious Disease and Molecular Medicine (IIDMM)**

*Prof. Gary Maartens*

Member South African National AIDS Council.

Executive Member Southern African HIV Clinicians Society.

The Division of Pharmacology runs an HIV hotline, providing telephonic advice for healthcare workers (doctors, nurses and pharmacists) throughout South Africa.

*Dr Graeme Meintjes*

Joint head of the Infectious Diseases Unit at GF Jooste Hospital in Manenberg. The IDU runs a secondary-level referral unit for patients attending 10 primary care ART and 16 TB clinics in the referral area.

Advisory role in pilot project for ambulatory MDR treatment in Khayelitsha which is jointly run by the City of Cape Town and MSF.

Senior Consultant for managed care group Aid for AIDS. Contributor to 7<sup>th</sup> edition of AfA clinical guidelines (2009).

Western Cape Department of Health: Member of Adult Antiretroviral Policy Group.

*Prof. Robert J Wilkinson*

Volunteer Consultant Physician GF Jooste Hospital Manenberg.

*Prof Gary Maartens*

Department of Health, Member Expert Review Committee for essential drug list, primary care (responsible for chapter on HIV, amongst others) – policy book published 2009.

Department of Health, Member Expert Review Group for revision of national antiretroviral treatment guidelines.

Western Cape Department of Health: Member of Antiretroviral Policy Group.

*Dr Andrew Boulle*

Member of the Antiretroviral, HIV Prevention, and HIV Monitoring and Evaluation Task Teams of the Western Cape Department of Health.

### **Isombulelo**

MADaboutART - a unique arts-based HIV education and youth empowerment programme in Knysna.

Options Care Centre - Voluntary HIV Counseling & Testing project in George.

DoH mentorship programme – for professional & lay health workers to enhance their understanding of HIV & AIDS interventions particularly those relating to anti-retroviral preventative and therapeutic options.

Heart-to-Heart Care Centre – Voluntary HIV Counselling & Testing in Mossel Bay).  
Youth For Christ GoLD peer education programme.

JJ Watson home-based care.

Ithemba Lobomi community-based care programme.

Creating Effective Families - parenting, creche & lifeskills project.

FAMSA Outeniqua Employee Assistance Programme.

### **Desmond Tutu HIV Centre (DTHC)**

Prof Robin Wood and Dr Stephen Lawn served on a WHO expert panel for revision of international ART guidelines for adults and adolescents October 2009.

Prof Robin Wood served on a WHO expert panel on the evaluation of the role of Antiretroviral Therapy in the prevention of HIV infection.

Functional and supportive Community Advisory Boards operating at our Emavundleni, Hannan Crusaid, Clinical Trials Unit, and Masiphumelele centres, respectively.

Tutu Tester mobile testing unit accessing communities in highest need in greater Cape Town. They have tested over 12,000 since May 2008. Two additions, Tutu Trailer and Tutu Treater will provide additional HIV, STI testing services and TB screening, as well as routine treatment services to resource-limited areas.

Free Voluntary Counseling and Testing (VCT) offered at Emavundleni Centre, Crossroads.

Kethuphila “Choose Life” Youth Centre: construction underway in Masiphumelele for a dedicated youth services centre providing 1) sport and recreation 2) education 3) skills / employment training and 4) adolescent health services, particularly sexual health.

Sizophila “We Shall Survive” HIV Counselors: peer-based counsellors conducting home visits to over 2,500 treatment clients at Hannan Crusaid centre in Gugulethu.

Future Fighters: adolescent Community Advisory Board that, in addition to consultative research advice, uses drama and performance for general HIV awareness in target communities.

Community engagement activities among MSM in greater Cape Town area.

### **Materials**

“Speak your Mind; Protect your Future” --- South African Studies on HIV in Adolescents (SASHA): awareness and recruitment campaign.

“Are you Healthy?” ----- Tutu Tester (mobile HIV testing unit): promotional materials.  
“PrEP” ----- Pre-exposure Prophylaxis study (PrEP): community building & awareness, branding, recruitment and retention campaign.

“It’s your turn” ---- International Partnership for Microbicides (IPM): womens health and microbicide awareness materials, study recruitment campaign.

“Positive about being Positive” ---- Hlanganani: HIV positive youth support group promotional materials.

“Did you know?” ---- DTHF’s mens division; brochure for community-audiences feeding back MSM research outcomes about HIV prevalence.

“MSM: An Introductory Guide for Health Workers in Africa” ----- DTHF’s men’s division: MSM sensitivity training manual published.

### **School of Public Health and Family Medicine** **Centre for Infectious Disease Epidemiology**

Member of the core working group to develop the HIV/AIDS national strategic plan, working on the finance and monitoring and evaluation subcommittees.

### **Department of Medicine** **Division of Nephrology and Hypertension**

The Division of Nephrology and Hypertension and the Division of Transplant Surgery in conjunction with the Western Cape Provincial Government has developed a comprehensive programme for the acceptance of HIV+ve patients with end stage kidney disease onto the renal replacement and transplant. Therapy for end stage kidney disease for HIV+ve patients was previously denied because of their unsuitability for kidney transplantation. Through the efforts of Dr Elmi Muller in collaboration with Prof Peter Stock, who pioneered the first kidney transplant programme got HIV+ve patients, a transplant programme has been developed and HIV+ve patients will be able to benefit from this life saving treatment.

### **Obstetrics and Gynaecology**

Prof. Lynnette Denny is the Chair of the Safety Evaluation Committee of the International Partnership for Microbicides studies (over 20 studies involved).

### **Lung Institute** **Knowledge Translation Unit**

The KTU has contributed to the training of 1386 health care workers with regard to the PALSA PLUS training and guidelines.

#### *Integrated Primary Health Care Guidelines for Adults:*

The PALSA PLUS guideline has been expanded over the course of the last two years to address 50 common presenting symptoms and 10 chronic conditions in adults.

#### *HIV/AIDS and TB epidemiological research:*

The KTU is a partner in the leDEA collaboration (International Epidemiological Databases to Evaluate AIDS) contributing to HIV & AIDS and TB research, by

supplying data and participating in analyses that will inform health policy on treatment and care of patients.

The KTU has contributed to the development of several South African national guidelines, and the PALSA PLUS guidelines have been developed in consultation with the National and Provincial Departments of Health to align with these guidelines and policies.

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### **Department of Psychiatry** **GSH-HIV Mental Health Group**

GSH-HIV Mental Health Group provides a range of services to PLWHA in the community:

*Referral HIV Neuropsychiatry Unit:* two psychiatrists run clinics at various sites at District Hospitals across the Cape Town Metro for patients with complex psychiatric disorders related to HIV infection. An outreach service is provided to the Ivan Toms Health 4 Men Centre in Woodstock.

*HIV Mental Health Screening Project:* a screening protocol for neuropsychiatric disorders in HIV & AIDS in primary care clinics in the Western Cape is being developed and evaluated. The aims are to describe and identify pathways of care for patients in whom these disorders are diagnosed and establish the prevalence and impact of neuropsychiatric disorders in the referral sample. The pilot study at Langa Clinic is examining the feasibility of using existing case adherence counsellors to screen for common mental disorders using brief screening tools.

*HIV Neuropsychology:* an examination of the neuropsychological effects of HIV in patients in the Western Cape. Three clinical services provide: a) a neuropsychology service for rapid assessment of neuropsychological problems in non-HAART, using people living with HIV/AIDS (at GF Jooste Hospital); b) an operational study wherein neuropsychological normative data are being obtained on a range of tests for the Western Cape; and c) general HIV neuropsychological services to patients.

### **GSH-HIV Mental Health Group**

GSH-HIV Mental Health Group aims to provide evidence-based mental health services to people living with HIV/AIDS (PLWHA) in the Western Cape, South Africa, and have developed a number of projects and services in order to realize this objective.

The GSH-HIV Mental Health Group is developing a training programme and materials aimed at training staff in the screening of neurocognitive problems at community health clinics. Related to this, the Group has developed a brief neuropsychological battery which can be used by technicians in busier clinical settings to ascertain whether a neurocognitive disorder is present or not.

Regarding screening for common mental disorders, a teaching module has been developed for lay counselors and it has already been delivered to four groups across the ATIC and Desmond Tutu Foundation centres.

At primary care level, objectives are to develop tools for health providers to screen for common mental disorders, to equip them to diagnose and treat these conditions, and to develop cost-effective ways to address mental disorders while providing access to people in poorly-resourced communities. The Group also provides training in Mental Health to lay counselors and aims to extend this coverage to other health professionals.

At secondary or district level, a dedicated HIV referral service is provided to people with more complex HIV-related psychiatric disorders. Our coverage includes the main referral and district hospitals in the East and West metro of Cape Town.

A tertiary care unit is based at Groote Schuur Hospital. Our objectives are to provide a high level of expert and evidence based care in a multi-disciplinary setting to patients with complex neuropsychiatric disorders associated with HIV/AIDS.

Underlying these objectives and activities is the problem of stigma related to psychiatry, and the lack of awareness of both the nature and impact of these disorders in PLWHA. GSH-HIV Mental Health Group strives to develop methods to advocate for patient rights to mental health care and to ensure that PLWHA receive a holistic package of care and have maximal opportunities for quality of life.

### **Centre for Infectious Disease Epidemiology**

Working on the development of an integrated TB and HIV database for monitoring HIV/ART and TB care in singly or dually infected individuals. This project has been ongoing since 2005 and is in collaboration with Provincial developers working in GSH. The data base which was developed in Khayelitsha by IDEU and MSF has become the Provincial reference for monitoring ART in sentinel sites.

### **Women's Health Research Unit (WHRU)**

The WHRU worked on the following projects during the year under review:

*Serving the contraceptive needs of PMTCT clients in South Africa:* Testing improved provision of long-acting and permanent methods. Collaboration between WHRU and Family Health International (FHI). This study evaluates an intervention aimed at strengthening services for long-acting and permanent contraceptive methods (LAPM) to all women, including those living with HIV. The intrauterine device (IUD) and female sterilization are being promoted through this study, in order to produce evidence about a potential strategy for helping women who have used PMTCT services to avoid unintended pregnancy. The study utilises cross-sectional interviews (pre and post-intervention) at 5 resource-constrained sites in the Western Cape.

*A structural Intervention to integrate reproductive health into HIV:* This is a 4-year study in collaboration with the HIV Center at Columbia University in New York and the Western Cape and City of Cape Town Health Departments. During the first phase training was designed in SRH and a counseling tool to be used to counsel clients. In Phases 2 of the study, enhanced care counselling and service interventions were piloted in mid-November 2009.

*A longitudinal cohort study of women newly infected with HIV - a qualitative exploration:* This is a collaboration with the Population Council in New York City which explores the sexual and reproductive health needs of women newly diagnosed with HIV. In-depth interviews, within qualitative methodologies, were conducted with fourteen women from Gugulethu, Cape Town, who screened HIV-positive during

enrolment or who seroconverted during the course of a Carraguard study. The study specifically examines: the emotional effect of the HIV-positive diagnosis; sexual and reproductive support since diagnosis; the shift in reproductive intentions and sexual desires and functioning; the rationale for a shift; and the role that sufficient support and information could play.

One Masters student has graduated with a Masters in Public Health (in December 2008) using data from this study as the basis for her dissertation.

*A qualitative exploration of HIV positive pregnant women's decisions and experiences regarding termination of pregnancy in Cape Town, South Africa:* The project explores economic, socio-cultural, gender, and health service provider / counsellor factors and their impact for HIV-positive women who consider terminating a pregnancy. It is aimed at determining knowledge of termination of pregnancy (TOP) legislation and access to TOP services and investigating experiences of HIV-positive women who terminated a pregnancy at public health services and potential barriers for women who failed to successfully terminate pregnancy.

*Options Western Cape: the development, implementation and evaluation of an intervention to reduce unprotected sex and increase adherence to treatment among individuals on ARVs:* Collaboration with MRC, HSRC, University of Connecticut and Brown University.

*Safe dates - the development and evaluation of an intervention to reduce intimate partner violence and encourage safer sexual practices among South African youth:* Collaboration with University of Kentucky, PIRE and the MRC.

*Project Prepare - promoting sexual and reproductive health among adolescents in southern and eastern Africa (mobilizing schools, parents and communities):* Collaboration with Bergen, Sussex, Limpopo, Makerere University, Muhimbili University of Health and Allied Sciences, University of Oslo, University of Maastricht.

*PEEP Study - evaluation of peer education AIDS prevention interventions of the Western Cape Education Department:* Collaboration with MRC.

*RDS surveillance - the development of a surveillance system for men at high risk for HIV in the Western Cape:* Collaboration with MRC and Tulane University.

*Examining the influence of tuberculosis and HIV integrated programs on service delivery and patient outcomes in Cape Town, South Africa:* This study examines the influence of integrated TB and HIV services on service delivery, patient outcomes, and cost on the effectiveness of TB care and treatment for clients co-infected with TB and HIV. Approximately 60 clinics in the Cape Town are included in the study sample, and a short survey is being administered among facility managers and clinicians to quantify the level of perceived service integration.

**Department of Medicine**  
**Clinical Pharmacology**

Prof G Maartens

Department of Health, member expert review committee for essential drug list, primary care (responsible for chapter on HIV, amongst others) – policy book published 2009.

Department of Health, member expert review group for revision of national antiretroviral treatment guidelines.

W Cape Department of Health: member of antiretroviral policy group.

Dr Cohen

Associated member of MSF-South Africa.

Member South African National AIDS Council.

Executive member Southern African HIV Clinicians Society.

W Cape Department of Health: member of antiretroviral policy group, antiretroviral programme task team and W Cape ARV monitoring and evaluation team. HIV, tuberculosis and STI programme representative on the Provincial therapeutics committee.

The Division of Pharmacology runs an HIV hotline, providing telephonic advice for healthcare workers (doctors, nurses and pharmacists) throughout South Africa.

**Benchmark:** UNESCO (2006:33-34) describes community outreach at institutions as a “practical component of students’ academic programme, and part of their research, training and education”. It adds that “HIV and AIDS awareness-raising activities for nearby secondary schools are also common”. Some institutions also target ‘at-risk’ populations, such as the gay community and sex workers. However, “outreach to persons affected and infected by HIV and AIDS was rare... reflecting the preoccupation... on prevention”. HEAIDS<sup>63</sup> highlights the importance of engagement with the community by staff, students and civil society, in a two-way flow of expertise and support, which emphasizes partnerships and sponsorship programmes. It states that “the sector has a vital responsibility to provide intellectual leadership and therewith produce informed and empowered individuals in communities, as well as in the country as a whole”; an institution may investigate ways in which the surrounding community can benefit from the HIV/AIDS curricula and applied and operational research-based learning<sup>64</sup>.

A number of academic programmes at UCT involve outreach activities, providing a symbiotic relationship between curriculum developers, researchers, students and surrounding communities. Kelly (2006) describes social responsibility at UCT as providing “much-needed services to the less privileged” and also something that “extends the work and reputation of the University, especially among those who are least advantaged, and in addition keeps the academic and research work firmly grounded in reality. However, UCT is challenged to increase service learning opportunities by employing existing curriculum and co-curriculum opportunities.

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<sup>63</sup> HEAIDS Strategic Framework 2006-2009 and beyond. Higher Education HIV/AIDS Programme (HEAIDS)

Available at: <http://www.hesa.org.za/resources/HEAIDS%20Strategic%20Framework%20Final.pdf>

<sup>64</sup> Ditto.

## **Appendix F: University of Cape Town Policy on HIV Infection and AIDS: A Co-ordinated Response to HIV/AIDS** (as approved by Council, November 2006)

### ***Definitions and Principles***

#### **Definition**

Acquired Immunodeficiency Syndrome (AIDS) is a disease caused by infection with the Human Immunodeficiency Virus (HIV). The HIV is spread only when an infected body fluid enters the bloodstream of a non-infected person.

The dominant modes of transmission of the HIV are unprotected penetrative or oral sexual intercourse where the exchange of bodily fluids takes place, through the accidental or deliberate shared use of HIV-contaminated needles or skin cutting instruments (in and out of health care settings), from infected mothers to infants and through transfusion of infected blood or blood products.

#### **Leadership and Coordination**

The Vice-Chancellor is accountable for the University's co-ordinated HIV/AIDS policy.

Responsibility for the overall co-ordination of UCT's integrated policy for HIV/AIDS is the portfolio responsibility of a designated Deputy Vice-Chancellor.

All members of the University community are responsible for their own health, for avoiding harming the health of others where at all possible, and for contributing to the eradication of HIV/AIDS.

#### **Rights of the Individual**

The University rejects all forms of unfair discrimination against those who are HIV positive, and those who have AIDS.

The University regards a person with AIDS as it does a person with any other chronic illness or disability.

#### **Confidentiality**

The University respects the individual's right to confidentiality.

Potential staff and students are not refused employment or entry to the University on the grounds that they test positive for HIV. The University does not therefore test for HIV prior to employment, during employment, as a condition of employment, on application as a student, or on admission as a student.

The University's medical evaluation of new staff requires the medical practitioner carrying out the evaluation to report all serious illnesses, including those that are AIDS-related. This is a standard requirement for staff joining the UCT Retirement Fund.

The results of voluntary testing for HIV will be confidential, and testing will be accompanied by appropriate counselling.

## **Awareness**

Most people are potentially susceptible to HIV infection, and prevention through education is attainable in many cases. The University therefore commits itself to education programmes that address HIV/AIDS and the issues associated with the pandemic.

## **Living with HIV/AIDS**

Students and staff are not barred from attending lectures, living in residences, being on campus or involved in any campus activities on account of their HIV status.

Refusal to work with, study with or be taught by a person with HIV is not accepted as a valid excuse for non-compliance with academic or work requirements.

## **First Aid**

The University believes that all individuals administering first aid should adopt universal precautions. The University undertakes to educate all first aid officials in universal precaution techniques and to equip all first-aid kits with the appropriate equipment.

## ***Teaching, Learning and Research***

### **Curriculum Development**

The University has a responsibility to combat HIV/AIDS through its curriculum, enhancing awareness and preparing students for careers that will be affected in a variety of ways by the pandemic. Accordingly, aspects of academic programmes that focus on the causes and consequences of the HIV/AIDS pandemic will be highlighted across the full breadth of UCT's teaching enterprise.

### **Research**

HIV/AIDS is a major focus of research at UCT and the Department of Research and Development will conduct an audit of current HIV/AIDS-related research projects across all disciplines on a regular basis.

### ***Needlestick Policy***

The University has a separate Needlestick Policy. This policy is to be reviewed and revised on an annual basis by the Health and Safety Co-ordinating Committee.

### ***Prevention and Care***

#### **Prevention and care for students**

The University will provide, via HIV/AIDS Coordination - UCT (HAICU), awareness and prevention workshops. These will be available for all UCT students.

The University will offer HIV diagnostic services to students, with free voluntary counselling and testing available at the Student Wellness Service. CD4 cell count, VDRL tests and other necessary investigations will be offered for full time UCT students who are HIV positive, at the discretion of the Director of Student Wellness Service. These students will also be financially assisted with the non-ARV related

clinical management of HIV at the discretion of the Director of Student Wellness Service.

Students who are clinically eligible for appropriate state health programmes will be referred to Groote Schuur Hospital.

Supportive counselling for students living with HIV will also be offered through Student Wellness Service.

### **Prevention and Care for Staff**

Statutory medical assessment protocol will be applied for designated jobs as legally required. Line Managers must ensure that in the event of staff that are immune-compromised being exposed to immune suppressants and/or infectious materials e.g. agents which inhibit the immune system, normal risk management and placement procedures are followed.

Line managers are required to ensure that all visitors and outside contractors at UCT comply with the UCT Health and Safety policies and procedures, including the first aid policy.

All staff will be offered voluntary counselling and testing, education and prevention programmes by the Human Resources Organizational Health Department, and every effort will be made to ensure that all staff are made aware of the dangers of HIV/AIDS, and the appropriate preventative measures.

Staff who are HIV positive, or who have AIDS, will be offered care and support through the Human Resources Organizational Health Department. This support will include access to counselling support services and referral for treatment for all staff. Permanent, T3 and T2 staff will be referred to UCT's medical aid provider or the staff member's partner's medical aid for treatment as a prescribed minimum benefit. T1 and contract staff not on medical aid will be referred to state health services.

As it does in all cases of chronic illness where work is adversely affected and an objective medical assessment has been carried out, the University makes every reasonable effort to provide alternative, non-strenuous work, so as to maximise the earning capacity of the staff member concerned. If a staff member with AIDS is no longer able to work, and/or no suitable position can be found, the appropriate ill-health/disability income policies will be applied.