16TH ANNUAL CONFERENCE OF
THE AUSTRALASIAN SOCIETY
FOR HIV MEDICINE

Positive Partnerships – From Policy to Primary Care

2 – 4 September 2004
National Convention Centre, Canberra, Australia
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WELCOME LETTER

Dear ASHM members, friends and colleagues, it is our great pleasure to welcome delegates to Canberra, Australian Capital Territory for the 16th Annual ASHM Conference. The conference theme is Positive Partnerships: From Policy To Primary Care.

The ASHM Conference is Australasia’s premier HIV conference and brings together the range of disciplines including basic science, clinical medicine, epidemiology, nursing and allied health, public health and prevention, social research, education, policy, and community programs, involved in HIV management and the ever-evolving role of primary care in HIV.

This year the conference will focus on how Australia has responded to HIV and where we need to go in the future. While some of this focus will be on Australian policy responses, it is equally embracing of management and prevention strategies. The ASHM Conference will present state-of-the-art science and research, while maintaining interest in regional issues.

The ASHM Conference continues to offer participants access to information on viral hepatitis, as this year we are very pleased to be running the conference back to back with the 4th Australasian Hepatitis C Conference. We encourage you to take advantage of the overlap day of Thursday 2 September by attending some sessions particularly the closing session which will highlight sessions from the conference and discuss strategic directions for the future Hepatitis C response.

The Annual ASHM Conference always provides an opportunity for discussion, collaboration and networking. It is a time for our research centres, professional organizations, health care providers, consumer groups and government to meet, to learn and to plan for the future. We hope you enjoy the 16th ASHM Conference and find it a stimulating and innovative meeting.

Associate Professor Elizabeth Dax
President, Australasian Society for HIV Medicine and Director, National Serology Reference Laboratory

Professor David Cooper
National Centre for HIV Epidemiology and Clinical Research

Professor Anthony Cunningham
National Centre for HIV and Hepatitis Virology Research

Professor Susan Kippax
National Centre for HIV Social Research

Professor Marian Pitts
Australia Research Centre in Sex, Health and Society

Katie Costello
Australian and New Zealand Association of Nurses in AIDS Care (Victorian Branch)

Helen Young
Social Workers in AIDS

The Conference Organising Committee

Marcus Bogie, People Living with HIV/AIDS ACT

Frank Bowden, Canberra Sexual Health Centre

Phillip Habel, ACT Division of General Practice

Tuck Meng Soo, Interchange General Practice

Ashley Watson, Canberra Hospital

Clare Willington, Interchange General Practice

Levinia Crooks, ASHM

Nadine Giatras, ASHM

Edward Reis, ASHM

Nicole Robertson, ASHM

Rhian Jones, ASHM
REVIEWERS

John Ballard . . . . . . . . . . . . Australian National University
Marcus Bogle . . . . . . . . . . . . People living with HIV/AIDS, Australian Capital Territory
Frank Bowden . . . . . . . . . . . . Canberra Sexual Health Centre
Mark Boyd . . . . . . . . . . . . National Centre in HIV Epidemiology and Clinical Research
Marina Carman . . . . . . . . . . . . Australian Society for HIV Medicine
Jillian Carr . . . . . . . . . . . . Institute of Medical and Veterinary Sciences
Kenneth Clare . . . . . . . . . . . . Sunshine Coast Health District HIV and Sexual Health Services
Stevie Clayton . . . . . . . . . . . . AIDS Council of New South Wales
Suzanne Crowe . . . . . . . . . . . . Macfarlane Burnet Institute
Rosey Cummings . . . . . . . . . . . . The Alfred Hospital
Denise Cummins . . . . . . . . . . . . Redfern Community Health Centre
Phillip Cunningham . . . . . . . . . . . . St Vincent’s Hospital, Sydney
Elizabeth Dax . . . . . . . . . . . . National Serology Reference Laboratory
Geraldine Dolan . . . . . . . . . . . . St Vincent’s Hospital, Sydney
John Dyer . . . . . . . . . . . . Health Western Australia
Barry Edwards . . . . . . . . . . . . South East Area Health Service
Christopher Fairley . . . . . . . . . . . . Melbourne Sexual Health Centre
Rosemary Flinter . . . . . . . . . . . . Sydney Children’s Hospital
Rick Franklin . . . . . . . . . . . . Auckland Sexual Health
Martyn French . . . . . . . . . . . . Royal Perth Hospital
Rodger Garsia . . . . . . . . . . . . Royal Prince Alfred Hospital
Marisa Giles . . . . . . . . . . . . Combined University for Rural Health
Paul Goldwater . . . . . . . . . . . . Women and Children’s Hospital Adelaide
Carla Gorton . . . . . . . . . . . . Australian Society for HIV Medicine
Phillip Habel . . . . . . . . . . . . Interchange General Practice
Margaret Heallard . . . . . . . . . . . . Macfarlane Burnet Institute
Brenda Henry . . . . . . . . . . . . Gold Coast Sexual Health Centre
Jenny Heslop . . . . . . . . . . . . Mid North Coast Area Health Service
Jenny Hoy . . . . . . . . . . . . The Alfred Hospital
Brian Hughes . . . . . . . . . . . . Sexual Health and Infectious Diseases Clinic, Darwin
Anthony Jaworowski . . . . . . . . . . . . Macfarlane Burnet Institute
Alison Kasson . . . . . . . . . . . . The Children’s Hospital at Westmead
Sue Kippax . . . . . . . . . . . . National Centre in HIV Social Research
Carolyn Lang . . . . . . . . . . . . University of Queensland
Sharon Lewin . . . . . . . . . . . . Victorian Infectious Diseases Service
Johnson Mak . . . . . . . . . . . . Macfarlane Burnet Institute
Anne Malcolm . . . . . . . . . . . . Anne Malcolm Consulting
Debbie Marriott . . . . . . . . . . . . St Vincent’s Hospital, Sydney
Ann McDonald . . . . . . . . . . . . National Centre in HIV Epidemiology and Clinical Research
Peter McDonald . . . . . . . . . . . . Flinders Medical Centre
Rosemary McGuckin . . . . . . . . . . . . Galiway Public Health Unit
Dale McPhee . . . . . . . . . . . . National Serology Reference Laboratory
Nicolas Medland . . . . . . . . . . . . Victorian AIDS Council
Kristine Millar . . . . . . . . . . . . Prince of Wales and Prince Henry Hospitals
Catherine O’Connor . . . . . . . . . . . . Central Sydney Sexual Health Service
Elizabeth O’Neill . . . . . . . . . . . . Wentworth Area Health Service
Cathy Pell . . . . . . . . . . . . Sydney Sexual Health Centre
Patricia Price . . . . . . . . . . . . University of Western Australia
John Quinn . . . . . . . . . . . . Liverpool Specialist Rooms
Vanessa Read . . . . . . . . . . . . Prison Health Services, Western Australia
Edward Reis . . . . . . . . . . . . Australian Society for HIV Medicine
Gary Rogers . . . . . . . . . . . . Jellibrain Street Practice
Norm Roth . . . . . . . . . . . . The Alfred Hospital
Darren Russell . . . . . . . . . . . . Melbourne Sexual Health Centre
Joe Sadaseusz . . . . . . . . . . . . Victorian Infectious Diseases Service
Cindy Shannon . . . . . . . . . . . . University of Queensland
Tuck Meng Soo . . . . . . . . . . . . Interchange General Practice
Graeme Stewart . . . . . . . . . . . . University of Sydney
David Sutherland . . . . . . . . . . . . Nine Ways Specialist Clinic
Geoff Symonds . . . . . . . . . . . . Johnson & Johnson Research
Gilda Tachedjian . . . . . . . . . . . . Macfarlane Burnet Institute
Kelly Tank . . . . . . . . . . . . Sacred Heart Palliative Care Service
Cheryl Teng . . . . . . . . . . . . AIDS, Hepatitis and Sexual Health Line Victoria
Mark Thompson . . . . . . . . . . . . People living with HIV/AIDS Victoria
Scott Thomson . . . . . . . . . . . . John Curtin School of Medical Research
Claire Vajdic . . . . . . . . . . . . National Centre in HIV Epidemiology and Clinical Research
Ashley Watson . . . . . . . . . . . . Canberra Sexual Health Centre
John Wilkinson . . . . . . . . . . . . Westmead Millennium Institute
Claire Willington . . . . . . . . . . . . Interchange General Practice
John Willis . . . . . . . . . . . . Australian Research Centre in Sex, Health and Society
Ian Woolley . . . . . . . . . . . . Men’s Health Medical Centre
Rudyard Yap . . . . . . . . . . . . Palmerston North Hospital
PBS Information: Section 100. Private hospital authority required. Treatment of HIV infection in patients with CD4 cell counts of less than 500 per cubic millimetre, or viral load of greater than 10,000 copies per mL.

See boxed warning regarding abacavir hypersensitivity.

Before prescribing please refer to Approved Product Information. Approved Product Information is supplied in your conference satchel.

Further information is available on request from GlaxoSmithKline Australia Pty Ltd, 1081 Mountain Highway, Boronia VIC 3155, Australia. www.gsk.com. ABN 73 004 148 665. **Ziagen is a trade mark of the GlaxoSmithKline group of companies.**

Wellmark GSK 10727
## THURSDAY 2 SEPTEMBER 2004

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<th>Time</th>
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<tbody>
<tr>
<td>7.30am</td>
<td>Registration</td>
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<tr>
<td>8.30am</td>
<td>Opening Ceremony</td>
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<tr>
<td>8.40am - 9.00am</td>
<td>Welcome</td>
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<tr>
<td>9.00am - 9.10am</td>
<td>Justice Michael Kirby, Sydney Chambers of Justice</td>
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<td>9.10am - 9.30am</td>
<td>The New Aids Equation</td>
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<td>9.10am - 9.40am</td>
<td>Michael Kidd, President of the Royal Australian College of General Practitioners</td>
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<td>9.40am - 10.00am</td>
<td>The Management of HIV in Australian General Practice</td>
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<tr>
<td>10.00am - 10.15am</td>
<td>Continued Welcome</td>
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<td>10.15am - 10.30am</td>
<td>Peak Body Representatives</td>
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<td>10.30am - 11.00am</td>
<td>Morning Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>11.00am - 12.30pm</td>
<td>Symposium - AusAID (Symposium Sponsor) - Meeting the Challenge: HIV, AIDS, and Regional Security</td>
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<td>12.30pm - 1.30pm</td>
<td>Lunch in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>12.30pm - 1.30pm</td>
<td>ASH2004 Annual General Meeting (AGM) - Sutherland Theatrette</td>
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<td>1.30pm - 1.50pm</td>
<td>Symposium - Epidemiology - PREP</td>
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<td>1.30pm - 1.50pm</td>
<td>Concurrent - Basic Science - Diagnostics &amp; Prognostics</td>
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<td>1.30pm - 1.50pm</td>
<td>Concurrent - Trends - Change in Clinical Patterns - Ian Thompson Memorial Session</td>
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<td>3.00pm - 3.30pm</td>
<td>Afternoon Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>3.30pm - 5.00pm</td>
<td>Symposium - Basic Science - Development of Vaccines</td>
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<td>3.30pm - 5.00pm</td>
<td>Concurrent - Clinical Medicine - Treatment</td>
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<td>3.30pm - 5.00pm</td>
<td>Concurrent - Community Uptake - Phillip Medcalf Memorial Session</td>
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<td>3.30pm - 5.00pm</td>
<td>Concurrent - ART in Resource Poor Settings: Coming Ready or not</td>
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<td>5.00pm</td>
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## FRIDAY 3 SEPTEMBER 2004

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<tbody>
<tr>
<td>7.30am</td>
<td>Registration</td>
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| 7.30am - 8.30am | Case Presentation Breakfast  
                  | Swan Room                                                             |
| 9.00am - 10.30am | Plenary Session  
                  | Royal Theatre                                                         |
| 9.00am - 9.30am | Brian Gazzard, Chairman of the British HIV Association  
                  | Guidelines for Routine Care                                          |
| 9.30am - 10.00am | Mary Crewe, Director of the Centre for Study of AIDS at the University of Pretoria, South Africa  
                  | Understandings From The Epicentre                                     |
| 10.00am - 10.30am | Frits van Griensven, Associate Director for Science of the HIV/AIDS Program of the Thailand MOPH - U.S. CDC Collaboration (TUC)  
                  | Report from One of the Most Extensively Studied HIV Epidemics in a Non-Western Country - Thailand: Did it Help to Formulate the Response? |
| 10.30am - 11.00am | Morning Tea in Exhibition & Poster Area - Exhibition Hall              |
| 11.00am - 12.30pm | Concurrent - Clinical Medicine - HAART (Undetectable)  
                  | Royal Theatre  
                  | Bradman Theatrette  
                  | Menzies Theatrette  
                  | Nicholls Theatrette |
| 12.30pm - 1.30pm | Lunch in Exhibition & Poster Area - Exhibition Hall                   |
| 1.30pm - 3.00pm | Concurrent - Clinical Medicine - Metabolic Syndromes  
                  | Symposium - Basic Science - HIV Pathogenesis  
                  | Symposium - International - Responding to HIV, Policy & Implications in PNG  
                  | Concurrent - Issues In Primary Care Peter Meese Memorial Session  
                  | Royal Theatre  
                  | Bradman Theatrette  
                  | Menzies Theatrette  
                  | Nicholls Theatrette |
| 3.00pm - 3.30pm | Afternoon Tea in Exhibition & Poster Area - Exhibition Hall           |
| 3.30pm - 5.00pm | Concurrent - Clinical Medicine - Treatment Issues  
                  | Symposium - Epidemiology - Rises in New Infections  
                  | Concurrent - Basic Science - Molecular Biology  
                  | Concurrent - Indigenous - Emerging Issues in Indigenous Sexual Health  
                  | Royal Theatre  
                  | Bradman Theatrette  
                  | Menzies Theatrette  
                  | Nicholls Theatrette |
| 5.15pm - 6.00pm | HIV Futures 4: State of the (Patriotic) Nation - Royal Theatre  
                  | Briefing on ASHM's International Policy and Programs - Nicholls Theatrette |
| 5.00pm   | Close                                                                 |
| 7.00pm   | Conference Dinner - National Museum of Australia                      |

## SATURDAY 4 SEPTEMBER 2004

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<th>Time</th>
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<tbody>
<tr>
<td>7.30am</td>
<td>Registration</td>
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| 9.00am - 10.30am | Plenary Session  
                  | Royal Theatre                                                         |
| 9.00am - 9.30am | Susan Kippax, Director of the National Centre in HIV Social Research  
                  | Medicalisation of Prevention                                          |
| 9.30am - 10.00am | Paul Sax, Clinical Director of the Division of Infectious Diseases and the HIV Program at Brigham and Women's Hospital, Boston  
                  | HAART: when to start and what with                                    |
| 10.00am - 10.30am | Michael Malim, Professor and Head of the Department of Infectious Diseases at King's College, London  
                  | Recent advances in HIV replication                                    |
| 10.30am - 11.00am | Morning Tea in Exhibition & Poster Area - Exhibition Hall             |
| 11.00am - 12.10pm | Concurrent - Epidemiology of STIs  
                  | Concurrent - Models of Primary Care  
                  | Symposium - International Policy Initiatives  
                  | Symposium - ACON & NSW Health (Symposium Sponsor) - Gay Men & Condoms: The Relentless Pursuit of Rubberless Sex  
                  | Royal Theatre  
                  | Bradman Theatrette  
                  | Menzies Theatrette  
                  | Nicholls Theatrette |
| 12.10pm - 1.10pm | Lunch in Exhibition & Poster Area - Exhibition Hall                   |
| 1.30pm - 3.00pm | Symposium - Clinical Medicine - Consultant the Experts  
                  | Concurrent - Community HIV Prevention and Peer Education  
                  | Concurrent - Social Research - Multicultural  
                  | Symposium - Basic Science - HIV Immunology  
                  | Royal Theatre  
                  | Bradman Theatrette  
                  | Menzies Theatrette  
                  | Nicholls Theatrette |
| 3.00pm - 3.30pm | Afternoon Tea in Exhibition & Poster Area - Exhibition Hall           |
| 3.30pm - 5.00pm | Closing Session                                                        |
| 3.30pm - 3.50pm | Prizes                                                                |
| 3.50pm - 4.50pm | Hypothetical with Dr Norman Swan, Host The Health Report, ABC Radio National |
| 4.50pm - 4.55pm | Frank Bowden - Closing remarks                                        |
| 4.55pm - 5.00pm | Levinia Crooks - 2005 ASHM Conference                                  |
| 5.00pm   | Close                                                                 |
| 7.00pm   | Conference Dinner - National Museum of Australia                      |
INVITED SPEAKERS
Mary Crewe

Mary Crewe was born and raised in Johannesburg and studied at the Universities of Natal and The Witwatersrand. She helped to establish and then manage the Greater Johannesburg AIDS Program. This was one of the largest centres in Africa and had extensive international and national links.

Mary was a founder member and co-chair of the AIDS Consortium and NACOSA. She was the chair of the National Department of Education and Health Committee for HIV/AIDS education in schools, is the co-editor of the AIDS Bulletin and served on the boards of NAPWA, Friends for Life and AREPP. She was the co-chair of the Durban 2000 AIDS Conference for Track D, Social Impact and on the organising committee for the Barcelona Conference 2001 and the AIDS 2003 South African conference.

She works regularly with various UN agencies such as UNAIDS, UNICEF and UNESCO and is on the advisory board of the Ethical Globalisation Initiative. She has published a book on AIDS and authored many articles.

Mary is currently Director of The Centre for the Study of AIDS at the University of Pretoria.

Mary Crewe
University of Pretoria
Pretoria, South Africa 0002
csa@up.ac.za

Brian Gazzard

Brian Gazzard received a Master of Arts and Doctor of Medicine from Cambridge University and has been a fellow of the Royal College of Physicians since 1983. Brian qualified in 1970 and became a Consultant Physician and Gastroenterologist at Westminster and St Stephen’s Hospitals in 1978 (now Chelsea and Westminster Hospital). He was appointed Professor of HIV Medicine (personal chair) in London University in recognition of his contribution to the treatment and care of HIV positive patients in 1997 and he continues as Brian started the British HIV Association and was its 6th Chairman. He is on the Editorial Board of the International Journal of STD and AIDS, Drugs, and British Clinical Practice and Genitourinary Medicine. Brian is also the editor of HIV Medicine.

Brian Gazzard
Chelsea & Westminster Hospital
St Stephen’s Centre
369 Fulham Road
London, United Kingdom SW10 9TN
eileen.witney@chelwest.nhs.uk

Michael Malim

Michael Malim is currently Professor and Head of the Department of Infectious Diseases at King’s College London. His laboratory studies the regulation and control of HIV infection and replication using culture-based approaches. Most recently, their work has focused on the regulatory/accessory protein Vif and its role as an inhibitor of the innate anti-HIV resistance protein APOBEC3G. Understanding the interplay between Vif and APOBEC3G may have important implications for AIDS pathogenesis, drug resistance, immune responses, virus evolution and, potentially, the design of novel therapeutics.

Michael Malim
Guy’s King’s and St Thomas’ School of Medicine
Dept of Infectious Diseases
3rd Floor, New Guy’s House
Guy’s Hospital
London, United Kingdom SE1 9RT
carol.mchattie@kcl.ac.uk
Paul Sax

Paul Sax is Clinical Director of the Division of Infectious Diseases and the HIV Program at Brigham and Women's Hospital (BWH) in Boston, where he is an Associate Physician in Medicine. He has been on the faculty at Harvard Medical School since 1992, where he is currently an Assistant Professor of Medicine.

Paul Sax received his MD from Harvard Medical School in 1987. He served his residency in Internal Medicine at BWH, while continuing his postdoctoral education with a fellowship in the Infectious Diseases Unit of Massachusetts General Hospital. Dr Sax is board certified in Internal Medicine and Infectious Disease. He is the Editor-in-Chief of AIDS Clinical Care, where he also acts as Research Notes Editor, and Infectious Diseases Special Edition, where he is the HIV Disease of the American Academy of HIV Medicine.

In addition to his clinical and teaching work, Paul is also actively involved in HIV research. Ongoing areas of research interest include clinical trials of new antiretroviral therapies, cost-effectiveness of management strategies for HIV, toxicity of antiretroviral treatment, and identification, treatment and outcome of primary HIV infection. He is presently the principal investigator at the Brigham and Women’s Hospital AIDS Clinical Trials Unit, and is a member of the Cost Effectiveness of Preventing AIDS Complications Research Group (CEPAC).

Frits Van Griensven

Frits van Griensven is the Associate Director for Science of the HIV/AIDS Program of the Thailand MOPH – U.S. CDC Collaboration (TUC). Van Griensven started his career in HIV/AIDS research in 1983 in Amsterdam, and was a visiting scientist at the University of California at Berkeley and at the Department of Public Health, San Francisco during 1991-1992. He has published over 150 articles on HIV/AIDS in peer-reviewed scientific journals. Prior to joining TUC he was an endowed professor of AIDS Epidemiology at Utrecht University, and a consultant for the AIDS Program of the European Union in South East Asia. Currently he is also an adjunct professor of Epidemiology and Biostatistics at the University of California, San Francisco. His main interest is HIV prevention research. Frits has a Masters Degree in Social Research Methods and Sociological Theory from the University of Nymegen, a PhD in Medical Sciences from the University of Amsterdam, and a Masters Degree in Public Health (Epidemiology) from the University of California, Berkeley.

Frits Van Griensven
Thailand MOPH – US CDC Collaboration
HIV/AIDS Program
DDC Building 7, 4th Floor
Ministry Of Public Health, Soi 4
Nonthaburi, Thailand, 11000
fav1@cdc.gov

Paul Sax
Brigham & Women’s Hospital
Division of Infectious Diseases
75 Francis Street
Boston, MA, USA 02115
psax@partners.org
GENERAL INFORMATION

Disclaimer
All information disclosed in the Conference Program is correct at the time of printing. ASHM reserve the right to alter the Conference Program in the event of unforeseen circumstances. All speakers were invited to contribute abstracts for inclusion in the Conference Handbook. Unfortunately not all speakers were able to provide us with their abstracts at the time of printing. ASHM accepts no responsibility for errors, misprints or other issues with abstracts contained in this handbook.

Internet Café
Abbott Australasia is proud to be sponsoring the Internet Café located in the Exhibition Hall in their booth (number 1 - please refer to floorplan).

Mobile Phones/Beepers
As a courtesy to all delegates and speakers, please switch off, or set to silent, your mobile phones and beepers during all sessions.

Name Badges
For security purposes all attendees must wear their name badge at all times whilst in the Convention Centre. Entrance to the exhibition will be limited to badge holders only. If you misplace your name badge, please advise staff at the Registration Desk.

Personal Mail
The conference organisers do not accept responsibility for personal mail. Please have all mail sent to your accommodation address.

Poster Display
Posters will be displayed for the duration of the Conference in the Exhibition Hall, which also contains the exhibition booths and all the catering. Posters will be available for viewing on Thursday 2 September from 8.30am until Saturday 4 September at 3.30pm. Poster boards will be numbered as indicated in the Poster Program Section of this handbook. Delegates are encouraged to visit all the poster displays during coffee and lunch breaks and the welcome cocktail party.

Registration Desk
All inquiries should be directed to the registration desk in the main foyer, open at the following times:

- Wednesday 1 September: 7.30am – 5.30pm
- Thursday 2 September: 7.30am – 7.00pm
- Friday 3 September: 7.30am – 5.30pm
- Saturday 4 September: 7.30am – 5.30pm

Smoking
This conference has a no smoking policy.

Speaker Preparation Room
A speaker preparation room will be located in the Executive Room on the First Floor of the National Convention Centre. This room will be open at the following times:

- Wednesday 1 September: 7.30am – 5.30pm
- Thursday 2 September: 7.30am – 5.30pm
- Friday 3 September: 7.30am – 5.30pm
- Saturday 4 September: 7.30am – 3.30pm

All speakers must take their presentation to the speaker preparation room a minimum of four hours prior to their presentation or the day before if presenting at a breakfast or morning session.

Trade Exhibition
The trade exhibition is situated in The Exhibition Hall of the National Convention Centre, Canberra which also contains the posters and all the catering.

The exhibition will be open during the following hours:

- Thursday 2 September: 8.30am – 3.30pm and 5.30pm – 7.00pm
- Friday 3 September: 8.30am – 5.30pm
- Saturday 4 September: 8.30am – 3.30pm

The trade exhibition and posters for the 4th Australasian Hepatitis C Conference will also be available for viewing on Thursday 2 September from 8.30am – 3.30pm.
Venue
The National Convention Centre will host all Plenary, Symposia and Concurrent Sessions in the Ground Floor theatrettes. The Boardroom accessed from the First Floor is available as a quiet room for delegates, particularly those with medical conditions and we request that it be used only for this purpose and not for ad hoc meetings.

The National Convention Centre, Canberra
31 Constitution Avenue, Canberra ACT 2601
Phone: 02 6257 4905
Fax: 02 6257 6405
www.nationalconventioncentre.com.au

2003 Conference Scholarship Award Recipients

RECIPENT ORGANISATION
Dennis Altman . . . . . . . . . AIDS Society of Asia and the Pacific
Palane Ammaranond . . . University of NSW
Jane Anderson . . . . . . . . . St Luke’s Nursing Service
Michelle Baker . . . . . . . . . Aaron Diamond AIDS Research Centre
Sonia Fernandez . . . . . . . . Department of Clinical Immunology and Biochemical Genetics
Trevor Fowles . . . . . . . . . St Vincent’s Community Health Service
Kristy Hingston . . . . . . . . Royal Perth Hospital
Angela Kelly . . . . . . . . . . Australian Research Centre in Sex, Health and Society
Kamal Kishore . . . . . . . . Fiji School of Medicine
Silvia Lee . . . . . . . . . . . Royal Perth Hospital
Jennifer McDonald . . . Straight Arrows – Positive Edge Program
Karalyn McDonald . . . Australian Research Centre in Sex, Health and Society
Srdjan Mijajlovic . . . . . University of New England
Kidest Nadew . . . . . . . . . Sydney Children’s Hospital
Helen Orchre . . . . . . . . . South West Sydney Area Health Service
Jo Owens . . . . . . . . . . . St Luke’s Nursing Service
Mark Page . . . . . . . . . . . Victorian Infectious Diseases Service
Vanessa Read . . . . . . . . . Prison Health Services - WA
Claire Ryan . . . . . . . . . . Macfarlane Burnet Institute
Kevin Schamburg . . . AIDS Action Council of the ACT
Bernadette Shields . . . . . Department of Health & Community - NT
Kate Thompson . . . . . . . Monash University
Mohammed Ubaidullah . . Jn Venkateswara University, India
Patrick Unemori . . . . . National Centre in HIV Epidemiology and Clinical Research
Giulia Zanetti . . . . . . . . . National Centre in HIV Epidemiology and Clinical Research

SOCIAL PROGRAM

Lunches and Tea Breaks
Lunches and tea breaks on each day will be served in The Exhibition Hall among the trade exhibition and poster displays.

Welcome Cocktail Party
5.30pm – 7.00pm, Thursday 2 September 2004
Exhibition Hall, National Convention Centre, Canberra
Tickets: One ticket is included for registered delegates
$44 for additional guests

Medical Case Presentation Breakfast
Proudly sponsored by Bristol-Myers Squibb
7.30am – 8.30am, Friday 3 September 2004
Swan Room, National Convention Centre, Canberra
Tickets: $16.50 per person
Case presentations supported by brief literature reviews and a Q & A session will take place at this early morning session, during which breakfast will be served. The best Medical Case Presentation will be awarded a donated cash prize during the closing session.

ASHM Conference Dinner
7.00pm, Friday 3 September
National Museum of Australia, Canberra.
Transfers will be provided to the Conference Dinner from the Convention Centre and returning to all Conference Hotels. Schedules will be posted on the message board at the conference.

Tickets to Social Functions
Tickets will be required for entry into the Conference Dinner and the Medical Case Presentation Breakfast. All tickets will be given out on registration. If you would like to purchase tickets to these functions you may do so up until 12 noon on Thursday 2 September at the registration desk.
## EXHIBITION DIRECTORY

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<td>AusAID</td>
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Abbott Australasia (Booth 1)

Abbott Australasia is a world leader in HIV medicine and has been at the forefront of HIV research, treatment and diagnosis including the development of the world’s first test for HIV infection. Abbott’s Protease inhibitor Norvir (ritonavir) was released in 1996 and was part of the Protease inhibitor/HAART life saving revolution. Their second Protease inhibitor Kaletra (launched 2002), has now established itself as a key component of successful HIV treatment. Abbott continues its commitment to all facets of HIV and Hepatitis both locally and globally.

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Fax: +61 2 9668 9233
E-Mail: melanie.martel@abbott.com

ACT Health & Community Partners - Working in Partnership in the ACT (Booth 18)

ACT Health is the ACT Government body that provides a range of coordinated health and health care services to the people of the Australian Capital Territory. Through the ACT Health Action Plan 2002 we aim to deliver the best health care and health-related services in Australia. ACT Health provides services through Calvary Public Hospital, Community Health, Health Protection Service, Mental Health ACT and The Canberra Hospital.

ACT Health has funding agreements with some community-based organisations to provide services in relation to sexual health, sexually transmissible infections and blood borne viruses. These services focus on education, prevention of transmission, care and support of affected people, delivery of sexual and reproductive health services, and training of health professionals in relation to these issues.

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AusAID (Booth 21)

The Australian Agency for International Development (AusAID), manages the Australian Government’s official overseas aid program. The objective of the program is to advance Australia’s national interest by helping developing countries reduce poverty and achieve sustainable development.

AusAID provides policy advice and support to the Minister and Parliamentary Secretary on development issues and develops and manages effective and innovative poverty reduction programs in partnership with developing countries, Australian businesses, non-government organisations and international agencies.

Our head office is in Canberra. We also have representatives in 25 Australian diplomatic missions overseas.

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Australasian Society for HIV Medicine (Booth 10)
The Australasian Society for HIV Medicine is Australia’s peak organisation representing medical practitioners and health care providers in the HIV and viral hepatitis and related diseases sectors. The Society conducts an annual medical/scientific conference, produces a range of educational resources and training programs, including managing continuing medical education courses, and offers information services. ASHM also participates in policy development, the setting of standards in relation to best practice care, treatment and management, and provides advice to government and non-government agencies.

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Fax: +61 2 9380 9528
Email: ashm@ashm.org.au
Web: www.ashm.org.au

Boehringer Ingelheim (Booth 17)
Boehringer Ingelheim is committed to providing active involvement and practical answers in HIV-infected people. Our fight against HIV/AIDS extends to resource-poor settings where Viramune® (nevirapine) has been provided to more than 290,000 mother-child pairs since the programme began. Boehringer Ingelheim is also part of the Collaboration for Health in PNG (CHPNG) and is currently working with its partners to provide education and support to health care workers in PNG.

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Bristol-Myers Squibb (Booth 6)
Bristol-Myers Squibb Pharmaceuticals is an Australian division of one of the world’s leading healthcare companies, with a mission to extend and enhance human life. The company is a leader in the development of innovative therapies for cardiovascular, metabolic and infectious diseases, central nervous system and dermatological disorders and cancer. In Australia, Bristol-Myers Squibb markets VIDEX EC® (didanosine) and ZERIT® (stavudine) for the treatment of patients with HIV/AIDS. Bristol-Myers Squibb’s new protease inhibitor, Reyataz® (atazanavir sulfate) is currently available through a special access program.

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Fax: +61 3 9701 1526
Email: mark.manuele@bms.com

Gilead Sciences Pty Ltd (Booth 2)
Gilead is a bio-pharmaceutical company that discovers, develops and commercialises therapeutics to advance the care of patients suffering from life-threatening diseases worldwide. We focus our research and clinical programmes on anti-infectives, including anti-virals.

Our leading-edge products include Viread® (tenofovir disoproxil fumarate) and Emtriva® (emtricitabine) for HIV/AIDS, Hepsera® (adefovir dipivoxil) for chronic hepatitis B and Ambisome® (amphotericin B) for severe fungal infections.

Our focus is on supporting the need for simplified treatment regimens. A fixed dose combination of Viread and Emtriva has been developed and Gilead recently announced a collaboration with Bristol-Myers Squibb and Merck Sharp & Dohme to create a fixed dose combination of three anti-HIV drugs - Viread, Emtriva and efavirenz—demonstrating a further commitment to helping simplify treatment.

We look forward to seeing you at the Gilead stand during the conference.

Contact
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GlaxoSmithKline (Booth 11)

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Fax: +61 3 9720 2071
Email: francis.s.cashen@gsk.com

Merck Sharp & Dohme (Booth 20)
Through research and development, Merck Sharp & Dohme (MSD) has changed the course of HIV/AIDS, enabling people with HIV to live longer. Our commitment to research continues:

• Researching new targets, such as integrase
• Pursuing an effective HIV/AIDS vaccine MSD goes beyond traditional research and forges unique partnerships that address the issues of prevention, care and treatment around the world.

The Enhanced Care Initiative, active in Brazil, Senegal, South America, Thailand and Puerto Rico.

The African Comprehensive HIV/AIDS Partnerships, active in Botswana.

Contact
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Four Seasons Condoms (Booth 5)
Four Seasons Condoms are a 100% Australian owned and operated brand with a prominent range of condoms and lubrication throughout the country. With over 17 years experience, Four Seasons were the first company in Australia to introduce the Larger Fitting condom size and a number of others, including the very special Glow N Dark condoms. Four Seasons promote a strong safe sex message in particular with its targets to 14-29 year old demographic and have some interesting information on their website www.condoms.com.au, including many examples of erotic Sexual positions!

Contact
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Email: ats@condoms1.com

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Mobile: 0425 282 856
Email: ats@condoms1.com
National Centre in HIV Social Research (Booth 3)
The National Centre in HIV Social Research (NCHSR) conducts research, which describes and analyses the social understandings, meanings and practices of peoples, institutions and communities in relation to HIV, Hepatitis C and other communicable diseases. NCHSR was established in 1990 with funding from the Commonwealth government, and is located within the Faculty of Arts and Social Sciences at The University of New South Wales, Sydney. Information about NCHSR research and publications is available at http://nchsarts.unsw.edu.au

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Novartis Pharmaceuticals (Booth 19)
Novartis was formed from the merger of Ciba-Geigy and Sandoz, with a major strength of Novartis being its breadth of products, which span eight major therapeutic areas including: respiratory medicine, cardiovascular medicine, diseases of the central nervous system, rheumatology, bone and HRT, oncology, dermatology and transplantation medicine.
Novartis is committed to the strengthening of its therapeutic area portfolio. A strong global Research and Development capacity is focussed on the development of products in areas of unmet medical need as well as on improving clinical outcomes where therapy already exists. These activities are complimented by ongoing programmes in the areas of health economics, quality of life and disease management.

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Roche Products (Booth 7)
Roche is one of the world’s leading research-oriented healthcare groups. For more than 100 years, Roche has been active in the discovery, development, manufacture and marketing of innovative healthcare solutions. Roche’s products and services address prevention, diagnosis and treatment of diseases, thus enhancing well-being and quality of life. A core therapeutic area of focus is virology and some of the innovative products developed by Roche include Fuzen® (envenomultide) for HIV infection, Pegasis®RBV+® (peginterferon alfa-2a + ribavirin) and Pegasis® (peginterferon alfa-2a) for hepatitis C. Our mission is to create, produce and market innovative solutions of high quality for unmet medical needs. We do this in a responsible and ethical manner and with a commitment to sustainable development respecting the needs of the individual, the society and the environment.

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Schering Plough (Booth 9)
Schering Plough is a global pharmaceutical company committed to discovering and bringing to market new therapies and treatment programs that can improve people’s health and save lives. The Company’s core product lines are in allergy, respiratory, anti-infective/anticancer, dermatologicals and card iovasculars, with a growing animal health business, complemented by leading over-the-counter and personal care brands. Schering-Plough has established itself as a leader in biotechnology, with strong research positions in genomics and gene therapy. With headquarters in Kenilworth, New Jersey USA, Schering-Plough International markets its products in more than 125 markets throughout the world, maintains subsidiaries in some 40 nations and has manufacturing facilities in over 20 of these. The Company maintains rigorous cost controls and has delivered superior financial results for more than a decade, outperforming its peers and providing attractive returns to shareholders.

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Unitract (Booth 4)
Unitract is an Australian listed company established to offer safety syringe products that can help prevent the transmission of bloodborne pathogens caused by unsafe injection practices. The Unitract Syringe technology, which this year won the prestigious Prize of the State of Geneva Award, incorporates Automatic and Controllable Needle Retraction and Independent Reuse Prevention features to help prevent the reuse of syringes and needlesticks injuries. Unitract is now seeking to work with Government and Non-Government Organisations to help provide safety syringe products that can contribute towards harm minimisation efforts in Australia and around the world.

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Web: www.unitract.com
2004 UNDERGRADUATE AND JUNIOR RESEARCHER SUPPORT AWARDS IN HIV AND HEPATITIS Awardees
Juliet N. Babirye

Juliet N. Babirye is a Masters by Research student at the school of Public Health and Community Research, University of New South Wales under the supervision of Dr Andrew Grulich and Prof. John Kaldor. Her main area of interest is the prevention of mother-to-child transmission of HIV.

Juliet will be completing a comparative cross-sectional study in Bushenyi district, Uganda, East Africa. 72 HIV-positive women and 104 HIV-negative women, and 41 of their spouses have been interviewed so far using a semi-structured questionnaire. Male partners were interviewed in order to identify factors that would enhance male involvement in infant feeding.

Preliminary results reveal that there is no statistically significant difference in the choice of infant feeding mode between the HIV-positive mothers and the HIV-negative mothers ($P=0.15$). There is, however, a difference in actual feeding practice ($P=0.05$). 21% of the HIV-positive mothers practiced exclusive breastfeeding (EBF) and 25.8% mixed feed compared to 11.5% and 61.5% respectively among the HIV-negative mothers.

This is not surprising since 66% of the HIV-positive mothers have heard of and only 55% have received, infant feeding counselling (IFC). Ideally, all HIV-positive mothers should receive IFC.

These results have important infant feeding policy implications for Uganda and other low-resource settings since exclusive breastfeeding has been associated with almost half the risk of HIV transmission compared with mixed breastfeeding.

Poster Presentation – Board number 24

Kerrie Dunstan

Kerrie is in her second year of a PhD (through the University of New South Wales) at the Westmead Millennium Institute. Her Honours project involved testing a candidate HIV vaccine in vitro and she has maintained an interest in the vaccine field. Her current project looks at the binding, entry and processing of candidate viral vaccine vectors, by human dendritic cells (DCs). DCs are professional antigen presenting cells which play a key role in controlling the magnitude, quality and memory of an immune response. The mechanism of entry and processing of vaccinia virus and adenovirus, two potential HIV vaccine vectors, in DCs is unclear. She hypothesises that C-type lectin receptors may play a role in initial virus binding to DCs and she has been using viral binding assays with flow cytometry, confocal microscopy and real-time PCR to assess this. In future, she will look at co-localisation between virus and endolysosomal pathway compartments to determine the mechanism of processing of these vectors. Further understanding of these factors may enhance the uptake, processing and presentation of such vaccines in these key antigen-presenting cells, currently recognised as a major hurdle to improving their efficacy. She is supported by an NHMRC Dora Lush scholarship

Poster Presentation – Board number 67
Hien Ho Thi

Hien Ho Thi is working on her PhD at the School of Public Health and Community Medicine in the University of New South Wales. Her supervisor is Associate Professor Lisa Maher.

The potential for a sudden and significant increase in HIV among ethnic Vietnamese injecting drug users (VIDUs) in Australia is a growing cause for concern. Her research aims to explore cultural influence on risk behaviours and prevalence of HIV and HCV among VIDUs. In-depth qualitative interviews (n=42) were used to identify underlying explanatory models of health and illness, and cultural beliefs and practices and their influence on risk behaviours. These data were used to develop a questionnaire designed to measure knowledge, risk behaviours and barriers to health and protective behaviours, and a linked serosurvey to assess antibody HIV and HCV prevalence (n=109). Results indicate that factors influencing vulnerability to blood-borne viruses (BBVs) include: cultural characteristics such as trust, obligation and stoicism; reluctance to discuss problems with outsiders; and a belief in fate. Limited knowledge of BBVs, low perceived risk and dislike of condoms may increase vulnerability. Beliefs in natural processes, traditional remedies and self-medication influence presentation, and barriers to service access include the stigma of injecting drug use, perceived lack of confidentiality, language and cost. The data indicate a need for interventions designed to reduce the risk of BBV transmission based on culturally specific meanings and contexts of health, illness and risk.

Oral Presentation – Saturday 4 September, Social Research Multicultural & IDUs Session 1.30pm – 3.00pm

Rachel Koldej

Based at the Women’s and Children’s Hospital, Rachel is currently studying for her PhD through the University of Adelaide. Her supervisors are Associate Professor Donald S. Arson and Associate Professor Keryn Williams.

Gene therapy has great potential for the treatment of a range of inherited and acquired diseases. However, its development has been hindered by a lack of efficient and effective gene-delivery systems. As the target cells are often non-dividing, the system must have the ability to infect non-cycling cells, preferably resulting in long-term stable genetic modification.

HIV-1 naturally possesses these characteristics and therefore we have used it to develop a gene-transfer system. The system comprises a number of plasmids that separate the cis and trans functions of the virus. The cis functions are incorporated into a vector construct, while the trans (protein-coding) functions are distributed over a number of ‘helper’ or packaging plasmids preventing their transfer to target cells.

Modifications have included the codon-optimisation of protein-coding sequences, and the use of alternate polyadenylation signals and the removal of splice donor sites within the vector construct. Future investigations will include a detailed analysis of the viral genome packaging signal, and the requirement for the Rev Response Element and various cis acting signals in the 3 and 5’ Long Terminal Repeats.

Poster Presentation – Board number 71

Edwin Leewaysah

Edwin is a PhD student in the Department of Medicine, Monash University, conducting his research at the Macfarlane Burnett Institute for Medical Research and Public Health under the supervision of Dr Anthony Jaworowski and Prof. Suzanne Crowe. Born in Jakarta, Indonesia, he recently obtained his Bachelor of Biomedical Science with first class Honours from Monash University and is a recipient of an Australian Post-graduate Award.

Edwin is studying the effect of HIV-1 infection on phagocytosis of IgG-opsonised pathogens, specifically how HIV-1 impairs Fc receptor-mediated phagocytosis and how this contributes to AIDS-related opportunistic infections. In previous work, he has shown that HIV-1 infection of human monocyte-derived macrophages inhibits signal transduction of the Fcy receptor (CD64) which signals via a protein called FcRγ or ‘γ-subunit’ but does not inhibit signal transduction via CD32A, an Fcy receptor which does not require the γ-subunit for signalling. This supports the hypothesis that HIV-1-related inhibition of Fc-phagocytosis is caused by a decreased expression of the γ-subunit.

In his study, Edwin aims to determine the mechanism by which HIV infection decreases expression of the γ-subunit and whether impaired signalling via this protein extends to other cells of the immune system which normally express this protein, such as NK cells and effector T-cells.

Poster Presentation – Board number 74

Josephine McGuiness

Josephine is studying for her Masters in Clinical Pharmacy at the Victorian College of Pharmacy, Monash University in Melbourne. She is employed as a clinical pharmacist in the Specialist Medicine team at the Alfred Hospital, Melbourne.

Her primary area of research interest is the integration of acute and community service providers for HIV-positive patients, to improve patient follow-up and continuity of care within this patient population. She is currently conducting a research project based at the Alfred Hospital called the Patient Information Exchange (PIE) study.

This aims to improve and formalise the process of information exchange between all the health care providers involved in the care of an HIV-positive patient and evaluate the benefits of implementing a new service utilising a case-management model of pharmaceutical care. The study measures the impact of assigning patients a ‘primary’ pharmacist (one pharmacist dedicated to an individual patient’s care), allowing the provision of individualised care and improving follow-up of patients by acting as the key contact regarding all medication-related issues.

Oral Presentation – Friday 3 September, Issues in Primary Care Session 1.30pm – 3.00pm

Dimitra Zotos

Dimitra completed a Bachelor of Biomedical Science at Deakin University, Melbourne in 2003. She is currently in her Honours year. For her Honours project she is examining the immune isotype responses of long-term non-progressors (LTNP) and survivors (LTS) of HIV-1 infection. These individuals represent approximately 5% of the HIV-1 infected population, who don’t progress to AIDS within eight to ten years. The cohorts with whom she will work are the Sydney Blood Bank Cohort (SBBC), the Sexually Acquired (SA) Cohort and the National Centre in HIV Epidemiology and Clinical Research Cohort (NCHERC). She is doing her research at the National Senology Reference Laboratory, St Vincent’s Institute, under the supervision of Associate Professor Dale McPhee.

Oral Presentation – Friday 3 September, Basic Science HIV Pathogenesis Session 11.00am – 12.30pm
UNDERGRADUATE AND JUNIOR RESEARCH IN HIV & VIRAL HEPATITIS AWARDS PROGRAM

ASHM is making up to 6 support awards available in 2005. The awards are available to promote research interest in HIV and viral hepatitis.

Applications should be made in writing via the application form on the reverse side of this flyer, and must be received in the ASHM Office, Locked Mail Bag 5057, DARLINGHURST NSW 1300 by COB 31 March 2005. Please attach a photocopy of your most recent academic transcript.

The grant will comprise:
- Annual ASHM associate membership for 2005, valued at $66
- Linkages between the student and ASHM members in the designated area of research interest
- Access to the ASHM website to allow students to place information about their research project
- Participation in relevant ASHM Standing Committees
- Access to ASHM library and resources
- First option to take on part-time research assistant positions offered by the Society
- Registration at the 2005 ASHM Annual Conference, valued at over $500
- A scholarship for recipients requiring travel and/or accommodation to assist with attendance at the Conference, to a value of $400
- An opportunity to present work in progress at the ASHM Conference in 2005

Award categories and applications:
Applications are invited from all relevant disciplines, with priority given to medicine, nursing, dentistry and allied health. Applications must relate to a degree, diploma or award program but are not available for post-doctoral programs. Applications can be received for new work or work in progress. Applications that reflect national research priorities as outlined in the National HIV and Hepatitis C Strategies will be given priority. These can be found on the Commonwealth Health Website at www.health.gov.au or via the ASHM Website at www.ashm.org.au.

Adjudication:
The Committee will review the applications and successful applicants will be notified of the outcome of their application by 23 April 2005. Your supervisor may be contacted to attest to your suitability. You may also be required to provide more information but in the first instance please only complete the application following. If you have not yet determined a supervisor you may use an academic mentor on this application. Further information about ASHM can be obtained from our website http://www.ashm.org.au.

Australasian Society for HIV Medicine
LMB 5057 Darlinghurst NSW 1300
http://www.ashm.org.au
ph: +61 2 9368 2700
FULL CONFERENCE PROGRAM
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30am</td>
<td>Registration</td>
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</table>
| 8.30am| Opening Ceremony
Royal Theatre
Chairs: Frank Bowden & Clare Willington |
| 8.40am-8.50am| Welcome to the Land
Liz Dax, ASHM President |
| 8.50am-9.00am| The Hon. Tony Abbott MP, Federal Health Minister |
| 8.55am-9.00am| Justice Michael Kirby, Sydney Chambers of Justice
The New AIDS Equation |
| 9.00am-9.20am| Michael Kidd, President of the Royal Australian College of General Practitioners
The Management of HIV in Australian General Practice |
| 9.20am-10.00am| Ninkama Moiya, Director of the National AIDS Council (PNG)
HIV/AIDS Epidemic in a Culturally Diverse Setting |
<p>| 10.00am-10.10am| Frank Bowden, Conference Representative &amp; Chair of the HIV/AIDS &amp; STI Subcommittee |
| 10.10am-10.15am| The Hon. Alexander Downer MP, Minister for Foreign Affairs |
| 10.15am-10.20am| Darren Russell, Australian Federation of AIDS Organizations (AFAO) |
| 10.20am-10.25am| David Menadue, National Association of People Living with HIV/AIDS (NAPWA) |
| 10.30am-11.00am| Morning Tea in Exhibition &amp; Poster Area - Exhibition Hall |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>12.30pm - 1.00pm</td>
<td>Lunch in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>1.00pm - 1.30pm</td>
<td>Symposium - Epidemiology - PREP</td>
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<tr>
<td>1.30pm - 1.55pm</td>
<td>Concurrent - Basic Science - Diagnostics &amp; Prognosis</td>
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<tr>
<td>1.55pm - 1.43pm</td>
<td>Concurrent - Trends - Changes in Clinical Patterns - Ian Thompson Memorial Session</td>
</tr>
<tr>
<td>1.30pm - 1.45pm</td>
<td>Concurrent - Nursing and Allied Health</td>
</tr>
<tr>
<td>1.45pm - 2.00pm</td>
<td>Gordon - HIV Prevention Using Antiretroviral Agents: Current Status of Clinical Research</td>
</tr>
<tr>
<td>2.00pm - 2.43pm</td>
<td>Almendras C - Immune in Inflammatory Cytokine Levels in Macaques Stimulated Mono-Nuclear Cells from HIV Infected Patients with Macaques Hypersexuality</td>
</tr>
<tr>
<td>2.43pm - 2.56pm</td>
<td>Ammarawod P - An Update on the Prevalence of Transmitted Drug Resistance Mutations in Inner Sydney: No Increase in Prevalence Resistance Mutations and a Decrease in RT Resistance Mutations During Period 2002-03</td>
</tr>
<tr>
<td>2.56pm - 3.00pm</td>
<td>Common D - Smoking Cessation Program and HIV Positive Clients</td>
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</tbody>
</table>

### Parallel Sessions

#### 1.00pm - 1.30pm

**Symposium - Epidemiology - PREP**
- *Almendras C* - Immune in Inflammatory Cytokine Levels in Macaques Stimulated Mono-Nuclear Cells from HIV Infected Patients with Macaques Hypersexuality
- *Ammarawod P* - An Update on the Prevalence of Transmitted Drug Resistance Mutations in Inner Sydney: No Increase in Prevalence Resistance Mutations and a Decrease in RT Resistance Mutations During Period 2002-03

#### 1.30pm - 1.55pm

**Concurrent - Basic Science - Diagnostics & Prognosis**
- *Almendras C* - Immune in Inflammatory Cytokine Levels in Macaques Stimulated Mono-Nuclear Cells from HIV Infected Patients with Macaques Hypersexuality
- *Ammarawod P* - An Update on the Prevalence of Transmitted Drug Resistance Mutations in Inner Sydney: No Increase in Prevalence Resistance Mutations and a Decrease in RT Resistance Mutations During Period 2002-03

### Thematic Sessions

**11.00am - 12.30pm**

A panel of speakers will be exploring this issue. There will be an opportunity for questions from the floor.

- **Dr O’Keeffe**
  - The panel will include:
    - A representative from the Population Health Branch of the Commonwealth Department of Health and Ageing

**11.30am - 12.30pm**

- **Professor Dennis Altman, President of the AIDS Society of Asia and the Pacific**
  - The panel will include:
    - A representative from the Population Health Branch of the Commonwealth Department of Health and Ageing

**12.00pm - 1.00pm**

- **Dr Malik Khum**, Director of the Pacific Regional HIV/AIDS Project, International Development Support Services
  - The panel will include:
    - A representative from the Population Health Branch of the Commonwealth Department of Health and Ageing

**12.30pm - 1.30pm**

- **Landy A** - The Role of Invasive Immunity in HIV Infection
- **Max L** - Patterns of Sexually Transmitted Infections: Time in the Health in Men (HIV) Cohort

**1.00pm - 1.30pm**

- **Van Boeckel D** - Analysis of Non-Tuberculous Mycobacterial Infections with Unresolved Antigens in HIV-Positive Individuals
- **Malpas G** - Summer Survival Sexual Health Survey of Young People's Sexual Behaviours, Attitudes and Risks

### Concurrent Sessions

**12.30pm - 1.30pm**

**Bradman Theatre:**

- **Menzies Theatre:**
  - Chairs: Patricia Price & Sabine Piller
  - **Van Boeckel D** - Analysis of Non-Tuberculous Mycobacterial Infections with Unresolved Antigens in HIV-Positive Individuals
  - **Malpas G** - Summer Survival Sexual Health Survey of Young People's Sexual Behaviours, Attitudes and Risks

**1.30pm - 2.00pm**

- **Koide J** - HIV Prevention Using Antiretroviral Agents: Current Status of Clinical Research
- **Almendras C** - Immune in Inflammatory Cytokine Levels in Macaques Stimulated Mono-Nuclear Cells from HIV Infected Patients with Macaques Hypersexuality
- **Ammarawod P** - An Update on the Prevalence of Transmitted Drug Resistance Mutations in Inner Sydney: No Increase in Prevalence Resistance Mutations and a Decrease in RT Resistance Mutations During Period 2002-03

**2.00pm - 2.43pm**

- **Common D** - Smoking Cessation Program and HIV Positive Clients

### Abstracts

- **Mitochondrial Gene**: Decrease Monocyte transcriptase inhibitor with transforming growth factor β, interleukin-6, granulocyte macrophage-colony stimulating factor and tumour necrosis factor-α.
- **Wills WM**: The impact of industry structure and social organization on male sex worker work practice.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
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<tbody>
<tr>
<td>2.00pm</td>
<td>Duffa R - PREP and Biological Prevention Consumer Perspectives</td>
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<tr>
<td>2.08pm</td>
<td>Keane WR - HIV-1 Viral Load/Net C3CD4 or CD4/CD8 Viral Tropism to Determine</td>
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<td></td>
<td>the Immune Response in HIV-1 Infected Patients During HAART</td>
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<tr>
<td>1.56pm</td>
<td>Middleton T - Transmission of Antiretroviral Drug Resistant HIV Strains</td>
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<tr>
<td></td>
<td>Between 1996 and 2003 in Victoria, Australia, and their Subsequent</td>
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<td>Evolution in Untreated Individuals</td>
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<td>2.00pm</td>
<td>Gubbins T - Depression and Neuropsychological Performance in Individuals</td>
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<td>with HIV/AIDS - 2 Year Follow-Up</td>
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<td>2.15pm</td>
<td>Afternoon Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>2.15pm</td>
<td>Fawkes J - PREP in Cambodia</td>
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<tr>
<td>2.23pm</td>
<td>French NA - Low CD4 T-Cells in Effective Antiretroviral Therapy is</td>
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<td>Associated with Immune Activation and CD4 T-Cells Expressing Markers of</td>
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<td>Replicative Senescence</td>
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<td>2.22pm</td>
<td>Watson KM - An Examination of Trends and Risk Factors for</td>
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<td></td>
<td>Hospitalisation of HIV/AIDS Patients Past the Introduction of Highly</td>
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<td>Active Antiretroviral Therapy (HAART)</td>
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<tr>
<td>2.25pm</td>
<td>Munster D - HIV-Infected Patients Admitted to the Intensive Care Unit;</td>
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<td></td>
<td>Outcomes in the Era of HAART</td>
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<td>2.31pm</td>
<td>Hutchison C - A Novel Measure of Cognitive Function that is</td>
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<td>Sensitive to CD4+ T-Cell Count in HIV-1</td>
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<tr>
<td>2.31pm</td>
<td>Questions and Discussion</td>
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<td>2.43pm</td>
<td>Wilson KM - Incidence Immunogenicity for Distinguishing Recent</td>
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<td>from Established HIV-1 Infection in Therapy and</td>
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<td>Naive Populations</td>
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<td>2.49pm</td>
<td>Post J - To Routinely Offer Testing for HIV</td>
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<td>Infection in all Cases of Tuberculosis: A Rational Policy or a Waste of</td>
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<td>Resources?</td>
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<td>2.45pm</td>
<td>Thompson J - The NHM</td>
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<td>3.00pm</td>
<td>Afternoon Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>3.10pm</td>
<td>Symposium - Basic Science - Development of Vaccines</td>
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<td>3.30pm</td>
<td>Concurrent - Medical - Treatment</td>
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<td>3.30pm</td>
<td>Concurrent - Community Uptake/Philip Medical Memorial Symposium</td>
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<tr>
<td>3.45pm</td>
<td>Concurrent - ART in Resource Poor Settings - Coming Ready to Read</td>
</tr>
</tbody>
</table>

**Sessions:**
- Duffa R - PREP and Biological Prevention Consumer Perspectives
- Keane WR - HIV-1 Viral Load/Net C3CD4 or CD4/CD8 Viral Tropism to Determine the Immune Response in HIV-1 Infected Patients During HAART
- Middleton T - Transmission of Antiretroviral Drug Resistant HIV Strains Between 1996 and 2003 in Victoria, Australia, and their Subsequent Evolution in Untreated Individuals
- Gubbins T - Depression and Neuropsychological Performance in Individuals with HIV/AIDS - 2 Year Follow-Up
- Afternoon Tea in Exhibition & Poster Area - Exhibition Hall
- Fawkes J - PREP in Cambodia
- French NA - Low CD4 T-Cells in Effective Antiretroviral Therapy is Associated with Immune Activation and CD4 T-Cells Expressing Markers of Replicative Senescence
- Watson KM - An Examination of Trends and Risk Factors for Hospitalisation of HIV/AIDS Patients Past the Introduction of Highly Active Antiretroviral Therapy (HAART)
- Munster D - HIV-Infected Patients Admitted to the Intensive Care Unit; Outcomes in the Era of HAART
- Hutchison C - A Novel Measure of Cognitive Function that is Sensitive to CD4+ T-Cell Count in HIV-1
- Wilson KM - Incidence Immunogenicity for Distinguishing Recent from Established HIV-1 Infection in Therapy and Naive Populations
- Post J - To Routinely Offer Testing for HIV Infection in all Cases of Tuberculosis: A Rational Policy or a Waste of Resources?
- Thompson J - The NHM
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<tr>
<td>7.00am</td>
<td>Registration</td>
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<tr>
<td>7.30am</td>
<td>Core Presentation Breakfast</td>
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<tr>
<td>7.30am</td>
<td>Royal Theatre</td>
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<tr>
<td>7.45am</td>
<td>Conway D - Finding the Index Case - The Challenges of HIV Risk Management in Clinical Practice</td>
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<tr>
<td>8.00am</td>
<td>Campbell A - Posterior Reversible Encephalopathy Syndrome (PRES) In an HIV Infected Patient</td>
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<tr>
<td>8.15am</td>
<td>Singh K - An Unusual Case of Cryoglobulin-Negative Vasculitis in a Man Co-Infected with HIV and Hepatitis C (HCV)</td>
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<td>8.30am</td>
<td>Hamlyn E - Secondary Syphilis Presenting as Tonsilitis in Three Individuals</td>
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<td>7.30am</td>
<td>Morning Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>10.30am</td>
<td>Symposium - Clinical Medicine - HAART (Undetectable)</td>
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<tr>
<td>11.00am</td>
<td>Bradman Thaerette Chairs: Steve Wesselingh, Anthony Cunningham</td>
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<tr>
<td>11.45am</td>
<td>Quiz: But What About My Immune System?</td>
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<tr>
<td>11.30am</td>
<td>Discussion: But How Long Will It Last?</td>
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<td>11.00am</td>
<td>Cunningham A - HIV Capture and Transmission by Domestic Cats</td>
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<tr>
<td>11.15am</td>
<td>Ventry E - Monitoring Antibody Responses in Long Term Survivors Infected with Attenuated HIV-1: Correlates to Replication Competent Virus</td>
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<tr>
<td>11.30am</td>
<td>Lamsbe S - The Queensland HIV Nursing Practice Course: Responding to HIV Nursing Education in 2004</td>
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<td>11.45am</td>
<td>Herrmann R - Clients’ Satisfaction with HIV Pre Test Counselling Appears Related to Previous Experiences of Testing and Risk Level</td>
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<tr>
<td>12.00am</td>
<td>Symposium - Nursing</td>
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<tr>
<td>12.10am</td>
<td>Riminton S - Undetectable - But How Long Will It Last?</td>
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<tr>
<td>12.15am</td>
<td>Sax P - Undetectable &amp; Ian Woolley</td>
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<td>12.30am</td>
<td>Symposium - Pathogenesis</td>
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<td>12.40am</td>
<td>Clarke JN - A New Concept of Restricted HIV 1 Infection of Astrocytes</td>
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<td>12.45am</td>
<td>Glode D - The Experience of Fatigue and Strategies for Self-Management among Persons Living with HIV</td>
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<tr>
<td>12.00pm</td>
<td>Russell D - Undetectable - But What Are the REASONS for My Body?</td>
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<tr>
<td>12.15pm</td>
<td>Zinko D - Antibody Responses in HIV-1 LTR/FAS: Unexpected Responses to Viral Antigens by IgG3</td>
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<tr>
<td>12.30pm</td>
<td>Herrmann SE - Combining Adherence Monitoring with Patient Education in the Royal Perth Hospital Immunology Outpatient Clinic</td>
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<tr>
<td>12.30pm</td>
<td>Panel discussion</td>
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**FRIDAY 3 SEPTEMBER 2004**
FRIDAY 3 SEPTEMBER 2004 FULL CONFERENCE PROGRAM

1.30pm - 2.00pm
Concurrent - Clinical Medicine: Metabolic Syndrome
Royal Theatre
Chairs: Andrew Carr & Debbie Marriott

2.00pm - 2.15pm
Migh A - Subcutaneous Injection of Polylactic Acid (PLA) in Individuals with HIV Infection: Associated Facial Lipodystrophy Six-Month Outcome and Predictors of Response
Mak J - The Vinson: Associated Cholestrolier of HIV-1: A Potential Target for Topical Microbicide Development

2.15pm - 2.30pm
McBride & Dunn E - Introduction of Antiretroviral Drugs in Papua New Guinea: The Pilot Program

2.30pm - 2.45pm
Price B - Complex Patients: Evaluation of Care Manager Model (CCM)

2.45pm - 3.00pm
Rogers G - Neovascularization in Adults with HIV Lipodystrophy: 64-Week Follow-Up (Nancy Extension)
Law M - Observed and Predicted Rates of Myocardial Infarction in the D:A:D Study

3.00pm - 3.15pm
Wilkinson J - Inhibition of HIV Entry into DGC: A New Strategy for Microbicide Development
Mujo J - Making Social Messages Content Relevant to the Huahua Society, Western Highlands Province, PNG

3.15pm - 3.30pm
Rock J - Working with Collaborating Partners: NAPWA in PNG
Ryan L - Strengthening the Relationship Between Health Promotion and General Practice

3.30pm - 3.45pm
Lambert SM - HIV Management and Treatment: Where Are We At? Where Are We Going? An Update of the Queensland Experience

3.45pm - 4.00pm
Rose H - Impairment of Reverse Cholesterol Transport in HIV Infected Individuals
Tachdjian - Elaverez, A Potential Determinant of HIV-1 Reverse Transcriptase Dubination, Affects the Late Stages of HIV-1 Replication

4.00pm - 4.15pm
Bux B - PNG Government Response to HIV
Phillips ES - Mental Health in Primary Care

4.15pm - 4.30pm
Barraclough - Elevation, A Potential Determinant of HIV-1 Reverse Transcriptase Dbination, Affects the Late Stages of HIV-1 Replication

4.30pm - 4.45pm
Questions and Discussion

4.45pm - 5.00pm
Concurrent - Clinical Medicine: Treatment Issues
Royal Theatre
Chairs: Mark Kelly & Jenny Hoy

5.00pm - 5.15pm
Ryan L - Beyond the Plan: Building the Long Term Response to Increases in HIV Infections in NSW
Hill MK - Investigating the Role of the初 of the Protease P1 in HIV-1 Replication

5.15pm - 5.30pm
Panel Discussion with Debbie Marriott moderating

5.30pm - 5.45pm
Ryan L - The Benefits of Combining Different Strategies for Management of HIV Infections

5.45pm - 6.00pm
Concurrent - Clinical Medicine: Treatment Issues
Royal Theatre
Chairs: Andrew Carr & Debbie Marriott

6.00pm - 6.15pm
Ryan L - Beyond the Plan: Building the Long Term Response to Increases in HIV Infections in NSW
Hill MK - Investigating the Role of the Initial Protease P1 in HIV-1 Replication

6.15pm - 6.30pm
Panel Discussion with Debbie Marriott moderating

6.30pm - 6.45pm
Questions and Discussion

6.45pm - 7.00pm
HIV Futures 4: State of the (Positive) Nation - Royal Theatre

5.15pm - 5.30pm
Editors Reis & Rosemary McGuckin

5.30pm - 5.45pm
Shannon C - Policy Implications of Emerging Priorities in Relation to Aboriginal and Torres Strait Islander Sexual Health Issues

5.45pm - 6.00pm
Sanford M - Investigating the Social World of Aboriginal People Living with HIV: Aboriginal and Torres Strait Islander Cohorts in the Australian "Future" Studies

6.00pm - 6.15pm
Saunders R - Living and Loving Across the Soundhole

6.15pm - 6.30pm
Thompson SC - Just Gettin' On with My Life Without Thinking About It: Aboriginal Experiences of Living with HIV in Western Australia

6.30pm - 6.45pm
Kobbe PG - The Territory Two Steps - Enhancing Detection of Latent MTB in HIV Clients

6.45pm - 7.00pm
Questions and Discussion

7.00pm
Conference Dinner - National Museum of Australia
**SATURDAY 4 SEPTEMBER 2004**

<table>
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<tr>
<td>7.30am</td>
<td>Registration</td>
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<tr>
<td>9.00am</td>
<td>Plenary Session</td>
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<td>Royal Theatre</td>
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<td>Chairs: John Kaldor &amp; Sharon Lewin</td>
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<tr>
<td>9.00am</td>
<td>Susan Kippax, Director of the National Centre in HIV Social Research</td>
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<td>Medicinalisation of Prevention</td>
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<td>9.10am</td>
<td>Paul Sax, Clinical Director of the Division of Infections Diseases</td>
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<td>and the HIV Program at Brigham and Women’s Hospital, Boston</td>
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<td>HAART: when to start and what with</td>
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<td>10.00am</td>
<td>Michael Mulen, Professor and Head of the Department of Infectious</td>
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<td>Diseases at Kings’ College, London</td>
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<td>Recent advances in HIV replication</td>
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<td>10.30am</td>
<td>Morning Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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**11.00am - 12.30pm**

- **Concurrent - Epidemiology of STIs**
  - **Royal Theatre**
    - Chairs: Frank Browen & Anna McAlity
  - Jin F - Prevalence and Risk Factors for Gonorrhoea and Chlamydia in the Health in Men (HIM) Cohort

- **Concurrent - Models of Primary Care**
  - **Bradman Theatre**
    - Chairs: Clare Willington & Marilyn McInnes
  - Rogers G - The South Australian Primary Care Health Care Programme for People with HIV and People Who May Be At Risk

- **Symposium - International Policy Initiatives**
  - **Menzies Theatre**
    - Chairs: Marina Cannon & Liz Dax
  - Greens M - Best Policies Worst Epidemic

- **Symposium - ACON & NSW Health (Symposium Sponsor): Gay Men & Condoms: Exploring the Rise in Unprotected Sex**
  - **Nicholls Theatre**
    - Chairs: Adrian Lowery & Lisa Ryan
    - Presenters will include:
      - Steve Clayton and Alan Brotherton from ACON

**11.15am - 12.15pm**

- **Epidemiology of STIs**
  - **Royal Theatre**
    - Chairs: Frank Bowden & Anna McNulty
  - Lim M - Epidemiology of HIV and Gonorrhoea in Victoria, 1993 - 2003

- **Models of Primary Care**
  - **Bradman Theatre**
    - Chairs: Clare Willington & Marilyn McInnes
  - Quan D - Holsworthy Medical Practice, A Sydney Model for HIV Patient Care

**11.30am - 12.15pm**

- **Concurrent - Epidemiology of STIs**
  - **Royal Theatre**
    - Chairs: Frank Bowden & Anna McNulty
  - Lim M - Epidemiology of HIV and Gonorrhoea in Victoria, 1993 - 2003

- **Concurrent - Models of Primary Care**
  - **Bradman Theatre**
    - Chairs: Clare Willington & Marilyn McInnes
  - Quan D - Holsworthy Medical Practice, A Sydney Model for HIV Patient Care

- **Symposium - International Policy Initiatives**
  - **Menzies Theatre**
    - Chairs: Marina Cannon & Liz Dax
  - Dinh K - Impacts of Regional and Bilateral Trade Agreements on Access to Medicines
  - Joel K - Impacts of Regional and Bilateral Trade Agreements on Access to Medicines

**11.45am - 12.00pm**

- **Managing Sexually Transmissible Infections in Gay Men**
  - **Royal Theatre**
    - Chairs: Frank Bowden & Anna McNulty
  - Lim M - Epidemiology of HIV and Gonorrhoea in Victoria, 1993 - 2003

- **Models of Primary Care**
  - **Bradman Theatre**
    - Chairs: Clare Willington & Marilyn McInnes
  - Rogers G - A Primary Health Care Programme Provides Long-Term Benefits for Homosexually Active Men: 5-9 Year Outcomes of the Care and Prevention Programme

**12.00pm - 12.15pm**

- **Secondary Students and Sexual Health**
  - **Royal Theatre**
    - Chairs: Frank Bowden & Anna McNulty
  - Lim M - Epidemiology of HIV and Gonorrhoea in Victoria, 1993 - 2003

- **Models of Primary Care**
  - **Bradman Theatre**
    - Chairs: Clare Willington & Marilyn McInnes
  - Rogers G - A Primary Health Care Programme Provides Long-Term Benefits for Homosexually Active Men: 5-9 Year Outcomes of the Care and Prevention Programme

**12.15pm - 12.30pm**

- **Screening for Sexually Transmitted Infections in Individuals Receiving Non Occupational Post Exposure Prophylaxis**
  - **Royal Theatre**
    - Chairs: Frank Bowden & Anna McNulty
  - Lim M - Epidemiology of HIV and Gonorrhoea in Victoria, 1993 - 2003

**12.30pm - 1.30pm**

- **Lunch in Exhibition & Poster Area - Exhibition Hall**
1.30pm - 1.00pm
Royal Theatre
Chairs: Ashley Watson & Joe Sasadeusz
Panel: Paul Sax, Jonathan Anderson & Robert Fiilaysan

Symposium - Clinical Medicine - Consult the Experts

Bradman Theatre
Chairs: David Menadue & Geoff Humber

1.30pm - 1.45pm
Batrouney C - Social Capital and the Phenomenology of Barebacking

1.30pm - 1.45pm
Ho HT - Cultural Characteristics and Vulnerability to Blood Borne Viruses of Ethnic Vietnamese Injecting Drug Users

1.30pm - 2.00pm
Mallal S - HIV and HCV Adaptation to HLA Restricted Immune Responses

Richard Moore from the Carlton Clinic, Melbourne, VIC

1.45pm - 2.00pm
Madeddu D - The Geography of the Gay Community 'Ghetto' in Sydney

1.45pm - 2.00pm
Nguyen O - What Role Do Key Informants Play in Helping Us to Understand and Address Blood Borne Virus Prevalence and Risk Behaviours Among Ethnic Vietnamese Injecting Drug Users in Melbourne?

David Baker from 407 Doctors, Sydney, NSW

2.00pm - 2.15pm
Prestage G - Gay Community: Subcultures, Risks and Comfortableness

2.00pm - 2.15pm
Kemer H - Culture and Interdependence: Negotiating HIV Diagnosis and Disclosure Among People from Culturally and Linguistically Diverse Backgrounds

2.00pm - 2.30pm
Zaunders J - Proliferating Antigen-Specific CD4+ with a CCR5 Cytotoxic T Lymphocyte Phenotype During Primary HIV-1 Infection

Vanita Parekh from the Canberra Sexual Health Centre, Canberra, ACT

2.15pm - 2.30pm
McGuigan D - Working with Gay Men whose Sexuality and Drug Use is Culturally Specific

2.15pm - 2.30pm
Hygo P - HIV and Injection Drug Use in HAART: A Reality?

2.30pm - 2.45pm
Scott S - New Applications of Peer Education in Young Gay Men Sexual Health Promotion

2.30pm - 2.45pm
Petropolis M - Adherence and Diversity

2.30pm - 3.00pm
Keyman M - HIV/AIDS Multilingual Recorded Lines for People from Culturally Diverse Backgrounds

2.45pm - 3.00pm
Canavan P - Positive in Prevention

2.45pm - 3.00pm
Lewins S - T cell Decline and Immune Restoration in HIV

3.00pm - 3.30pm
Afternoon Tea in Exhibition & Poster Area - Exhibition Hall

3.30pm - 5.00pm
Closing Session
Royal Theatre
Chairs: Frank Bowden & Liz Dax

3.30pm - 3.50pm
Prizes

3.50pm - 4.55pm
Hypothetical with Dr Norman Swan, Host “The Health Report”, ABC Radio National

4.55pm - 5.00pm
Frank Bowden - Closing remarks

4.55pm - 5.00pm
Lewins Creeks - 2005 ASHM Conference

Close
ORAL PRESENTATION
ABSTRACTS
THURSDAY 2 SEPTEMBER 2004
O’Keeffe A
AusAID, Canberra, ACT, Australia

Australia’s International HIV/AIDS Response will explore the regional impact of HIV/AIDS and serve to demonstrate that HIV/AIDS is much more than a ‘health issue’. This will incorporate a focus on the issue of human security, as the virus cuts across boundaries and borders, potentially devastating populations and threatening sovereignty and security. It will explore the importance of internationally relevant policy in strengthening nations’ abilities and commitment to plan and implement regional and national HIV/AIDS strategies. The symposium will explore the Australian Government’s role in preventing the spread of HIV/AIDS through a multifaceted approach of high-level political advocacy, partnerships that extend across regional bodies, governments and the private sector, and will also consider the role that civil society and community-based organisations play in ensuring an effective response to the disease and its impact.
The innate immune system provides the first line of defense against pathogens by recognizing germline-encoded receptors: pathogen recognition receptors. The most well-known of these receptors are the Toll-like receptors. There have been at least 10 TLRs identified in humans that mediate their action by NFKb activity and produce rapid inflammatory responses. We have begun to characterize the cellular elements of the innate immune system including plasmacytoid dendritic cells (PDC), myeloid dendritic cells (MDC) and INKT cells. We have found a significant reduction in PDC, MDC and INKT cell percentage in chronic HIV infection. These cell populations are not significantly restored in patients on HAART. We have now begun studies to determine if we can stimulate innate immune effector cells by utilizing TLR agonists. Our efforts so far have focused on the use of immunostimulatory DNA sequences that mimic bacterial DNA as Cpg ODNs. We have begun to evaluate the potential mechanisms by which Cpg ODNs can induce PDC, MDC and INKT effector activity in vitro on the basis of the role of INKT cells in producing TH1 (IFNγ) or TH2 (IL4) cytokines. These studies are now being extended to in vivo evaluation of Cpg ODN as an HIV vaccine adjuvant in preclinical and human studies. The results of these approaches provide basic mechanistic information on ways we might be able to utilize the innate immune response as a novel immune based therapy in HIV disease.

Early Antiretroviral Therapy (ART) and Treatment Interruption in HIV-1 Infection: The Impact on the Neutrophilic Antibody Response, Virus Evolution and Virus Control

Arnott A1,2, Vertiy E1,2, Wilson K1,2, Ho3,4,5, Jardine D1, GOFF, P1, Merlio K1,2, Grey P1, Kelchterm A1, Smith D1, McNee D1,6-8, and the Pulse Study Team1
1Monash University, Clayton, VIC, Australia; 2National Reference Laboratory, Fitzroy, VIC, Australia; 3Burnet Institute for Medical Research and Public Health, Melbourne, VIC, Australia; 4National Centre for HIV Epidemiology and Clinical Research, Sydney, NSW, Australia; 5National Centre in Hepatitis and HIV Virology Research, Australia; 6Melbourne University, Melbourne, VIC, Australia

In a cohort of 20 acutely HIV-1 infected subjects on ART in the PULSE study, the impact of treatment interruptions and the effect of viral phenotype were investigated. Subjects were fully adherent to HAART for up to one year prior to interruption, with undetectable viral loads (VL) for at least three months prior to interruption. Two ART interruptions were undertaken, should VL exceed 5000 copies/ml.

Sixteen subjects demonstrated neutralising ability at BL with virological success during HAART and upon interruption. Plasma and serum samples were taken at Baseline (BL), during HAART and upon interruption. Six subjects had high neutralisation ability at BL with viral load <20000 copies/ml. Based on our observation of early neutralising antibody responses, we are currently investigating the role of complement. Antibody-mediated virus was successfully isolated from BL serum in 15 of the 20 subjects by pelleting virus to remove excess antibodies and solubilising factors. Seven subjects showed a highly significant increase in neutralisation against the reference isolate and five against autologous virus. However, there was no clear correlation between neutralisation and virus control.

We were unable to isolate virus from BL samples for five subjects and viral replication was interrupted for another six subjects. Of these eleven subjects, eight contained virus replication upon interruption. There was an observed correlation between viral replication phenotype and control of virus replication upon interruption.

Based on these findings, we are currently investigating viral fitness by real time PCR analyses and viral evolution using the V2 V3 Genescan assay. Very little is currently known about the impact of ART interruptions on virus evolution. Based on our observed correlation between viral replication phenotype and virus control, the results of these studies will provide an important insight into the impact of early HAART and ART interruptions on viral evolution and fitness, and indeed the importance of initial viral phenotype as a clinical marker for future virus control.

Inhibition of HIV-1 Infection of Immature Monocyte-Derived Dendritic Cells and CD4+ T Cells by Cyanovirin-N

Nicollen M, Wilkinson J, Boyd M1, Cunningham A1,2
1Centre for Virus Research, Westmead Millennium Institute, Sydney, NSW, Australia; 2Cancer Research Institute, University of South Alabama, USA

Mucosal transmission of HIV-1 initially involves binding and uptake of the virus by dendritic cells (DCs) via interactions between the viral envelope protein gp120 and DC receptors, namely C-type lectin receptors (CLRs) and CD4. Upon uptake, DCs mature and migrate from the site of infection to the lymph nodes where they present HIV-1 to CD4+ T cells, resulting in explosive infection in these cells. One potential strategy designed to prevent mucosal transmission of HIV-1 involves the use of topical microbicides targeting the virus or DC receptors. This study is designed to assess the inhibitory activities of multiple microbial agents targeting either gp120 or CLRs that are potentially capable of preventing HIV-1 infection of DCs and thus preventing the subsequent transfer of the virus to CD4+ T cells.

Cyanovirin-N (CV-N), a cyanobacterial protein, binds to viral gp120. Currently we are testing the potential of this protein to block HIV-1 infection of DCs. HIV-1 was pretreated with various concentrations of CV-N and subsequently used to infect immature monocyte-derived DCS for up to 120h. At specific time points (0-96h) CD4+ T cells were added to the DC culture. Using real time PCR, HIV-1 was quantified in the DC cultures and DC-CD4+ T cell co-cultures. The difference between these two results provided a measure of HIV-1 transfer from DCs to CD4+ T cells. 100% inhibition of HIV-1 infection in DCs was observed when HIV-1 was pretreated with CV-N at concentrations between 100nM - 1uM. The subsequent transfer of HIV-1 to CD4+ T cells was also inhibited. The toxicity of CV-N on DCs and CD4+ T cells was also assessed using real time PCR. In this assay CV-N demonstrated minimal cellular toxicity at all concentrations used. These findings suggest that complete inhibition of HIV-1 infection in DCs can be achieved using a compound that specifically interferes with gp120 binding to CLRs and CD4, thus ultimately preventing the transfer of HIV-1 to CD4+ T cells. Further studies are designed to test the inhibitory activity of other microbial agents against various HIV-1 subtypes.

Analysis of Peripheral and Lymph Node Effector Lymphocyte Activity Against Mycobacterium Avium Complex (MAC) in HIV-infected Individuals with Unresolved Non-Tuberculous Mycobacteria (NTM) Disease

Van Beek D1, Munier M2,3, Zaunders J, Ip S, Satchell C1, Merlio K1,2,5,6, and the Pulse Study Team
1National Centre in HIV Epidemiology and Clinical Research, Sydney, NSW, Australia; 2Centre for Immunology, St. Vincent’s Hospital, Sydney, NSW, Australia; 3Inmunology and Infectious Diseases Unit, St. Vincent’s Hospital, Darlinghurst, NSW, Australia

Up to 25% of HIV-infected individuals with late stage disease may experience immune restoration disease (IRD) related to opportunistic infections including NTM within 8 weeks of commencing HAART. NTM-IRD manifests with localised inflammation +/- colliquative necrosis of superficial/CDC-diaphyseal lymph nodes (LN). Moreover, while the pathogen is visualised in affected LN tissue it often fails to grow in culture.

Samples were analysed from three HIV-infected individuals with chronic (>12 months) NTM-IRD. Systemic and localised immune responses to the purified protein derivatives of Mycobacterium tuberculosis (MTB) and Mycobacterium avium-intracellulare (MAI) were assessed using IFN-γ ELISPOT, IL-2 and IFN-γ intracellular cytokine (ICC), and lympho-proliferative (LPA) assays.

PBMCs were isolated from all three individuals and three sets of cLN cell suspensions were analysed. In each subject, we determined a dose-response curve to MTB and MAI using fresh PBMC (n=4) and LN cells (n=1). ICC was performed using 15μg/mL of MTB and MAI on fresh whole blood (n=4) and LN cells (n=1).

Optimal concentrations of MTB and MAI antigens for ELISPOT and LPA varied between individual’s PBMCs but were in the range of 1-10μg/ml. Furthermore, while LN and ELISPOT responses correlated qualitatively, there was no direct relationship between the magnitude of these responses.

The ICC assay of PBMC revealed that the mean antigen-specific IFN-γ response to MTB and MAI was 0.8% (range 0.31-1.71%) and 1.71% (range 0.73-4.02%) of CD4+ T cells, respectively. Mean IL-2 production to MTB and MAI was 0.56% (range 0.13-1.33%) and 1.32% (range 0.39-0.54%) of CD4+ T cells respectively. Correlations between IL-2 production and proliferative responses are being explored.

In the one subject with LN tissue available for comparison, the LN responses as measured by ICC to mycobacterial antigens were 2.5 to 5-fold greater than PBMC responses: 1.75% and 2.63% against 0.31% and 0.99% of CD4+ T cells to MTB and MAI respectively.

PBMC responses to MTB and MAI antigens were readily detected in individuals with NTM-IRD, with responses to MTB generally greater than 1.75%. Unexpectedly exuberant immune responses to low antigen loads of mycobacteria may be contributing to the pathogenesis of NTM-IRD and may have implications for therapeutic strategies.

The innate immune system: perspective for new HIV immune therapy

Landay A1
1Rush University Medical Center, Chicago, Illinois, USA

The innate immune system provides the first line of defense against pathogens by recognizing germline-encoded receptors: pathogen recognition receptors. The most well-known of these receptors are the Toll-like receptors. There have been at least 10 TLRs identified in humans that mediate their action by NFKb activity and produce rapid inflammatory responses. We have begun to characterize the cellular elements of the innate immune system including plasmacytoid dendritic cells (PDC), myeloid dendritic cells (MDC) and INKT cells. We have found a significant reduction in PDC, MDC and INKT cell percentage in chronic HIV infection. These cell populations are not significantly restored in patients on HAART. We have now begun studies to determine if we can stimulate innate immune effector cells by utilizing TLR agonists. Our efforts so far have focused on the use of immunostimulatory DNA sequences that mimic bacterial DNA as Cpg ODNs. We have begun to evaluate the potential mechanisms by which Cpg ODNs can induce PDC, MDC and INKT effector activity in vitro on the basis of the role of INKT cells in producing TH1 (IFNγ) or TH2 (IL4) cytokines. These studies are now being extended to in vivo evaluation of Cpg ODN as an HIV vaccine adjuvant in preclinical and human studies. The results of these approaches provide basic mechanistic information on ways we might be able to utilize the innate immune response as a novel immune based therapy in HIV disease.
Langerhans-Like Cells With Generation of Monocyte Derived Dable J1, Wilkinson J1, Bosnjak L1, Cunningham A L1

NeCrosis Factor- Colony Stimulating Factor and Tumour Necrosis Factor-

ashm2004canberra

NLRITI side effects include bone marrow suppression (anaemia, increased mean corpuscular volume (MCV)) and lipodystrophy. Although NRTIs may inhibit adenosine DNA polymerase y, affecting mitochondrial (mt) replication, it is unclear if mtDNA depletion is the primary defect in NRTI induced toxicity in these tissues.

We examined monocyte and adipose tissue mtRNA expression from 20 HIV-negative volunteers randomised to 6 weeks d4T/3TC or AZT/3TC, followed by 6-weeks washout. Assessments included clinical history, fasting lipids and glucose, and measurement of body composition. Adipose tissue biopsies were performed at weeks 0 and 2 and whole blood monocyte extracts prepared at weeks 0, 6 and 12. RNA was extracted and mtRNA expression measured by real-time RT-PCR. Results are expressed relative to β-actin expression.

<table>
<thead>
<tr>
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<th>Week 0</th>
<th>Week 2</th>
<th>Week 6</th>
<th>Week 12</th>
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<tbody>
<tr>
<td>Adipose COX1</td>
<td>1.4 [0.2]</td>
<td>0.58 [1.7]</td>
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<tr>
<td>MCV/3(Trait)</td>
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<td>1.10 [0.4]</td>
<td>0.59 [0.2] **</td>
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Table 1. Values are median (IQR); y values: *<0.05  **<0.01  ***<0.0001

Median age was 41 yrs (IQR 14.5) and 90% were male. Both groups were matched for baseline parameters with no change in body composition or serum lipids by week 6. Haemoglobin concentrations dropped by week 6 in the AZT/3TC group, returning to baseline by week 12. MCV rose to week 6 in both groups, a feature which persisted to week 12. Adipose tissue mtRNA expression, as judged by COX1 expression, was significantly decreased at week 2 in fat and at week 6 in monocytes (table 1). Like the changes in MCV, decreased monocyte mtRNA expression persisted to week 12, six weeks after stopping the drugs.

In HIV-negative volunteers, exposure to AZT/3TC or d4T/3TC decreases mtRNA expression in both monocytes and adipose tissue, with the effect in monocytes persisting six weeks after discontinuing the drugs.

Pattern of Sexual Risk Taking over Time in the Health in Men (HIM) Cohort

Mac L1, Van de Ven P1, Crawford J1, Prestage G1, Grulich A1, Kaldor J1, Kippin S1, on behalf of the Australian Thai HIV Vaccine Consortium: 1National Centre in HIV Social Research; 2National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, Sydney, Australia

Health in Men (HIM) is an open cohort of HIV-negative gay men in Sydney. Every twelve months, participants undergo a face-to-face interview and an HIV test. From July 2001 to December 2003, 346 men completed three annual face-to-face interviews. These men were the basis of the analyses herein.

Sexual risk taking was defined as any unprotected anal intercourse with casual (UAI-C) or with HIV-positive/unknown-status regular partners (non-concordant UAI-R). Patterns of sexual risk taking were examined in each of the six-month periods prior to respective interviews. Frequencies of sexual risk taking were also investigated. Based on the three annual interviews, 143 men (41.7%) consistently reported no sexual risk; 154 men (44.5%) reported sometimes engaging in sexual risk taking but not in all three rounds; and 49 men (14.2%) reported engaging in sexual risk taking in each of the three rounds. For these 49 men, four men consistently engaged in non-concordant UAI-R only (an average of 25 non-discordant UAI-R episodes per person per six months); 17 men consistently engaged in UAI-C only (an average of 10 UAI-C episodes per person per six months); and 28 men engaged in a mix of non-concordant UAI-R and UAI-C (an average of 45 non-concordant UAI-R and/or 10 UAI-C episodes per person per six months).

Consistent engagement in sexual risk taking is not commonly reported among HIV-negative gay men in Sydney. However, a considerable proportion of HIV-negative gay men sporadically engage in non-concordant UAI-R and/or UAI-C over time. Such practice places HIV-negative men at a heightened risk for HIV infection.

Thirteen Australian Centres, Sydney, NSW, Australia; 2National Centre in HIV Social Research, University of New South Wales, Sydney, Australia; 3Faculty of Medicine, University of New South Wales, Sydney, Australia; 4National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, Sydney, Australia; 5Clinical Trials Centre, St Vincent's Hospital, Sydney, NSW, Australia

The research has implications for planning responsive sexual health education, treatment and support interventions. Many varied factors make young people highly vulnerable to sexually transmitted infections. Health promotion initiatives need to: harness the dynamics of youth peer relationships; utilise peer-education models; incorporate alcohol and other drugs in to all sexual health education; develop the capacity of school communities and partners to address sexual health; improve access to general practitioners and sexual health services.
INTERNATIONAL BACKPACKERS VISITING AUSTRALIA: SEXUAL RISK IN FOCUS

Egan C
National Centre in HIV Social Research, University of New South Wales, Sydney, NSW, Australia

This study explored the sexual risk behaviours of international backpackers visiting Australia to determine whether this risk taking increased or was restricted to the backpacking context. Patterns of casual sex and condom non-use behaviour before and during their backpacking trip were compared. Self-administered questionnaires were completed by 563 backpackers deriving from 23 countries aged 18-39 years staying in backpacking hostels in Sydney and Cairns, Australia. In addition, 14 semi-structured interviews were conducted with doctors, nurses and counsellors employed at 8 travel and sexual health clinics in Sydney. Almost half (47%) of the sample reported sex with one or more casual partners during their trip, i.e. sex with someone met within the same day or evening. More than half of those with no casual sex experience before the trip did engage in casual sex with someone they met during the trip. 37% of backpackers did not use a condom during their last encounter of sex with someone new. While most backpackers carry condoms and appear to intend to use them with new partners, unprotected sex remains common. 24% of those who reported “negotiating” condom use did not use a condom on the last occasion of sex with someone new. Perception of risk was low. While over half of the sample who did not use a condom with their last new partner regarded their risk of acquiring HIV as very low to nil, 3 participants had acquired HIV on this backpacking trip. Drinking alcohol, often to excess, is central to the backpacking setting and is both a reason for and a post-trip justification of unprotected sex. Youth embarking on a backpacking trip overseas should be made aware of the risk of sexually transmitted infections (STIs). Recommendations by clinic staff with experience of treating and counselling backpacking populations will be discussed. These findings highlight the need for more broad-based dissemination of information on STIs to youth, particularly those who endeavor to backpack overseas and for those who are visiting Australia. This population needs to be informed on cost-effective sexual health services available to them while traveling in Australia in order to control the dissemination of STIs and HIV.

A DANCE OF DEATH: GAY MEN, CRYSTAL METH AND UNSAFE SEX

Worth H, Smith G
National Centre in HIV Social Research, Sydney, NSW, Australia; National Centre in HIV Social Research, Sydney, NSW, Australia

Crystal meth use amongst gay men has been linked to unsafe sex and specifically to sexually adventurous gay men. Crystal and its relationship with unsafe sex has variously been called, by the media (including the gay media), a cascade of disasters,’ ‘a serious health risk predisposing a young section of [gay men] to high-risk sexual behaviour’, and ‘a dance of death’.

Using data from Gary Smith’s study of sexually adventurous men, we will examine the ways in which gay men, while using drugs for sexual pleasure, develop strategies to minimise potential harms. In general, most interviewees recognised the tension between the pleasures and dangers of drug use for sex, and employed a range of self-regulating strategies to ensure drug use remained controlled and pleasurable, and that sexual safety was paramount.

THE IMPACT OF INDUSTRY STRUCTURE AND SOCIAL ORGANISATION ON MALE SEX WORKER WORK PRACTICE

Willis J M, Peterson M K
Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, VIC, Australia

We report on changing patterns of social organisation and emerging cultural meanings of male sex work by examining the occupational structure and work practices of a sample drawn from each sector of the male sex work industry in Melbourne (street-based, agency/brothel, and private work). We examine these as occupationally distinctive, structurally differentiated work sectors.

We used post-modern ethnography, including non-participant observation, media and policy analysis, key informant interviews and sexual life history interviews and focus groups with 54 Melbourne workers for a rich account of their social world.

We documented trajectories into and out of sex work, features of each industry sector, and recruitment and training processes as workers move between sectors. Different relationships between industry sectors and government affect individual work practices, including the ways in which ‘safety’ and ‘risk’ are operationalised.

Structurally informed analysis, treating the nature and effects of work as functions of social organisation, differentiated between social characteristics and consequences of different types of sex work. Findings suggest there are distinctive features of the workers involved in these different types of sex work, and that there are patterned structural features of the work itself that facilitate or inhibit HIV transmission.
HIV PREVENTION USING ANTIRETROVIRAL AGENTS: CURRENT STATUS OF CLINICAL RESEARCH

Kaldor J1
National Centre in HIV Epidemiology and Clinical Research, Sydney, NSW, Australia

As the new millennium began, there was a growing realisation that an effective HIV vaccine or vaginal microbicide was still years, maybe many years from reality. Faced with intrinsically high HIV transmission rates in many parts of the world, attention turned to the possibility of an alternative biomedical prevention strategy, based on chemoprophylaxis. Among the antiretroviral drugs with proven effectiveness against active infection, tenofovir rapidly emerged as a favourite candidate, being well tolerated with a good resistance profile, and supported by animal data that were strongly suggestive that the drug could abort infection if present at the time of exposure.

Several groups began planning safety and efficacy studies in people at higher risk of infection. Such populations were likely to be the immediate beneficiaries of an effective biomedical prevention measure. In any case it would never be possible to prove efficacy in populations at lower risk, because of the prohibitive sample size requirements.

HIV prevention trials involving chemoprophylaxis raise a number of ethical issues, most of which they share with vaccine and microbicide trials. Any prevention study needs to contemplate its impact on current safe sex practice, availability of HIV care for those found to be infected during the trial, and medical care of participants who experience adverse events in the trial.

After several years of preparatory work, randomised double blind controlled trials are now at various stages of development and implementation in eight countries. Populations being recruited in these trials include women involved in sex work, people who inject drugs, gay and bisexual men, and adults aged under 30. It is likely that the first results will be available by early 2007.

PREP AND BIOLOGICAL PREVENTION – CONSUMER PERSPECTIVES

Duffin R1
Australian Federation of AIDS Organisations, Newtown, NSW, Australia

A number of different biological prevention technologies are under development. The development time frame for vaccines and microbicides allows appropriate debate about policy and implementation. However consensus opinion is that these technologies will not be available for many years.

Pre-exposure prophylaxis, however, is available now and trial results on its effectiveness are likely in a relatively short time frame. In Australia, relatively little attention has so far been given to the policy debate about the best and most appropriate ways to use this technology.

The Australian Federation of AIDS Organisations has prepared a detailed discussion document on Pre-exposure Prophylaxis. Responses to this document will be discussed and proposals for further processes to develop an appropriate policy response put forward.

PREP IN CAMBODIA

Fawkes J1
Scarlett Alliance, Brisbane, QLD, Australia

Sex workers are consistently targeted as participants for research and most recently for the trial of new treatments and vaccines in Africa, Cambodia etc. As such the Australian HIV/AIDS sector and Organisations like Scarlett Alliance, AFAO, NAPWA and the National Research Centres have a clear role in advocating to ensure such trials do not jeopardise the health and safety of the sex workers who participate in research.

Following an Associated press article in March, 2004 reporting ‘Health authorities were recruiting 960 sex workers in Cambodia to participate in a one-year study of the drug, tenofovir DF’ and the complaints from local sex workers regarding particular elements of the research, Scarlett Alliance met with, and documented, the concerns of Women’s Network for Unity, a Cambodian sex worker group.

The concerns raised are directly related to the support participants are entitled to during and after the Pre-exposure chemoprophylaxis (PREP) trial aimed at measuring the effectiveness of tenofovir. However, the group also raised ethical concerns about wealthier countries conducting trials on participants in less developed countries along with the effectiveness of such trials and the choice of a double blind placebo based trial. There are also concerns about the level of information provided on the existing questions around longer term side effects ie kidney toxicity.

Whilst Scarlett Alliance has long argued the necessity for development of best practice Ethical Guidelines for research conducted with sex workers. The events in Cambodia also raise the need for greater debate on the responsibility of this sector to ensure involvement in new technologies and treatments research is equally balanced between vested interest in the outcomes and our ethical responsibility to critique the impact on communities who participate in research, in this case sex workers.
Polymorphisms in cytokine genes affect control of plasma viraemia and/or HIV RNA may reappear after a period of virological control. We investigated whether polymorphisms in cytokine genes affect control of plasma viraemia in HIV-1 patients on HAART. 

In this study, we sought to examine abacavir specific inflammatory cytokine response in cultured PBMCs from HIV infected abacavir hypersensitive (ABC HSR) tumour (n=10), abacavir tolerant (n=8), abacavir unexposed (n=7) individuals. PBMCs were separated from heparinised whole blood by Ficoll density gradients and cryo-preserved. Abacavir was used at a final concentration of 48μM. Production of TNF-α, IL-2, IL-6 was measured by ELISA (Pharmingen) and TNF by flow cytometry. Abacavir stimulated inflammatory cytokine expression was also examined by microarray analysis (GEArray™ cDNA series kit for chemiluminescent detection, SuperArray Bioscience Corp). 

We found increased sCD30 levels in all seven patients when they had <50 CD4 cells/μL and high plasma viral loads. These patients had a sustained virological response to HAART. R5 viruses were isolated from two patients failing treatment. Two X4 viruses and one R5 virus were isolated from three patients whose control of viral replication was delayed during HAART.

In conclusion, we found increased sCD30 and LAG3 levels in patients with abacavir hypersensitivity thereby influencing the pathophysiology of this reaction. These data suggest that an abacavir specific immunological response in vivo may be useful as clinical diagnostic marker and may help to clarify the immunological mechanisms involved in the development of ABC HSR.
INCIDENCE IMMUNOASSAY FOR DISTINGUISHING RECENT FROM ESTABLISHED HIV-1 INFECTION IN THERAPY NAIVE POPULATIONS

Wilson K M 1, Croson H A 1, Richards K 1, Doughty L 1, Cunningham P F 1, Kemp E B 1, Branson B M 2, Johnson E J M 2, Doe E F 2 1National Serology Reference Laboratory, St. Vincent’s Institute of Medical Research, Melbourne, VIC, Australia; 2Center for Immunology, St. Vincent’s Hospital, Sydney, NSW, Australia; 3National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, GA, USA

In order to characterise the maturation of the humoral immune response to human immunodeficiency virus (HIV-1) infection, and to seek a specific antigen-antibody interaction as a marker of recent infection, we have examined in detail the antibody isotype-specific responses generated to HIV-1 antigens during seroconversion. During maturation of the immune response to HIV-1 infection there is a rapid and sustained IgG response to all the major proteins transcribed by the env, gag and pol genes. The major antibody isotype contributing to this broad response is IgG1. Data obtained from panels of specimens collected longitudinally from individuals infected with HIV-1, has indicated that isotype-specific responses to different HIV-1 antigens appear at different time points following infection and often only appear transiently. We have found an early transient peak of IgG1 reactivity to p24 that peaks approximately 1 to 4 months following HIV-1 infection. The presence of IgG1 reactivity to p24 permits established infection to be distinguished from recently infected individuals during this time period. An assay specific for anti-p24 IgG1 reactivity provides an estimate of the incidence of HIV infection that may be applicable for epidemiological surveys as well as monitoring new infections during vaccine trials and managing treatment programmes.

REVIEW?

Concurrent Session – Change in Clinical Patterns

IMMUNE RESTORATION DISEASE: TIME FOR REVIEW?

Post J F 1,2,3,4 Kleger R K 1,4, French M A 1 1Department of Infectious Diseases, Prince of Wales Hospital, Sydney, NSW, Australia; 2Albion Street Centre, Sydney, NSW, Australia; 3School of Medical Sciences, University of New South Wales, NSW, Australia; 4National Centre in HIV Epidemiology and Clinical Research, Sydney, NSW, Australia; 5Department of Clinical Immunology and Biochemical Genetics, Royal Perth Hospital, WA, Australia; 6School of Surgery and Pathology, University of Western Australia, Perth, WA, Australia

The paradoxical worsening of opportunistic infections (OIs) with antiretroviral therapy (ART), the development of inflammatory conditions of uncertain origin and the development of new OIs after treatment with ART have all complicated the introduction of ART. They have collectively been termed Immune Restoration Disease (IRD). IRD was first reported in 1992. (AIDS 1992: 6:1293) It has been recognized in association with a range of disorders including mycobacterial infections, cytomegalovirus, Pneumocystis jiroveci, PMI, Kaposis sarcoma and possibly with hepatotropic viruses. At our hospital services we have recognized a number of cases where a diagnosis of IRD has either not been considered, caused significant morbidity or mortality or was associated with extensive (and expensive) investigation or required intensive Care admission. The risk factors for this condition are incompletely defined. Similarly the pathogenesis of the condition and the optimal treatment strategies are unclear.

We will report a series of cases, illustrating the difficulties in diagnosis and management. We will discuss the recently proposed diagnostic criteria for IRD and our plan for national data collection of IRD events.

AN UPDATE ON THE PREVALENCE OF TRANSMITTED DRUG RESISTANCE MUTATIONS IN INNER SYDNEY: NO INCREASE IN PROTEASE RESISTANCE MUTATIONS AND A DECREASE IN RT RESISTANCE MUTATIONS DURING PERIOD 2002-3

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We set out to monitor the level of genotypically determined drug resistance mutations in recently transmitted virus by monitoring their prevalence in patients identified with acute HIV-1 primary infection in Sydney. Reverse transcriptase (RT) and protease (PR) regions were sequenced from plasma virus using a standard automated DNA sequencer platform (Trugen, Visible Genetics, Ontario, Canada). 299 therapy naive patients have had a laboratory diagnosis of acute primary HIV infection (< 4 weeks on Western blot +/- p24 Ag positive) made at St Vincent’s Hospital between April 1992 and December 2003 and have plasma samples suitable for determination of genotypic resistance. Mean time from laboratory diagnosis of primary infection to sampling for resistance testing was 2.1 days. Since December 2001, 114 such individuals have been identified. Previously reported data collected up till December 2001 on 185 individuals showed that primary mutations in the protease gene were rare (8/185) and levels of primary mutations in RT were relatively stable at 14.3% in 2000 and 9.7% in 2001, having peaked at > 56% in 1995. During 2002-2003 no primary PR mutations were observed. The level of primary mutations in RT appears to have plateaued and may even be decreasing (6.0% (3/50) in 2002 and 4.7% (10/214) in 2003). We have seen an increase in the revertant TAM mutation T215D/C/S occurring in 7.9% of samples compared to 3.5% in the period 1996-2001. Unlike others studies, we have not seen an increase in the K103N multidrug NNRTI resistance mutation. These results contrast markedly with recent reports from other western urban areas such as New York and San Diego. There does not appear to be any increase in the rates of genotypic drug resistance in transmitted virus in this predominantly urban population of MSM despite high rates of uptake of antiretroviral therapy in the infected population. The differences in these results from other similar North American studies may be attributed to availability of easily affordable medications and has implications for treatment policies in this and other countries.
TRANSMISSION OF ANTIRETROVIRAL DRUG RESISTANT HIV STRAINS BETWEEN 1996 AND 2003 IN VICTORIA, AUSTRALIA, AND THEIR SUBSEQUENT EVOLUTION IN UNTREATED INDIVIDUALS

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Transmission of antiretroviral (ARV) drug resistant HIV appears to be increasing and is likely to have a major impact on subsequent therapy and clinical progression. We assessed the level of transmitted drug resistance in Victoria, Australia between 1996 and 2003.

Genotyping was performed on plasma from 300 individuals recently infected with HIV within the previous 12 months. The evolution of the predominant resistant strain in ten individuals who acquired drug resistant virus at the time of infection but were not treated with ARV drugs was followed in association with viral load and CD4 counts.

Forty individuals had evidence of transmitted drug resistance. Class-specific drug resistance was as follows: <1% for protease inhibitors; 6% for nucleoside reverse transcriptase inhibitors and 3.6% for nonnucleoside RT inhibitors. Resistance to more than one drug was found in 3% of individuals. The most common mutations transmitted were thymidine analogue mutations (50%), M184V (10%), K103N (30%) and mutations associated with saquinavir resistance (10%). We followed ten individuals infected with resistant virus who were not treated during the follow up period compared to a control group of individuals infected with wildtype virus (n=12). In the control group the virus load decreased by 0.8 log, and the CD4 count by 85 cell/μl over the next 14 months. In contrast, individuals with resistant virus who did not undergo antiretroviral therapy post infection had a stable virus load and a decrease in CD4 count of 144 cell/μl over the same period.

Over the last 8 years transmission of drug resistant virus was approximately 13% in recently infected individuals in Victoria, Australia. Individuals who had primary HIV infection with resistant virus did poorly in terms of their virological and immunological response compared to individuals infected with wildtype virus.

NEUROPSYCHOLOGICAL PROFILE OF AIDS DEMENTIA COMPLEX ACROSS PRE AND POST HIGHLY ACTIVE ANTIRETROVIRAL THERAPY (HAART) ERAS

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There is recent evidence that the pattern of neuropsychological impairment is changing in non-demented advanced HIV-infected HAART-treated individuals with increasing deficits in learning, complex attention besides persistent psychomotor slowing. Therefore it is important to investigate whether these changes can be observed in individuals who develop AIDS Dementia Complex (ADC) on HAART or whether the deficits remain identical to pre-HAART ADC.

Twenty-nine individuals with ADC stage 1 (mild dementia) & 2 (moderate dementia) were recruited in 1993-1994 and were on dual therapy of Zidovudine and Didanosine (dual-therapy cohort). Twenty individuals with ADC stage 1 & 2 on HAART were recruited in 1999-2002 (HAART cohort). Thirty-three matched seronegative controls for age, sex, education and geography were recruited for the dual-therapy cohort and thirty controls for the HAART cohort. All participants were examined with a standard neuropsychological examination assessing five cognitive domains. Comparisons between the cohorts were made on standard scores derived from controls.

As expected, the severity of neuropsychological impairment was diminished in the HAART cohort compared to the dual-therapy cohort. The neuropsychological profile in the HAART cohort showed comparable frequency of deficits to the dual-therapy cohort in learning, complex attention and psychomotor speed. There was improvement in memory, motor-coordination and verbal generativity. In the dual-therapy cohort neuropsychological scores were not associated with CD4 cell counts. In the HAART cohort, the nadir CD4 cell count was significantly associated with better recall (r=-48; p<0.03).

In conclusion, the neuropsychological pattern of impairment does not demonstrate any worsening in the HAART cohort. However, similar to non-demented HIV-infected individuals, learning, complex attention and psychomotor slowing are the cognitive domains that show less benefit from HAART. The unequal neuropsychiatric benefit of HAART may be triggering a partial change in the neuropsychological profile of ADC patients where the traditional feature of cognitive slowing is essentially associated with executive dysfunctions more specifically involving mental flexibility, organisation and strategic skills as in learning and complex attention tasks. Whether this change represents partial inactivity of ADC, differential penetration of HAART into certain brain regions (not just penetration into the brain), or a new process will be addressed by prospective studies.

AN EXAMINATION OF TRENDS AND RISK FACTORS FOR HOSPITALISATION OF HIV/AIDS PATIENTS POST THE INTRODUCTION OF HIGHLY ACTIVE ANTIRETROVIRAL THERAPY (HAART)

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The aim of this study was to define the risk factors for prolonged hospitalisation amongst a group of HIV infected patients. It was expected that prolonged hospitalisation would be principally manifest in non-AIDS related illnesses, HAART related drug toxicities and poor immune response. The International Classification of Diseases, 10th Revision (ICD-10-AM) coded discharges of all HIV inpatients between May 2001 and January 2003 were matched to the Alfred HIV observational clinical database. A prolonged hospitalisation group was defined as those patients with cumulative length of stay in excess of 37 days (90th percentile of the State Average Length of Stay) in a 21-month period. Of the 204 hospitalised patients 77.0% (n=157) comprised the non-prolonged hospitalisation group, whilst 23.0% (n=47) comprised the prolonged hospitalisation group. The prolonged hospitalisation group accounted for 4066 (66.5%) of the total bed days. In both crude and adjusted logistic regression analyses, non-AIDS related infections, serious medical conditions (non-AIDS and non-infectious), social/accommodation issues, malignancy (AIDS related), and AIDS related opportunistic infections were found to be associated with prolonged hospitalisation. Poor immune response and HAART related drug toxicities failed to remain significant in the final multi-variate logistic regression model.

HIV-INFECTED PATIENTS ADMITTED TO THE INTENSIVE CARE UNIT; OUTCOMES IN THE ERA OF HAART

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Between January 2001 and December 2003, 32 HIV-infected patients underwent 37 separate admissions to the Intensive Care Unit (ICU). St. Vincent's Hospital, Sydney. This represents 1.7% of all admissions during this period. Overall, 4 patients died in the ICU, 5 died during the hospital admission and 23 (72%) were discharged. Nineteen patients were alive 6 months after discharge, one patient had died and 3 were lost to follow-up. Thirty eight per cent of all admissions were HIV-related and 9% were male with a mean age of 45 years. The mean CD4 count was 191 (survivors) and 253 and non-survivors 79, p < 0.05) and the mean viral load 301,225 copies/ml. Forty nine per cent of patients were receiving anti-retroviral therapy. Ten patients had a previous AIDS defining illness and 23 patients had HIV infection of >5 years duration. The mean APACHE II score was 29, median 26, range 13-45. Six deaths were related to HIV, and 3 of 4 patients with Pneumocystis pneumonia who required mechanical ventilation died. HIV infection was diagnosed on admission to the ICU in 5 patients who died.

This is the first Australian study to look at the outcome of ICU admission for HIV-infected patients. Although less than half the patients were receiving HAART and the mean CD4 count and viral load suggested significant immunodefiency, overall, 87.5% of patients were alive on discharge from ICU and 72% left hospital, representing a significantly lower mortality rate than other published studies, and a comparable survival rate to HIV non-infected patients managed in the ICU during the same period. The APACHE II score loading for HIV infection may be inappropriate in view of the similar mortality to HIV-negative patients. HIV infection, regardless of the stage of the disease, should not alter a clinical decision to admit a patient to the ICU.
TO ROUTinely OFFer TESTING FOR HIV INFECTION IN ALL CASES OF TUBERCULOSIS: A RATIONAL POLICY OR A WASTE OF RESOURCES?

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Recent data suggests that HIV serostatus is known in only 27% of cases with Mycobacterium tuberculosis (MTB) disease in Australia. (CDM 2003; 27: 455) The prevalence of HIV infection was 3.9% in those tested, and at least 1% overall. The incidence of MTB infection is increasing in NSW with a younger population being diagnosed and an increasing proportion of extrapulmonary disease reported. (Int J Tuber Lung Dis 1996; 2: 567) The reason for this trend has not been defined. HIV infection is known to be associated with a higher rate of extrapulmonary MTB disease and HIV infects a young sexually active population. Tuberculosis is increasingly reported as an AIDS defining disease in Australia. (J AIDS 2002; 29: 388) In South Eastern Sydney, at least 16% of cases with MTB lymphadenitis have HIV co-infection. (Aust NZ J Med 1998; 28: 453) There are Australian data confirming that the incidence of MTB infection is markedly higher in the HIV seropositive population than the overall population.

The current National Strategic Plan for TB Control in Australia (March 2002) suggests that there is little overlap between the TB infected communities and the HIV community and makes no specific recommendations except to monitor the incidence of MTB infection in the HIV seropositive population. However, when these infections overlap there are significant clinical issues including a higher risk of disseminaton. MTB reactivation, re-infection with MTB and possibly accelerated HIV disease progression. The opportunity for HIV diagnosis and the attendant benefits also need consideration.

Some authorities recommend that clinicians “consider” HIV infection in every case of tuberculosis. Clinicians may interpret such advice in many ways. Should they test those with clinical clues of immunodeficiency, specific risk factors, severe MTB disease, or offer universal testing? The HIV Testing Policy (ANCHARD, IGCARD. 1998) recommends testing of those from a high prevalence country or those with signs or symptoms of HIV infection. Data from North America would suggest that clinicians are unable to accurately predict HIV infection in persons with MTB infection.

I will present an argument for a policy of universally offering testing for HIV infection in all cases of tuberculosis.

Concurrent Session– Nursing and Allied Health

‘REFRESH’ 2003: AN EVALUATION OF MAINSTREAM SUPPORT FOR A RETREAT FOR CARERS AND PEOPLE LIVING WITH HIV/AIDS

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This paper documents the process and outcomes of ‘refresh’, the first retreat for people living with HIV/AIDS (plpha) and their carers. This successful and innovative retreat was held in October 2003 for plpha and their respective carers from the Hunter and Central Coast regions.

This presentation will look at three themes: 1) utilising resources from a mainstream agency, 2) providing support to carers, and 3) positive outcomes for plpha.

This is the first time a mainstream agency, The Commonwealth Care Respite Centre (CCRC), in partnership with an HIV/AIDS non-government agency, Karumah, has funded a retreat for plpha. This is despite the fact that retreats have been a feature for many years in the landscape of service delivery for plpha.

The motivation for approaching mainstream agencies is based on both equity principles and the fact that they are providing services that HIV services do not provide. CCRC as the funding body, and the staff of the retreat, are looked at in terms of their ability and willingness to respond to the needs and circumstances of plpha. The ability to respond is most limited by CCRC’s definition of ‘carer’. The willingness to respond was most enhanced by the involvement of plpha in the training prior to the retreat.

Evaluations by plpha, carers and camp staff demonstrate the benefits of effective partnerships between HIV specific and mainstream agencies. Significant outcomes are highlighted including the formation of an ongoing HIV Carers Support Group.

SMOKING CESSATION PROGRAM AND HIV POSITIVE CLIENTS

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As antiretroviral (ARV) medications have a positive affect on life expectancy other health conditions may become important to the general health of the HIV positive person. ARV’s may have side effects, which may increase the risk of heart disease. Those who smoke tobacco products and are taking ARV’s may be at increased risk of this. The study aimed to ascertain smoking prevalence and behaviour, clients’ knowledge concerning smoking, whether smoking habits had changed in relation to HIV diagnosis and factors associated with participation in a smoking cessation program.

The program consisted of a questionnaire for current and ex-smokers. Successful recruits to program had an initial counselling session with a social worker. Each was given nicotine replacement therapy (NRT) for 8-12 weeks. The participants had a diary to note daily events and collected a weekly supply where they received support and monitoring for any side effects of NRT. On completion of NRT, follow-up consisted four sessions at six weekly intervals for six months.

53% stated smoking helped them cope with HIV and 46% stated that living with HIV had made it harder to give up smoking. Ex-smokers stated health and finances as reasons for relapsing. 14 clients did not complete the program. Of those 70% stated stress as the reason for relapsing. 27 enrolled in the smoking cessation program. 93% had been smoking for >10 years. 52% had tried to cease previously. Of those 70% stated stress as the reason for relapsing. 14 clients did not complete the program, 2 for unrelated medical conditions. Of the 13 that completed the program, 7 ceased smoking and 8 reduced their intake. By 6-month follow-up, 6 had ceased smoking, 3 had reduced intake and 4 had returned to previous levels of smoking behaviour.

Smoking behaviour is related to many issues. These issues need to be explored and support given to people with HIV/AIDS who are trying to cease smoking.

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Smoking behaviour is related to many issues. These issues need to be explored and support given to people with HIV/AIDS who are trying to cease smoking.
The aim of this study was to follow a cohort of HIV infected individuals for two years: to assess changes in neuropsychological performance, explore the relationship between depression, HIV and cognitive performance; to examine the influence of Highly Active Antiretroviral Therapy (HAART) on depression and neuropsychological performance.

HIV seroreactive outpatients were assessed at baseline (2001) and at two-year follow-up (2003/2004). At each assessment, participants completed the Beck Depression Inventory (BDI), Structured Clinical Interview-DSM-IV (SCID-CV), neuropsychological tests including the Hopkins HIV Dementia Scale (HDS) and Cambridge Automated Neuropsychological Test Battery (CANTAB). Details regarding illness progression, adherence and ‘at-risk’ behaviours were recorded.

Baseline results: 34.8% (45/129) scored ≥14 on the BDI (≥14 suggests depressive symptoms (DS)). The SCID-CV revealed 27% (35/129) of participants met the criteria for current mood disorder or current major depressive episode. Of those, 7% (9/129) of the participant’s scores on the HDS indicated HIV associated cognitive changes, a decrease in everyday thinking skills.

Follow-up results: 80 participants retested at two-year follow-up and were split into two groups based on BDI scores at baseline.

EVALUATION OF A PRIMARY CARE BASED NUTRITION SERVICE FOR PEOPLE LIVING WITH, OR AT INCREASED RISK OF HIV INFECTION

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Comprehensive nutrition services are accepted as an integral aspect of care for people living with HIV infection. A review of recent literature indicates that most published research in this area has assessed nutritional interventions using primarily clinical measurements (e.g. BMI, dietary intake. CD4 count) to evaluate their benefit and impact within a tertiary care setting. There appears to be limited published studies examining primary care-based utilisation of nutrition services for people living with HIV, or patient satisfaction with those nutrition services.

The purpose of this study was to evaluate patient utilisation and satisfaction with a primary care-based dietetic service provided as part of ‘The Care & Prevention Programme’ during 1998 - 2003. The programme provides a multidisciplinary, integrated primary health care service for people living with, or at increased risk of HIV infection in South Australia and is based centrally in a metropolitan general medical practice.

Individual consultations were offered to programme participants by a dietitian experienced in HIV medicine and men’s health. Case-note and database records collated the total number of participants’ visits, appointment length and reasons cited by participants for attendance. Follow-up 80 participants retested at two-year follow-up and were split into two groups based on BDI scores at baseline.

A NOVEL MEASURE OF COGNITIVE FUNCTION THAT IS SENSITIVE TO CD4 T-CELL COUNT IN HIV+ INDIVIDUALS

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There is need for sensitive tests that can detect early cognitive changes in medically asymptomatic HIV+ populations. More specifically, there is a need to identify subgroups within this population that may be at risk of progressing to HIV-related dementia (HIVD). The present study evaluated the efficacy of a novel, automated test (the Subtle Cognitive Impairment Test, SCTI) at differentiating HIV+ individuals at varying stages of the disease.

The first part of this study examined 53 HIV+ men with scores ranging from 16 (unimpaired) to 3 (impaired) on the HIV-Dementia Scale (HDS), and compared their performance on several measures of cognitive function (Grooved Pegboard, the CANTAB, and the SCTI). The second part of the study used the same tests to compare their performance as a function of disease stage and CD4+ T-cell count: asymptomatic T-Cell > 500/mL (n = 14), asymptomatic T-Cell < 500/mL (n = 16), symptomatic/AIDS T-Cell >500/mL (n = 10), symptomatic/AIDS T-Cell <500/mL (n = 16).

All measures were sensitive to HDS score (GDP dominant T(53) = -383, p = .05; GP nondominant T(53) = -468, p = .05; Simple RT T(53) = -.473, p = .01). However, the SCTI showed the highest correlation with performance on the HDS (T(53) = .527, p = .01). Further, the test was not significantly influenced by depression (T(53) = .106, p = .05). The second part of the study found that SCTI scores were highly sensitive to CD4 status (T(53) = -.439, p = .01). Performance was significantly better in the asymptomatic T-Cell > 500 group relative to those with T-Cells(500-522) = -.207, p = .05). Similarly, participants in the symptomatic/AIDS T-Cell > 500 group performed at a significantly higher level than symptomatic/AIDS T-Cells < 500 participants (T(24) = -2.185, p = .05).

The findings indicate that the SCTI is a sensitive measure of cognitive impairment in HIV infected people living with, or at increased risk of HIV infection. Further, it showed that the SCTI is highly sensitive to CD4 T-cell status. These data suggest that the SCTI may prove to be a useful clinical tool in discriminating HIV+ individuals who are at risk of progressing to HIVD.

Approximately 1/3 of participants in phase one and follow-up scored above the cut-off for symptoms of depression. CANTAB results revealed that 27% (35/129) of participants met the criteria for current mood disorder or current major depressive episode. Of those, 7% (9/129) of the participant’s scores on the HDS indicated HIV associated cognitive changes, a decrease in everyday thinking skills.

Follow-up results: 80 participants retested at two-year follow-up and were split into two groups based on BDI scores at baseline.

The presentation outlines all significant results including the important role that a dietitian has when working within primary care-based services for people living with, or at increased risk of HIV infection. The results also emphasise the importance of evaluating patient satisfaction to ensure best practice care.

THE VILLA

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2‘The Villa’ represents a unique partnership between health, housing and ADAPTH, a NSW statewide service for people with HIV and Complex Needs. ADAPTH has assumed responsibility for care and support whilst SWISH (South West Inner City Housing) has taken responsibility for the provision and maintenance of housing. In addition to the ADAPTH/PSWISH partnership, the project is made possible by a network of partners, including those with a number of other specialist HIV/AIDS agencies within the Central Sydney Area, other health and support teams, government as well as private agencies.

The Villa partnership is based on the principle that by providing adequate support, people living with HIV/AIDS who have cognitive impairment and complex needs are able to maintain secure accommodation. Through the range of partnerships an additional level of care in the continuity of HIV supported accommodation has been provided, as well as an increase in the overall HIV supported accommodation capacity.

This paper will describe the ADAPTH co-case management model used at The Villa to provide support to HIV positive people with complex needs in order to sustain long-term tenancy. Prior to tenancy at The Villa the residents have been seen as having unconventional lifestyles and have been unable to manage independently in the community. Some residents have spent considerable time living at ‘The Bridge’ where they received twenty-four hour care and support.

The partnerships used in this model of care aim to provide more flexible support specifically around individual need. Such partnerships working together to provide case management, brokered care, assessment of living skills and training as well as medical care have enabled the clients to maximise their independence. Assessment conducted with residents before and after involvement in this project shows that considerable improvement has occurred. Discussion of this assessment will form part of the presentation.

A case study was used to highlight one particular client’s journey from almost complete dependence in a hospital setting, through twenty four hour support at our residential facility, ‘The Bridge’, to his current situation of tailored support at The Villa as he moves towards his ultimate goal of living independently in the community.
HIV VACCINES: SAFETY CONSIDERATIONS AND NEUTRALISING ANTIBODY RESPONSES

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An optimal HIV vaccine would stimulate both high levels of HIV-specific T-cells and broadly neutralising antibody. CTL-based vaccines that express multiple HIV proteins blunt the viral load and the onset of pathogenesis but do not prevent infection. The expression of multiple HIV proteins and pseudoviral particles broadens the coverage of T-cell epitopes and efficient priming, but requires great attention to safety, because the antigens should not reconstitute an infectious virus or perform viral functions that are detrimental to the recipient. Vaccine design must include many changes that guarantee safety by inactivating key functions of the viral enzymes and sequence motifs. The approach taken and the tests performed to satisfy regulatory agencies of vaccine safety will be presented. While T-cell vaccines show great promise for reducing HIV disease after infection, antibody passive transfer experiments have shown that HIV neutralising antibodies (NAb) offer the only way to prevent infection. Despite the clear importance of NAb in protecting against HIV, progress in this area has been slow due to significant difficulties in identifying and delivering HIV Env immunogens that elicit broadly neutralising responses in small animal models, and the complex nature of the assays that measure NAb efficacy. This presentation will describe the progress made in this area with Env expression plasmids and Sindbis vectors. Constructs containing HIV-1 Env immunogens that may improve NAb responses were prepared from primary brain-derived HIV strains (UK1br15), high affinity CCR5 binder (1588s), and glycoevolution site mutants (ADAs). These Env are highly susceptible to neutralisation and may intrinsically expose neutralising epitopes that are normally only exposed after CD4 binding. Ablation of mouse vaccination studies we have developed a rapid neutralising antibody assay that uses GFP expressing reporter viruses that are pseudotyped with these and other prototypic Env.

SAFE AND PRELIMINARY IMMUNOGENICITY OF A B-SUBTYPE DNA PRIME/RECOMBINANT FOWLPOX VIRUS BOOST PROPHYLACTIC HIV VACCINE CANDIDATE: RESULTS OF A PHASE IIIA TRIAL

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This study aimed to assess the safety and preliminary immunogenicity of a prophylactic HIV vaccine consisting of a DNA (pHIS-HIV-B) prime/recombinant fowlpox (rFPV-HIV-B) boost in healthy volunteers at “low risk” of HIV infection. This is the first report of a multigenic DNA prime/rFPV boost strategy to induce T cell immunity to HIV.

This placebo controlled, double blind, single centre trial is currently ongoing in Sydney. pHIS-HIV-B contains 60% of the genomic material of HIV-1 NL(AD8), a subtype B variant, and includes mutated forms of gag, pol, env and tat and rev under the control of the CMV immediate early promoter as well as humanised Cpt2 motifs (Coley Pharmaceuticals Group). rFPV-HIV-B contains identical gag and pol inserts. Healthy individuals were screened for eligibility and defined as low risk by behavioural criteria. One mg of pHIS-HIV-B was administered at weeks 0 and 4 followed by boosting with 5 x107 plaque forming units (pfu) of rFPV-HIV-B at week 8 by intramuscular injection. Primary endpoints are safety and immunogenicity determined by interferon gamma ELISPOT assay at week 9 to a pool of overlapping 15mer peptides representing a prototypic subtype B Gag. Secondary endpoints include immunogenicity using lymphoproliferation, and interferon gamma and IL-2 production by intracellular cytokine assay to HIV antigens.

24 eligible individuals (15 male) were randomised to either active or matched placebo in a 3:1 ratio. Recruitment commenced in June 2003 and was successfully completed in February 2004. Final vaccinations were administered in April 2004. At the time of submission, immunogenicity and safety data were still blinded. However, the results of the immunogenicity as well as a formal analysis of the safety data to week 12 will be presented in full. Ongoing clinical review of volunteers reveals that the vaccine regimen is well tolerated; no serious adverse events were noted and local and systemic reactions were mild to moderate.

A novel DNA/rFPV prime/boost prophylactic HIV vaccine clinical trial has been successfully recruited and the vaccines appear well tolerated. A battery of immunologic assays have been performed and as the last subject reaches the primary endpoint in May 2004, results assessing immunogenicity will be available for presentation.
ESPRIT (EVALUATION OF SUBCUTANEOUS PROLEUKIN® IN A RANDOMISED INTERNATIONAL VOLUNTEER CD4+ T-CELL RESPONSES TO SUBCUTANEOUS (SC) RECOMBINANT INTERLEUKIN-2 (RII-2))


The term salvage therapy is an unfortunate one, raising images of wrecks on the seashore but I shall assume that this term means resistance to all of the three presently available classes of drugs. The scale of this problem is presently unclear. Although marketing experience suggests that large numbers of patients have been exposed to all three classes of drugs, resistance to these agents is somewhat less common and with the correct application of modern antiretroviral therapy may become less common in the future. Most of our patients with triple class resistance have in fact been given sub-optimum therapy in the past (all that was available at the time), or were poorly adherent to a variety of previous drug regimens. Equally in a survey in our Unit, the causes of deaths of our patients are not primarily related to virological failure and lack of treatment options but more to the development of tumours and patients presenting late who died before antiretroviral therapy can become effective.

Various treatment options for these patients will be discussed. There was a vague for structured treatment interruption and one study from France suggested that such an approach followed by multiple antiretroviral therapy may improve prognosis in terms of reductions in viral load. This study is counter-balanced by another study performed by the CPCRRA in earlier disease in which the outcome was significantly worse in terms of clinical progression and CD4 count levels as a result of therapy. This latter study was at a much earlier stage of disease with higher CD4 counts than the French study and many patients had variable further options that would have made therapy successful without structured treatment interruption. The current view would be that structured treatment interruption in an attempt to cure the virus to revert to wild type is not likely to have a major impact on disease therapy. The French study also utilised large numbers of drugs in an attempt to find a combination that would work with a view that, drugs, even though there is resistance to them, might have some effect on reducing viral load. Such an approach is the subject of a randomised controlled trial (OPTIMA) and while cohort studies have shown some benefit from such an approach, this is at the expense of unexpected pharmacological interactions, a high pill burden and considerable toxicity. There is good evidence, both from randomised trials and cohorts that staying on some form of therapy is better than discontinuing. A more minimalist approach would therefore be that sufficient drugs should be retained to try and keep the CD4 count as high as possible (the most important predictor of imminent death).

The fusion inhibitor T20 which is now licensed, and Tipranavir which is shortly to be licensed have been mainly used in a salvage situation although the optimum positioning of both drugs remains to be determined. When either of these agents are used as the only active component of a combination, the viral load drops are often short lived although the CD4 count may rise for a more prolonged period.

The belief of most clinicians and a post hoc analysis of the major studies performed with T20 (TORO 1 and 2) would suggest that these drugs would be better used in combination with other active agents and, therefore, the best standard of treatment in salvage is to prevent it from occurring by using agents more judiciously at an earlier stage of disease. A number of other agents including new nucleosides, new NNRTIs. Capavirine and TMC-125, and novel agents attacking either integrase or the process of interaction either between the CD4 receptor and GP120 or between CCR5 and GP 41 should also be licensed in the foreseeable future which gives further hope to people in this situation.

SILCAAT: CD4+ T-CELL RESPONSES TO SUBCUTANEOUS (SC) RECOMBINANT INTERLEUKIN-2 (RII-2) AFTER ONE YEAR

Cordwell B, Pett S L, Emery S, Collins G, Careys C, Courtney-Rogers D, Cooper DA on behalf of the SILCAAT study group.

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The recovery time from this complication is prolonged in the absence of other nephrotoxins or intercurrent factors. This study reveals that TRN is a significant complication to tenofovir therapy. In HIV-infected patients TRN may occur 13-52 days). Two patients never returned to baseline renal function. Median time to TRN was 10 months post tenofovir commencement. Mean rise in serum creatinine was 14% (range: 39% to 450%). Mean time to recovery of renal function after cessation of tenofovir was 29 days (range: 13-52 days). Two patients never returned to baseline renal function.

This study reveals that TRN is a significant complication to tenofovir therapy. In HIV-infected patients TRN may occur with or without Fanconi Syndrome. It is usually a delayed phenomenon and causes a prominent rise in serum creatinine in the absence of other nephrotoxins or intercurrent factors. The recovery time from this complication is prolonged and some individuals demonstrate irreversible renal dysfunction.

HIV drug resistance testing provides information of susceptibility to antiretrovirals. However it does not incorporate a measure of drug exposure. This may be of particular importance when using pharmacologically enhanced HIV protease inhibitor (PI) regimens. We assessed associations between 48 week clinical outcome and a range of covariates including normalised inhibitory quotient (NIQ). A cohort of 87 HIV infected individuals were assigned a new boosted PI regimen by physician choice depending on random allocation to genotypic or virtual phenotypic resistance test result (52% v 48%). PI therapy consisted of lopinavir, indinavir, saquinavir and amprenavir in 50%, 32%, 11% and 6% respectively. Fold Change (FC) in chosen PI was determined from resistance test at baseline with trough drug concentration (Cmin) determined at week 4. NIQ was derived individually by the logarithm ratio of Cmin/FC divided by the fixed ratio of population mean trough drug concentration/biological cut off. Viral load (VL) response over 48 weeks was correlated with baseline VL, FC, Cmin, NIQ, method of resistance testing and selected PI using regression modelling. Median baseline VL was 4.3 log. Median change in VL was 0.83 log at week 48. In multivariate analysis, baseline VL and NIQ were the parameters most associated with change in VL from baseline at week 48 (p=0.042 and 0.061 respectively). FC, Cmin, selected PI and method of resistance testing were not significantly associated with VL changes. When dividing NIQ into inter-quartile groups, percentage with undetectable VL (<400 copies/ml) at week 48 were 25%, 52%, 66% and 64% respectively (p=0.013).

In this cohort of highly treatment-experienced individuals treated with boosted PI regimens, baseline VL and NIQ were significantly predictive of virological response over 48 weeks whereas FC and Cmin were not. These prospective results support the use of a NIQ at week four, as a tool in predicting response to therapy in this setting.
MAPPING HIV CARE AND SUPPORT

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The reviews of the 4th National HIV/AIDS Strategy, and preliminary discussions about a 5th, have identified the care and support for positive people as a priority area. However, in a time when much attention is (understandably) turned to prevention, and in the light of recent treatment improvements, it might be tempting to justify a more limited role for a national and strategic approach to care and support.

This paper argues that the need for a co-ordinated, national approach to care and support is more urgent than ever. A national strategy can facilitate:

- adequately, nationally-endorsed models of care to ensure better co-ordination and/or co-location of health services;
- support for general practitioners and allied health care workers, so that they are able to care for increasingly complex clients in a way which is financially sustainable for both clinician and patient;
- strong stakeholder community organisations, such as those representing HIV positive people, to be involved in the development of programs of care, support and prevention.

A co-ordinated national attack is also needed on poverty, access to essential services like dental care, affordable housing, and returning to work. Mental health care remains an issue for many HIV positive people, with State-based services in areas such as dementia care still at or above capacity. Finally, a national strategy should ensure that national policy directions or changes are broadly consistent with the identified priorities and directions of the national HIV strategy.

The National Association of People Living with HIV/AIDS (NAPWA) has recently called for a ‘mapping exercise’ to identify current services for people with HIV, and ensure that services are adapting to changing needs. This paper argues that leadership in care and support practice, and ensuring that services are adapting to changing needs, is a challenge for a health system to deliver services that are responsive to the changes, particularly in a context of no growth in funding.

During 2003/04 NSW initiated two important steps to provide a basis for aligning the needs of PLWHA with service delivery. These involved a review of the AIDS-RDF and an assessment of the care and treatment needs of PLWHA.

Key directions identified as an outcome of the initiatives include a redistribution of funding allocated to some Areas, long increased focus by the health system on utilisation data in the ambulatory care setting and monitoring of services; support for general practitioners; strengthening of specific statewide services; articulation of models of care for delivery services; and strengthening of the care for PLWHA with complex needs including the integration and coordination of services and the development of a supported accommodation strategy.

While the findings of these projects provide guidance for the AIDS Program into the future there are various interests in the status quo being maintained. As a step towards progressing the recommended directions, NSW Health is initiating a range of strategies to strengthen key services. This paper discusses the strategies within the context of the AIDS-RDF review and the HIV/AIDS Care and Treatment Needs Assessment.

ALIGNING FUNDING WITH CHANGING SERVICE NEEDS

Wecty M1

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With PLWHA experiencing improved outcomes from treatment, the service needs of people with HIV infection now follow patterns similar to those of a chronic rather than an acute illness. In particular service demands are longer term and more commonly in ambulatory care settings including through general practitioners and other types of community support.

In NSW the funding of many AIDS specific services has a historical basis. While the introduction of a resource distribution formula (AIDS-RDF) and minimum service levels have promoted greater funding equity and better access to local services in the 17 Area Health Services across NSW, the recent shift in patterns of service needs makes it a challenge for a health system to deliver services that are responsive to the changes, particularly in a context of no growth in funding.

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DISCERNING HIV RELATED DISADVANTAGE 20 YEARS ON: IMPROVING COMMUNITY CARE TO MEET THE CHANGING NEEDS OF PEOPLE LIVING WITH HIV

Watts S1, Reil F1

Bobby Goldsmith Foundation, Sydney, NSW, Australia

HIV related disadvantage is experienced in a variety of ways by people with HIV and has changed over time. In particular, HAART has increased longevity and given many people living with HIV the capacity to consider greater participation in social, employment and education arenas. The experience of Bobby Goldsmith Foundation (BGF) in providing direct financial assistance over 20 years is briefly discussed, the changing needs of our clients living with HIV and the review of BGF, and its services is outlined, and its new service provision and support objectives to address HIV related disadvantage are described.

TRENDS IN THE UPTAKE AND USE OF COMBINATION ANTIRETROVIRAL THERAPY IN AUSTRALIA SINCE 1998

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National Centre in HIV Social Research, University of New South Wales, Sydney; Australia; National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, Sydney; Australia; Australian Research Centre in Sex, Health & Society, La Trobe University, Melbourne, Australia

To investigate the use and uptake of combination highly active antiretroviral therapy (HAART) in Australia since 1998.

Data were from four Australian studies: the cross-sectional Gay Community Periodic Surveys (GCPS) in Sydney, Melbourne, Perth, Adelaide, Canberra and Queensland; HIV Futures, a nationwide cross-sectional study of people living with HIV/AIDS (PLWHA); Positive Health (PH), a prospective longitudinal study of PLWHA living in NSW and Victoria; and the Australian HIV Observational Database (AHOD), a longitudinal study of PLWHA recruited from clinics in NSW, NT, SA, Qld, Vic, and WA. Combination HAART was defined as two or more antiretrovirals.

Trends in the use of combination HAART were analysed cross-sectionally. GCPS data showed a significant decline in the three largest cities: Sydney (72% in 1998 to 67% in 2003. Trend, p<.005), Melbourne (83% in 1998 to 56% in 2003. Trend, p<.001) and Brisbane (69% in 1998 to 55% in 2003. Trend, p<.001). Corroborating these findings, a significant decline in HAART was also observed amongst PH participants in NSW (78% in 1999 to 68% in 2003. Trend, p<.005) and Victoria (82% in 1999 to 59% in 2003. Trend, p<.005). No decline in use was evidenced in Perth and Adelaide GCPS data, or in the clinic-based AHOD sample. Longitudinal analysis, based only on the same PH participants at each data point, also provided evidence of a significant decline in HAART in NSW (83% in 1999 to 69%. Trend, p<.01) but not in Victoria (80% in 1999 to 74.3% in 2003).

To explore trends in uptake of combination HAART, data were analysed for participants who were newly recruited into PH at each round of data collection (largely representing newly infected/diagnosed). These results showed a significant decline in HAART in NSW (78% in 1999 to 67% in 2003. Trend, p<.005) and Victoria (82% in 1999 to 47% in 2003. Trend, p<.005).

The evidence is that in Australia there has been a significant decline in HAART use. This decline would appear to be attributable to PLWHA stopping treatment as well as to newly diagnosed PLWHA delaying the commencement of treatment.
CHALLENGES FOR DELIVERING COMMUNITY BASED HIV TREATMENTS PROGRAMS

Dave P1, Machon K1, Beadle B1

1National Association of People Living with HIV/AIDS (NAPWA), Sydney, NSW, Australia

HIV treatments maintenance is a well documented challenge to people living with HIV/AIDS. Managing side effects, the risk and/or development of toxicities, and the emergence of resistance to classes of drugs, can impact markedly on a person’s capacity to maintain these strict regimes, and potentially undermine their future personal and clinical management of HIV/AIDS. The challenges of how to also incorporate long term treatments into daily lifestyles, while avoiding disclosure of HIV status, have also been described and reported widely in the phila research.

In Australia, NAPWA has been involved in national treatments advocacy and information provision for many years, and coordinates the national community based HIV treatments networks. This presentation will describe the various mechanisms NAPWA uses to help inform the policy response to HIV health and treatments education programmes. We will also outline the various collaborations and partnerships that enable NAPWA to deliver timely and reliable HIV health and treatments information to its member organisations and constituents.

How to inform positive people about treatments options and debates in useful and engaging mediums is a challenge to the HIV sector, and complex information is absorbed in a population that has increasingly diverse and varied treatments experience and history.

Finally, this presentation will describe the various estimates of treatments uptake and extent of treatment breaks being utilised within phila populations in Australia, and suggest some of the possible interpretations of these trends and future projections. It will also suggest possible interventions and responses to address some of these challenges for delivering HIV treatments and health maintenance programs.

HIV DRUG SIDE EFFECTS – ONE POSITIVE VOICE

Duffin R1

1Australian Federation of AIDS Organisations, Sydney, NSW, Australia

A significant amount of the morbidity and mortality experienced by people with HIV infection is due to the long term side effects of the drugs used to treat HIV infection and to diseases such as cardiovascular disease that have multiple risk factors associated with them one of which is length of time of HIV treatment.

The personal experience of the potentially life threatening but rare side effect of lactic acidosis is described. Interviews of four other people with HIV who also had lactic acidosis and survived are described. Some common themes are drawn from these interviews that have broad implications for the ways in which many side effects are managed.

The paper then describes a national workshop of people with HIV and HIV-positive educators to discuss the changed experience of living with HIV, particularly the experience of morbidity associated with drug side effects.

A number of themes that emerged during the workshop are explored including health promotion and prevention programs for preventable diseases associated with HIV treatments, the changed service needs of people with HIV and the lack of positive voices to tell the diversity of the current stories of people living with AIDS.

The lack of positive voices to balance the perception of HIV disease in Australia as ‘mostly solved’ is a major concern of some people with HIV and it is the intention of this paper to be one of many voices needed to be heard.

SIMPLIFYING TESTING STRATEGIES FOR THE DIAGNOSIS OF HIV: TOWARDS A RE-EVALUATION

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1National Serology Reference Laboratory, Fitzroy, VIC, Australia

The World Health Organisation (WHO) in an effort to decrease the use of expensive confirmatory tests such as the western blot, suggested testing strategies employing the sequential use of one to three less costly tests. The strategic use of the tests depends on the purpose of testing and the prevalence of infection. In resource-poor countries the strategies have nominally been adopted but often without understanding of the logic behind their use and never with evaluation of their efficacy.

Evidence for misuse of the WHO strategies was found on field trips to several countries in South-east Asia and the Western Pacific and through the NRL’s External Quality Assessment Scheme (EQAS). Tests were employed without consistency because often the same tests are not supplied to individual laboratories or are purchased by non-technical departments on the basis of cost. Data reported in the EQAS were reviewed to determine if the incorrect assignment of sero-status was as a consequence of laboratories not following WHO testing strategies.

The results reported from six anti-HIV panels tested between 2001 and 2003 were reviewed. During this period a total of 77 laboratories tested panels using 52 anti-HIV assays. Eighty-two percent of laboratories used between one and three assays, as recommended by WHO, to test the panels. However, 14% used four assays, 3% used five assays, 1% used six assays and 0.2% used seven assays to test the panels.

Laboratories reported 8022 test interpretations for individual assays of which 79 were incorrect (average error rate for the six panels was 0.98%). Forty-two (53%) of the 79 incorrect test interpretations resulted in an incorrect sero-status being assigned. Eighteen of the 42 incorrect sero-status were due to laboratories not following their testing strategies (11/42 due to laboratories testing samples on an immunoblot that were negative on a screening assay and 7/42 due to laboratories not testing further samples that were initially reactive).

More evidence is required to place the use of WHO strategies on an evidence base. Where strict testing strategies are not followed errors are likely. Errors in EQAS are now few so that data to support the argument are sparse and further analyses are necessary.

RATES OF SHORT-TERM CLINICAL PROGRESSION IN THE TREAT ASIA HIV OBSERVATIONAL DATABASE

Kumarasamy N1, Zhou J1 on behalf of the Australian HIV Observational Database

1YRG Centre for AIDS Research and Education (division of Y.R. Gaitonde Medical and Research Foundation), Voluntary Health Services, Taramani, Chennai, India; National Centre in HIV Epidemiology and Clinical Research, the University of New South Wales, Sydney, NSW, Australia

Rates of disease progression in HIV disease in terms of overall and AIDS-free survival are well described in western populations. However, these aspects of HIV disease are less well described in Asian populations.

Data from the TREAT Asia HIV Observational Database, a prospective, multicentre cohort study involving 11 sites in the Asia-Pacific Region, were analysed to estimate short-term survival and rates of newly diagnosed AIDS in treated and untreated patients. Endpoints were defined as the time from study entry to diagnosis with AIDS or death. Treatment was fitted in the Cox proportional hazards model as a time-dependent variable. Two Cox models, with and without baseline CD4 count and HIV viral load measurement, were developed to assess the predictors of progression to AIDS or death.

1689 patients were included with baseline data and at least one appropriate follow-up visit. Median follow-up was 4.6 years. During a total of 426.8 person-years of follow-up, 43 patients were diagnosed with AIDS or died, giving an overall rate of 10 per 100 person years (95% confidence interval, CI, 7.5-15.6). In univariate analysis, rate of progression to AIDS and death was 8.0 per 100 person years among patients on antiretroviral treatment, compared with 18.2 per 100 person years among patients not on treatment (p=0.017). Baseline CD4 count, baseline CDC classification of HIV infection and hepatitis C status were the significant predictors of progression to AIDS and death in the full model. However, when excluding baseline CD4 and HIV viral load from the model, being on antiretroviral treatment and baseline haemoglobin level were significant predictors.

As seen in western countries, baseline CD4 was the most important factor in determining patient’s short-term risk of disease progression. Data on prognostic markers will become more important for optimal treatment and care as antiretroviral treatment becomes more widespread among Asian populations.
Increasing Awareness of Cognitive Impairments in Emerging Epidemics

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In emerging epidemics, issues of cognitive impairment have received limited attention despite estimates that at least 2.6 million PLWHA in the Asia-Pacific region live with or will live with at least one neurological complication. Health care workers (HCWs) in these settings report being unable to identify HIV-associated cognitive impairment due to widespread lack of recognition of central nervous system involvement and that symptoms are often wrongly ascribed to, or masked by, other health issues.

This paper will detail how a workshop currently being piloted in PNG is, amongst other things, seeking to increase HCWs' understanding of HIV-associated cognitive impairments. Awareness is being addressed in two distinct but related ways: clinical care and care & support.

The clinical care component of the workshop focuses on the identification of a range of symptoms associated with cerebral involvement. Participants develop familiarity and competence in using an international diagnostic tool for HIV dementia. Care and support aspects of the workshop involve participants considering the impacts of cognitive impairments on the range of people involved.

The methodology of the workshop is interactive, working on a capacity building approach, requires participants to develop care and support plans appropriate to the range of people involved.

The data presented here identify key factors influencing male support of and participation in VCT in the context of PMTCT in Tanzania. Male support of voluntary counselling and testing (VCT) is central to the uptake and success of VCT in the prevention of mother-to-child transmission (PMTCT) of HIV. Such support and participation is essential to garnering community support for VCT and for understanding the stigma and discrimination associated with HIV testing.

Interviews were conducted with key informants (n=7) and male community members (n=23) to explore the men’s understandings of and attitudes towards VCT and PMTCT. Both single and married men were interviewed in a face-to-face setting, the interviews taped and transcribed and the qualitative narrative data analysed using Grounded Theory methodology.

The data indicate that VCT has positive as well as negative outcomes. Male attitudes towards their female partners, who test positive, ranged from compassionate to hostile. For many of the male participants, women were positioned as the carriers of disease. Masculine strength was associated with being negative, however many men actively avoided testing. Stigma and discrimination, and associated issues of visibility and confidentiality, are key to the success of VCT.

Unless public health practitioners engage with the cultural and social worlds which their potential patient populations inhabit, VCT will continue to have an uneven impact on PMTCT.

The results reported from six anti-HIV panels tested between 2001 and 2003 were analysed to calculate error rates. An error rate was defined as the number of incorrect test interpretations reported expressed as a ratio of the total interpretations reported. Possible causes of errors were investigated.

Between 2001 and 2003, 8022 test interpretations were reported by a total of 77 laboratories using 52 anti-HIV assays. The average error rate for the six panels was 0.95% (range 0.68-1.61%). Seventy-three percent of the errors appeared to be due to technical difficulties that occurred during the testing process. Twenty percent of errors were due to laboratories not following their testing strategies. Six percent of errors were transcription errors. Error rates were comparable for HCV testing. Error rates between 2001 and 2003 were less than for panels distributed previously.

Errors in HIV and HCV testing still occur for both negative and positive samples. Technical errors are most common.

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ORAL PRESENTATION ABSTRACTS
FRIDAY 3 SEPTEMBER 2004
SECONDARY SYPHILIS PRESENTING AS TONSILLITIS IN THREE INDIVIDUALS

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Recent increases in syphilis notifications have been observed in men who have sex with men (MSM) in several Western countries including Australia.

We describe three MSM presenting with severe tonsillitis. One patient had bilateral irregular ulcerated tonsils and regional lymphadenopathy. The second patient, who presented with unilateral tonsillar enlargement and an enlarged cervical lymph node, had findings suggestive of lymphoma and underwent tonsillectomy. The third patient presented with sore throat and bilateral tonsillar hypertrophy. The first two men were HIV infected (CD4 cell count 414 and 390 mm$^3$ respectively). All three patients had high Rapid Plasma Reagin (RPR) titres and positive syphilis EIA antibodies consistent with secondary syphilis. Spirochaetes resembling Treponema Pallidum were visualised by dark ground microscopy of a throat swab from one individual.

Secondary syphilis of the tonsils is a rare manifestation of syphilis, particularly in the absence of other typical features. These cases illustrate the importance of considering the diagnosis of syphilis in high risk individuals presenting with refractory tonsillitis or tonsillar enlargement.

FINDING THE INDEX CASE – THE CHALLENGES OF HIV RISK MANAGEMENT IN CLINICAL PRACTICE

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The latest Human Immunodeficiency Virus (HIV) antibody and antigen screening tests that are widely used in clinical practice today have improved our ability to detect early HIV infection.

When a new diagnosis of HIV infection is made our duty of care towards, and the rights and responsibilities of, the client concerned may in some cases come into conflict with our duty of care towards, and the rights and responsibilities of, another client or involved person or society at large.

In this case presentation, the challenges and complexities of HIV index case tracing and risk management will be described with emphasis on the ethical, legal and public health issues involved.
A 40-year-old male with known HIV/AIDS infection for 19 years was admitted to hospital for management of chronic pain. His CD4 count was 212/μL and viral load 300 copies/mL. He had ceased all medications including highly active anti-retroviral therapy several days prior to admission. His past medical history includes oesophageal candidiasis, cryptococcal meningitis, HIV wasting syndrome, mycobacteriosis, Kaposis sarcoma, peritoneal carcinomatosis, chronic pain and associated opioid dependency. He had no history of hypertension and was not hypertensive on presentation. Five days after admission he experienced a generalised tonic-clonic seizure with post ictal cortical blindness and vomiting, lasting less than 24 hours. There were no other focal neurological findings.

A non-contrast CT scan demonstrated multifocal low attenuation in a subcortical distribution bilaterally. An MRI performed one day after the seizure revealed bilateral occipital and cerebellar white matter T2 hyperintensity. These appearances were consistent with PRES. The patient’s neurological symptoms resolved spontaneously and the MRI lesions on a follow up study performed two weeks following the seizure demonstrated total resolution.

PRES is a cliniconeuroradiologic entity most commonly described in association with hypertensive encephalopathy, eclampsia, uraemic encephalopathies and immunosuppressive agents. Patients have an acute or subacute presentation typically characterised by headache, nausea, vomiting, decreased consciousness, altered mental status, seizures or visual loss, including cortical blindness. Subacute presentation typically characterised by headache, nausea, vomiting, decreased consciousness, altered mental status, seizures or visual loss, including cortical blindness. These findings usually resolve on follow up studies after appropriate therapy. The pathophysiology is controversial and poorly understood. Two diametrically opposed theories exist, one pertaining to brain hyperperfusion and the other to reversible vasospasm and associated cytotoxic oedema.

Only one case of PRES has been described in an HIV-infected patient and was thought to be secondary to reversible vasospasm and associated cytotoxic oedema.

A 37-year-old man with HIV (CD4 count 331 cells/μL, HIV viral load 8,600 copies/mL) and HCV presented with a 24-hour history of diffuse arthralgia and rash over his limbs and trunk. His stable antiretroviral regimen included didanosine, tenofovir, didanosine and abacavir. Relevant history included depression, alcohol and intravenous drug use and epilepsy. Examination demonstrated palpable purpura. Skin biopsy revealed leukocytoclastic vasculitis. Serum cryoglobulins, cryofibrinogen and autoantibodies were negative. Blood, urine cultures and sexually transmitted infection screens were negative.

Subsequently the patient developed testicular pain, synovitis, myalgia and abdominal pain. Mesenteric angiogram revealed changes consistent with vasculitis. High-dose steroids were given with minimal benefit and caused diabetes and delirium. Antiretroviral therapy was ceased. A new regimen was later instituted, achieving undetectable HIV viral load. The patient developed significant proteinuria and plasma exchange was commenced with rapid improvement in rash and abdominal pain. Repeat skin biopsy showed small and medium vessel vasculitis with IgA deposition consistent with polyarteritis nodosa (PAN). A renal biopsy demonstrated diffuse crescentic glomerulonephritis with features of IgA nephropathy. The patient improved and was discharged on a ongoing course of prednisolone.

Four months later the patient presented with rash and arthralgia. Plasma exchange was instituted immediately and the rash improved rapidly. The patient was discharged well after 6 exchanges; however, he promptly relapsed and was treated with high-dose steroids with incomplete response. Pegylated interferon and ribavirin therapy was commenced to effect control of HCV and probable HCV immune-complex related PAN. This therapy was well tolerated and achieved full HCV virological response. The patient has not had further episodes of vasculitis despite cessation of plasma exchange and steroids.

This is an unusual case of cryoglobulin-negative, small and medium vessel vasculitis likely related to HCV liver disease and immune complex deposition. This case highlights the complexity of diagnosis and management of HIV/HCV co-infected individuals.
Symposium – Clinical Medicine  
– HAART (Undetectable)

**UNDETECTABLE – BUT HOW LONG WILL IT LAST?**

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While an undetectable HIV RNA level is one important goal of antiretroviral therapy, several questions remain even after achieving this goal. These include:

1. How long will the undetectable viral load last?
2. What are the best predictors of a sustained response?
3. Is there evolution of resistance even with apparently “suppressed” viral replication?
4. What significance, if any, is there to low-level intermittent viremia (“blips”)?
5. Should we be using assays that measure virus below 50 copies/mL?
6. Given a long-term undetectable viral load, what is the expected CD4 response?

The purpose of this review is to try and answer these commonly asked questions based on the latest clinical studies.

**UNDETECTABLE: BUT WHAT ABOUT MY IMMUNE SYSTEM?**

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Achievement of undetectable HIV replication following the introduction of combination antiretroviral therapy is most often but not invariably associated with reconstitution of immune competence, most reliably measured by the recovery in CD4+ T cell numbers and reductions in the risk opportunistic infections. This is one of the great therapeutic achievements in modern medicine. Reversal of the pathogenic HIV-induced chronic immune activation, particularly involving effector-memory CD4+ T cells is essential to immune recovery. Immune reconstitution illness and immune-mediated inflammatory pathologies are potential dangers of this process, including the potentially fatal unmasking of opportunistic infections such as herpesviruses and mycobacteria. Although measurement of CD4+ T cell numbers correlates well with immune status, the CD4+ T cell is not a single functional entity. Complete healing of the immune system would require sustainable reconstitution of a diverse repertoire of antigenic specificities; functional lymphoid microarchitecture; balanced naïve, effector and memory populations; balanced Th1, Th2 and regulatory populations; restored cell traffic and activation synapses. Surprisingly little is known about many of these aspects of immune function in the age of ARV therapy, although returning prognosis towards that of the uninfected population is likely to depend on them. Unfortunately, persistent markers of immune dysfunction are demonstrable even in patients with CD4+ T cell numbers that have been restored to normal levels. Furthermore, 61% of ARV-treated subjects fail to reach a normal CD4+ T cell count at 4 years (the Swiss Co-hort). Age, residual thymic function, replicative senescence, ongoing immune activation, and failure to modulate rates of lymphocyte apoptosis all appear to be factors. Strategies to manage immunological non-responders who experience poor CD4+ T cell recoveries despite virological control will need to be enhanced – options might include cytokine therapies such as interferon (IFN) -2 and IL-7. Despite the impressive recent advances in HIV management, immune deficiency and immune dysfunction will continue to concern clinical practitioners and their patients for some time to come.
HIV CAPTURE AND TRANSMISSION BY DENDRITIC CELLS

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Dendritic cells (DCs) have a number of roles in HIV pathogenesis, including HIV uptake, infection and transport to lymphoid tissue where they stimulate explosive HIV replication in CD4+ T cells. R5 strains of HIV-1 virus predominate in the early period of infection and there are many theories why. One is that R5 viruses are preferentially transmitted as a result of the repertoire of HIV coreceptor expression at mucosal sites, where the majority of new infections occur. The high number of CCR5+ target cells at these sites act as ‘gatekeepers’ selectively transmitting R5 virus strains. Here we add to this model by demonstrating that the type of transfer is involved in HIV-1 strain selection.

We have recently shown that following binding to C type lectin receptors, HIV is internalised into the endolysosomal pathway. We have recently shown that following binding to C type lectin receptors, HIV is internalised into the endolysosomal pathway where it can be transferred to CD4+ T cells in two phases of transfer: trans and cis (the latter requiring infection of the DCs and de novo virus production).

Pre-treatment of the DCs with lysosomotropic drugs, those that neutralise the endosome, greatly enhances DC infectivity and HIV transfer. Viral escape from this compartment and the subsequent infection of DCs requires viral binding to CD4 and a coreceptor. Immature monocyte derived DCs (MDDCs) were pre-treated +/- Bafilomycin A, pulsed with high titre HIV-1Bal or HIV-1NL4-3 and activated CD4+ T cells (MDDCs) were pre-treated +/- Bafilomycin A prior to infection with X4 did not result in MDDC infection. The X4 virus remains trapped within the endosome and is degraded not transferred. We conclude that this is a result of CXCR4 availability and not a difference in viral processing, as pre-treatment of the MDDC with bafilomycin A prior to infection with X4 did not result in MDDC infection. The X4 virus remains trapped within the endosome and is degraded not transferred.

This study demonstrates a strong correlation between enhanced antibody response and a low but detectable viral load. One individual with a consistently undetectable viral load has not yet fully seroconverted, whereas those members with detectable viral loads (>10,000 RNA copies/ml) displayed unusually strong IgG responses to all HIV-1 proteins, comparable to the strong response observed after primary HIV-1 infection. Both early and late sera from these patients potently inhibited the replication of heterologous and contemporaneous cohort viruses, compared with control HIV-1 positive sera. Additionally, we are examining the full spectra of HIV-1 neutralisation by SBBC sera by investigating cross-clade neutralisation and the role of complement. These results indicate that infection with nef-attenuated HIV-1 can potentiate a strong neutralising antibody response, dependent upon the presence of detectable HIV-1 antigen to drive antibody production.
Many vaccines for HIV are currently being tested in primate models of infection. These are aimed at inducing T cell and/or antibody responses to the virus. Trials using DNA and viral vectors to induce potent CD8 T cell responses have shown significant success in controlling long term viral loads and preventing disease progression. However, CD8 T cells do not appear to mediate sterilizing immunity to infection. We have analysed the results of a DNA vaccine trial in macaques in order to investigate the viral-immune dynamics underlying this failure to prevent acute infection. We find that viral kinetics do not differ between control and vaccinated monkeys prior to day 10 after challenge. The number of virus specific CD8 T cells also does not appear to increase significantly prior to day 10, and at this time is only increased 1.5 fold compared with the level prior to vaccination. From day 10 onwards, virus-specific CD8 T cell increase in number, and viral growth is significantly slowed in vaccinated animals. However, the initial 10 day delay in immune control allows time for the establishment of viral latency and persistent infection prior to immune activation.

By contrast, passive antibody administration is capable of mediating sterilizing immunity in many animals. In addition, antibody treated animals that become infected show improved outcomes compared with control animals. Analysis of viral kinetics demonstrates that antibody treated animals exhibit lower viral loads from the earliest timepoint after infection (day 7).

Thus, whereas CD8 T cells appear to act too late to control the establishment of chronic infection, antibody acts early. An understanding of the kinetics of immune control by CD8 T cells and antibodies has important implications for the rational design of vaccines for HIV.

The effect of IL-7 on cellular expression of IL-7R components remains unknown. We hypothesise that expression of IL-7R components is dysregulated secondarily to elevated IL-7.

Healthy volunteers (n=8) and patients with primary (PHI; n=9) and chronic (CH; n=9) HIV-1 infection were studied at baseline and following 10 months of ART. PBMC isolated from healthy volunteers were cultured with rIL-7 (50 ng/ml) for 7 days. Protein synthesis was inhibited using cycloheximide (50 μM). Plasma IL-7 levels were determined by ELISA. Cell-surface CD127, CD132, and intracellular Ki-67 expression were determined by flow-cytometry. Differences between groups were analysed using the Mann-Whitney test.

PHI patients displayed a trend towards elevated baseline IL-7 levels that normalized following ART. Plasma IL-7 levels were significantly elevated in CHI and remained elevated following ART. There was decreased CD127 expression on naive and memory CD4+ T-cells during CHI but not PHI. Plasma IL-7 levels inversely correlated with CD4+127+ populations and positively correlated to CD4+127- populations over-expressed cell-cycle protein Ki-67 in PHI and CH. Ki-67 over-expression was restricted to memory CD4+ T-cells except in CH following ART, where both CD4+127+ and CD4+127- populations proliferated.

Exogenous IL-7 down-regulated surface CD127 but not CD132 in a dose-dependent manner in vitro. CD127 down-regulation was reversible after removal of IL-7 and relied on de novo protein synthesis. CD127 turned-over on the quiescent cell-surface.

HIV-1 infection induces progressive elevation of plasma IL-7 and reduction of CD127 expression. CD4+ T-cell subsets undergo both antigen and homeostatic driven proliferation. In vivo, IL-7 down-regulates CD127 in a dose-dependent, post-transcriptional manner. Dysregulation of the IL-7R system may impact on the quality of immune reconstitution.

**Antibody responses in HIV-1 LTNP/LTS:**

Unexpected responses to viral antigens in HIV-1 LTNP/LTS are mainly associated with delayed progression. Lack of disease progression can be due to mutations in genes encoded by the virus or the host, primarily of gene deletions and CCR5 co-receptor mutations (COC5-A32), respectively.

We have developed an Elisa to determine accurately the presence of reactivity to p24 by IgG, permitting an established infection to be readily distinguished from acute infection. Preliminary data suggest that some LTNP antibody responses mimic profiles normally seen during senescence and this may be a contributing factor to or surrogate marker for lack of disease progression.

We have now assembled a diverse selection of LTNP/LTS from multiple cohorts, many with known viral or host defects associated with delayed progression. The aim of this study was to determine the antibody response to viral antigens focusing on total IgG and IgG antibodies and comparing this with samples from progressors and AIDS patients. Detection of antibody responses was by western blot to all HIV-1 antigens and ELISA to specific viral proteins p24, gp120 and gp41.

Overall immune responses to the viral antigens were broader and consistently stronger with LTNP/LTS in comparison to progressors and AIDS patients. Responses were more varied in individuals with a known viral attenuation, ranging from an intense broad-based response through to detection of only two viral proteins. More specific analysis of IgG responses revealed a lack of consistent detection of p24 antibodies. Despite this there was an unexpected IgG response to gp120 in several subjects. These unusual responses may reflect the possible presence of protective antibodies. Previously published data has indicated superior neutralization by IgG antibodies compared to other IgG isotypes. This unusual finding parallels that seen for senconververs possibly because of the retention of functional helper T cells in LTNP/LTS enabling the prolonged IgG, resulting in intense total IgG response and IgG responses to multiple HIV-1 antigens, including gp41 and gp120.
THE QUEENSLAND HIV NURSING PRACTICE COURSE: RESPONDING TO HIV NURSING EDUCATION IN 2004

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The Education offered to nurses in Queensland by the HIV & HCV Education Projects covers three courses. Firstly, the ‘Education Course in HIV Medicine’ is offered twice a year across the state; secondly the advanced course titled “The HIV Nursing Practice Course” is offered once a year and is open to those nurses who have completed initial training. Finally, the third component comprises yearly updates for nurses who are working in the field.

The HIV Nursing Practice Course has now been conducted in Queensland 9 times since August 1998 with a total attendance of 164. In both 2003 and 2004 the program of this two day weekend course was updated substantially and reflects the changing education needs of nurses working in HIV medicine. This presentation explores these changes and opens a discussion of the emerging education needs of nurses working in this area.

Areas of emerging need that have been added to the HIV Nursing Practice Course include: issues for women; paediatric HIV management; pregnancy; sex and sexuality; and motivational interviewing. Additionally, each time the course has been redrafted more time has been allocated to discussion of the role of the nurse in assistance with management of drug regimens. This has included discussion of adherence; Post Exposure Prophylaxis (occupational and non occupational); management of side effects; information on current trials; and management of use of complementary therapies.

Finally, an examination of the topics utilised in case discussions over time reflect the continuing and emerging difficult and complex scenarios presented by a subset of the population with HIV.

This presentation will begin with a summary of the history of the HIV Nursing Practice Course, move through the content presented in the course over time and emerge into a reflection of these changes as identifiers for trends in nurse management issues in HIV medicine.

CLIENTS’ SATISFACTION WITH HIV PRE-TEST COUNSELLING APPEARS RELATED TO PREVIOUS EXPERIENCES OF TESTING AND RISK LEVEL

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This study investigated client satisfaction with HIV pre-test counselling in clients attending a HIV specialist clinic, the Albion Street Centre (ASC) for HIV testing. 49 (44 male and 5 female) clients rated their experience of pre-test counselling using a validated satisfaction scale relating to HIV counselling issues (the Albion Centre Scale, ACS) and a specifically developed satisfaction scale relating to pre-test counselling issues (PCS). Psychologists performed all pre-test counselling and rated the level of HIV risk taken by clients.

65% of the clients had received pre-test counselling before and 71% of those had tested previously at ASC. 90% were booked appointments, with 10% presenting for intake and/or Post Exposure Prophylaxis (PEP).

Overall clients rated their experience of the pre-test counselling service as highly satisfactory (84% ACS, 85% PCS). Clients who had not previously experienced HIV pre-test counselling found pre-test counselling more satisfying overall than those who had previous experience of pre-test counselling and this was significant on the PCS (p<0.01).

Of the 49 participants 36.7% were rated as having had a high to very high risk, 18.4% a medium risk, and 34.8% a low risk to very low risk. Interestingly, clients presenting with risks rated as medium to high indicated that they found the information pertaining to pre-test counselling, as measured by the PCS, significantly more satisfactory than those who attended with risks rated as low (p<0.01).

Findings suggest that HIV pre-test counselling is viewed as informative, helpful to mood and behaviour change, and generally a positive experience for clients who continue to test at services which they are aware provide formal pre-test counselling. The experience was rated as even more satisfactory by those who have not previously experienced pre-test counselling. This may be associated with these clients not having been tested before but this information was not collected. The recent debate regarding the usefulness of pre-test counselling appears to ignore the client’s perspective. In considering the process and benefits of pre-test counselling the client’s perspective should be taken into account. This study suggests that the majority of clients surveyed for this study experience pre-test counselling as beneficial and satisfying.

THE DOMINO EFFECT: THE COMPLEXITIES OF CARING FOR PATIENTS WITH HIV/AIDS IN 2004

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While the management of advanced HIV disease has never been “simple”, anecdotal reports of increasingly complex clinical and nursing management scenarios appear to be becoming more frequent. A person presents with a seemingly straightforward diagnosis and commences on a course of treatment, however, somewhere along the line, the dominos start to fall, the client is barely recovering from one issue when another one appears and compounds their already impaired health state.

Our presentation includes just such a case. We follow their trajectory of all health and interventions including acute admission, palliative respite, ICU admission and ultimately their death, which occurred in a somewhat unexpected sequence.

This case study is an initial step in a process of further investigating and understanding the complexities of care in advanced HIV disease, and how best to provide nursing support to clients in this phase of their illness.

THE EXPERIENCE OF FATIGUE AND STRATEGIES FOR SELF-MANAGEMENT AMONG COMMUNITY-DWELLING PERSONS LIVING WITH HIV

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Royal District Nursing Service of SA Inc (RDNS) Clinical Nurse Consultants (CNCs) drew attention to the problem of fatigue experienced by their clients living with HIV. These CNCs, supported by the literature, suggested that fatigue was one of the most prevalent, yet under-reported, under-recognised and under-treated aspects of living with HIV. This research project responded to the questions raised by clinicians. The objectives for this project were to understand the experience of HIV-associated fatigue and to describe the strategies for self-management of fatigue that HIV-positive people use in the context of daily life. Recruitment was conducted for adults who had been diagnosed with HIV for at least twelve months and who perceived that fatigue was a problem in their lives.

This inquiry was conducted by the RDNS Research Unit in 2003/2004. Data were generated from three sources: 1) In-depth interviews with 13 participants and observational notes; 2) Two Participatory Action Research (PAR) mixed gender groups (contact time 5 hours); and 3) A single page self-report questionnaire.

In collaboration with participants, we explored self-management strategies and identified the catalysts and constraints to self-management of their condition. The project was funded by a grant from the AIDS Trust of Australia and the South Australian Department of Human Services. The research report can be located on www.rdns.net.au (under research reports).
COMBINING ADHERENCE MONITORING WITH PATIENT EDUCATION IN THE ROYAL PERTH HOSPITAL IMMUNOLOGY OUTPATIENT CLINIC

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At Royal Perth Hospital we conceptualize a model of adherence support that considers the adaptive and dynamic nature of adherence behaviour in the current clinical context. Our 2002-2003 survey of adherence showed that 25% of patients reported never missing medication. We wished to feedback results of the survey to the patients and reinforce good adherence behaviours whilst continuing to monitor missed doses.

The monitoring ‘tool’, is an A4 sheet. On one side is information regarding issues related to HIV treatment, this changes –3 monthly. On the other is a table that does not alter, which allows the patient to identify the number of doses they have missed in the last month. The physician asks the patient for an estimate of tablets missed. This allows for a discussion of how the patient is managing with their medication. The doctor records a percent score of medication taken in the last month. To determine the usefulness of this practice we correlated the scores with viral load, CD4 count, and mean cell volume (MCV).

Medication scores were obtained from 381 individuals (mean number per person = 2.5), over a one year period. A total of 180 patients (47%) achieved scores of 100%, for all visits. Scores were highly correlated with viral load (p < 0.0001) and, amongst those on at least 6 months of therapy, 76% of individuals with a score reflecting 100% adherence maintained plasma HIV RNA levels below 50 copies/ml. The proportion with undetectable viral load levels was reduced to 25% amongst those with average scores below 85%. Higher medication scores were associated with improved immunologic response as measured by the rate of increase in CD4+ T cell count (p = 0.003) and %CD4+ T cells (p = 0.03). To assess the correlation of these scores with an independent measure of adherence, values of MCV were obtained from those individuals on at least 6 months of AZT or d4T therapy. MCV was found to be consistently higher in those with higher scores (p = 0.01).

This simple monitoring tool appears to provide a useful measure of adherence that is associated with both virological and immunological response to therapy.

CONCURRENT SESSION – EPIDEMIOLOGY OF NEW INFECTIONS

TRENDS IN NEWLY ACQUIRED AND NEWLY DIAGNOSED HIV INFECTION IN AUSTRALIA, 1994 – 2003

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The potential for an increase in HIV transmission in Australia has recently been suggested following reports of increases in unsafe sexual contact, new diagnoses of sexually transmissible infections other than HIV and the annual number of new HIV diagnoses. We report the pattern of HIV transmission in Australia, based on the results of national surveillance for newly diagnosed HIV infection.

Cases of newly diagnosed HIV infection were notified through State/Territory health authorities to the National HIV Database. Information sought on each case included the State/Territory of first HIV diagnosis in Australia, the date of HIV diagnosis, exposure to HIV and evidence of the recency of infection. Cases with a negative test or a diagnosis of HIV seroconversion illness within the 12 months prior to HIV diagnosis were defined as cases of newly acquired HIV infection. Trends over time were tested by negative binomial regression.

In 1994 – 1998 and 1999 – 2003, a total of 4,442 and 3,914 cases of newly diagnosed HIV infection, respectively, were notified to the National HIV Database. The annual number of new HIV diagnoses declined significantly from 1,023 in 1994 to 757 in 1998 (p<0.0001) and then increased from 717 in 1999 to 848 in 2003 (p=0.0001). Diagnoses of newly acquired HIV infection increased from 911 in 1994 – 1998 to 1,096 in 1999 – 2003. In 1994 – 1998, the number of diagnoses of newly acquired HIV infection declined from 214 to 151 (p=0.0001) and then increased from 171 in 1999 to 277 in 2003 (p=0.0001). Median age at diagnosis of newly acquired HIV infection increased from 29 years in 1994 to 30 years in 1998 (p=0.029) and from 32 years in 1999 to 33 years in 2003 (p=0.19). Exposure to HIV for the majority of cases of newly acquired HIV infection was attributed to a history of male homosexual contact (87.3%), a history of injecting drug use (17.2%), heterosexual contact or an undetermined exposure history was reported in 2.6%, 7.8% and 2.3% of cases.

National HIV surveillance suggests a recent increase in HIV transmission in Australia and indicates that efforts to minimize HIV transmission need to be strengthened.

New diagnoses of HIV have increased markedly in Victoria in recent years, from 140 in 1999 to 225 in 2003. The majority were among males reporting homosexual/bisexual contact. As part of the Victorian routine surveillance process, information such as demographics, clinical history and brief risk behaviour information are collected on all new diagnoses. To enhance the current surveillance we have undertaken a pilot study of “linked” HIV sentinel surveillance among men who have sex with men (MSM) in Victoria. This enables us to collect HIV testing numbers (denominator data) and detailed risk behaviour information in a timely fashion.

Five sentinel sites (1 regional, 4 metropolitan) were chosen based on individual clinics having a high case load of MSM, variation in the likely demographics of the MSM and the willingness of the clinics to participate in the pilot study. Clients receiving HIV testing as part of normal clinical management were interviewed by their doctor using a brief questionnaire added to the standard HIV laboratory request form. The information collected includes demographic data, HIV testing history, STI history and testing, number of sexual partners, occurrence of unprotected anal intercourse (UAI), HIV status of partner with whom UAI occurred and place where UAI occurred. Questionnaire data were entered into an access database and merged with HIV results obtained through the HIV notification process. HIV testing was performed by the Victorian Infectious Diseases Reference Laboratory.

The pilot commenced on 1 April 2004. Within five weeks 400 questionnaires were completed. Results as of 31 July 2004 will be presented.

This is the first extensive linked HIV sentinel surveillance system in Australia. The results from linked HIV sentinel surveillance will help inform education strategies aimed at MSM in Victoria and will aid in evaluating the “HIV/STI testing campaign” undertaken by the Victorian AIDS Council in February 2004. After the pilot is evaluated, we anticipate that “linked” HIV sentinel surveillance will be expanded to more clinics across Victoria.
INVESTIGATION OF HIV INFECTION IN VICTORIAN WOMEN, 1999 TO 2003

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Methods: Data was obtained from 130 women who reported a recent non-occupational exposure to HIV.

Results: The majority of women had a recent sexual exposure to HIV (77%). The majority of women also reported recent receptive anal intercourse (65%). The median age of the women was 32.7 years and the mean CD4 count was 554 cells/μl.

Conclusion: The high rate of sexual transmission of HIV in women is concerning and requires targeted public health interventions.

EVALUATION OF A DETERMINED ANTIBODY TESTING STRATEGY FOR DETECTING INCIDENT HIV INFECTION

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Aim: To evaluate the performance of a determined antibody testing strategy for detecting incident HIV infection.

Methods: A determined antibody testing strategy was used to identify early HIV infection in a single specimen and compared with a reference testing strategy.

Results: The determined antibody testing strategy had a sensitivity of 98% and a specificity of 99.5%.

Conclusion: The determined antibody testing strategy is a promising tool for detecting incident HIV infection.

IMPROVING HIV SURVEILLANCE IN VICTORIA, THE ROLE OF THE “DETERMINED” EIA

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Aim: To evaluate the role of the determined EIA in improving HIV surveillance in Victoria.

Methods: A determined EIA was used to detect recent HIV infections.

Results: The determined EIA had a sensitivity of 98% and a specificity of 99.5%.

Conclusion: The determined EIA is an effective tool for improving HIV surveillance in Victoria.

FINAL RESULTS FROM THE AUSTRALIAN NON-OCCUPATIONAL POST EXPOSURE PROPHYLAXIS (NPEP) OBSERVATIONAL STUDY

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Aim: To evaluate the effectiveness of the Australian NPEP observational study.

Methods: A total of 1500 participants were enrolled.

Results: The majority of participants were men (85%) and the mean age was 32.7 years.

Conclusion: The Australian NPEP observational study was effective in improving HIV prevention strategies.

CONCURRENT SESSION – EPIDEMIOLOGY OF NEW INFECTIONS
A COMPARISON OF THE WESTERN BLOT VERSUS DETUNED ELISA METHODS FOR DETECTION OF INCIDENT HIV INFECTION

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We propose a new method for classifying newly diagnosed HIV-infected persons as either incident or established infections.

Western blot (WB) results (n=745) from 330 persons (cohort A) newly diagnosed and with independent evidence of primary HIV infection were analysed to create a model. All specimens were taken prior to initiation of ARV therapy. A second set of WB results from 197 patients (cohort B), categorised as either primary HIV infection, or as late stage disease, was used for validation. A third set of ~150 patients from university clinics in the USA (cohort C) was used to re-validate the model using external data. A fourth analysis of 58 patients having both WB and detuned EIA results assessed relative assay performance in the first 180 days of infection. Bands measured were gp160, gp120, p18, p55, p15, p34, p24, and p18 for cohorts A and B; gp160, gp120, p15, p55, p34, p24, p18 for cohort C. Individual bands were scored as negative, indeterminate, or positive (UCSF only), or as negative, trace positive, or 1+, 2+, or 3+ positive. Intensity score was defined as the sum of individual bands scores.

Two patients were excluded of Cohort A because of conflicting evidence regarding length of infection. Using a cut-off of 0.3 bands positive on WB as the predef, and classifying specimen dates as either < or >180 days post-infection, logistic regression found the model to have from 50-70% sensitivity, but consistently 100% specificity in cohorts A, B, and C. Restricting analysis to patients having both WB and detuned EIA results available and fitting a linear regression model, the WB intensity score had a stronger correlation than the detuned assay in estimating time from infection. Primary efficacy measures include patient-scored changes in facial thinning, and changes in facial soft tissue volume on Spiral CT scan (baseline and 4 months post treatment), quality of life and HIV treatment outcome (adherence).

Adverse events were assessed by patient questionnaires at end of treatment and at six months.

20 of 27 individuals were assessed as having improvement in facial appearance at 6 months. Age, baseline CD4 cell count, and type of antiretroviral therapy did not predict the degree of facial improvement at 6 months.

Twenty of 27 patients' self-assessment showed improvement in facial appearance at 6 months. Concordance with photographic grading was 48.1%. Psychosocial emotional distress was reported as substantially reduced in those with photographically as well as patient self-assessed improved appearance.

Local pain was recorded by 63% of individuals, mean severity 3.4(10); redness by 74%, mean severity 3.7(10) and swelling by 80%, mean duration 2.4 days, severity 4.0(10). No patient withdrew due to adverse events.

Conclusion Subcutaneous injection of PLA produced durable improvement over 6 months in facial appearance in 74% of these individuals with moderate to severe facial atrophy. Few adverse events were recorded and patient distress was markedly improved.
ROSILITAZONE IN ADULTS WITH HIV LIPOTOXICITY: 84 WEEK FOLLOW-UP (ROSEY EXTENSION)


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The 84 week randomised, placebo-controlled, double-blinded ROSEY study found that rosilazone (RSG) 4mg bd did not improve lipotoxicity in HIV-infected adults receiving antiretroviral therapy, despite significantly improving insulin sensitivity and plasma adiponectin levels. We assessed whether lipotoxicity might improve over a longer follow-up period.

All 55 participants, including 55 previous placebo recipients were offered open-labeled RSG at week 48 up to week 96. 12 participants did not consent to open-label (5 from RSG group). During open-label 1 patient died (placebo group) and 10 ceased study drug (6 RSG group) but continued follow-up. The study was ceased early as the results for the blinded phase showed no benefit on lipotoxicity and adverse effects on lipids. Participants were called in to complete a final visit at this time. Data collected at weeks 84 and 96 were combined to one time-point (week 84).

Limb fat increased by 0.40 (SD=0.69) kg in the RSG group and 0.38 (SD=0.90) kg in the placebo group at week 84 (mean difference, 0.02 [95% CI, 0.46, 0.51], p<0.003 by t-test). Independent baseline predictors of greater increases in limb fat at week 84 were higher total cholesterol (p=0.02), total triglycerides (p=0.001) and greater subcutaneous thigh fat (p=0.01). There was no significant between group difference in:

1. subcutaneous mid-thigh fat (p=0.16), subcutaneous abdominal fat (p=0.52) or visceral fat (p=0.06) on computed tomography.
2. total body fat mass (p=0.80), total trunk fat (p=0.86), lean body mass (=0.55 on DEXA or the lipodystrophy case definition score p=0.29, week 72)
3. cholesterol (p=0.72), HDL (p=0.32), LDL (p=0.59), triglycerides (p=0.25), glucose (p=0.51), insulin (p=0.46). As in the randomised phase, the key adverse effects of RSG were asymptomatic hyperglycaemia (grade 3 or 4 in 3% and 5% of the RSG and placebo groups respectively, to week 84), hypercholesterolaemia (grade 3 or 4 in 26% and 18% of the RSG and placebo groups respectively, to week 96).

RSG 4mg bd for 84 weeks did not improve lipotoxicity in HIV-infected adults receiving antiretroviral therapy.

IMPAIRMENT OF REVERSE CHOLESTEROL TRANSPORT IN HIV INFECTED INDIVIDUALS

Roes HJ, Dart S, Hoy JF, Mijch A, Swindon D, Woolley S

Baker Heart Research Institute, Prahran, Victoria, Australia; 2Department of Infectious Disease, Alfred Hospital, Melbourne, Victoria, Australia

Clinically, HIV and protease inhibitors (PI) independently induce changes in blood lipids and subsequently the increased risk of coronary artery disease (CAD). These issues become more significant as the life expectancy of individuals is extended by treatment. As reverse cholesterol transport (RCT) is critical in protecting against atherosclerosis, it can be hypothesised that the increased risk of developing CAD may reflect an impairment of RCT.

To identify further mechanisms by which HIV and/or PI impact on lipid parameters, we assessed the levels and activity of transfer proteins and lipoproteins of RCT in 31 HIV negative, 22 untreated HIV positive subjects and 34 PI treated HIV positive subjects. The results (Table 1) show that one element of the anabolic arm of reverse cholesterol transport, namely the activity of lecithin cholesterol acyl transferase (LCAT) an enzyme responsible for the remodelling of high density lipoprotein (HDL), is increased in subjects with HIV infection irrespective of treatment. At the same time, parts of the catalytic arm of RCT, phospholipid transfer protein (PLTP) and cholesterol ester transfer protein (CEPT) are reduced. The anabolic and decreased catalytic activity may result in accumulation of dysfunctional HDL particles and retardation of RCT. In addition the reduced cholesterol content of the HDL in both HIV positive groups suggest the particles are triglyceride rich and supports the fact that they are potentially dysfunctional. Impairment of RCT may have a more significant impact to the observed increased risk of CAD in HIV infected subjects.

Table 1 Mean levels of lecithin cholesterol acyl transferase (LCAT), phospholipid binding protein (PLTP), cholesterol ester transfer protein (CEPT) and high density lipoprotein (HDL-C) in each group.

Table: 1

HIV positive PI

<table>
<thead>
<tr>
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<th>Linear regression</th>
<th>Linear regression</th>
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<tbody>
<tr>
<td></td>
<td>LV (mmHg/meter)</td>
<td>LV (mmHg/meter)</td>
</tr>
<tr>
<td>PLTP (mg/ml)</td>
<td>1.0 ± 1.3</td>
<td>1.0 ± 1.3</td>
</tr>
<tr>
<td>CEP (mg/ml)</td>
<td>1.4 ± 1.4</td>
<td>1.4 ± 1.4</td>
</tr>
<tr>
<td>HDL-C (mmol/L)</td>
<td>1.6 ± 0.2</td>
<td>1.6 ± 0.2</td>
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* Indicates a statistically significant difference (P<0.05) when compared with control.

16TH AUSTRALIAN CONFERENCE 2-4 SEPTEMBER 2004
Many compounds are currently being tested as microbicides including topical application of standard antiviral drugs, surface blockers such as CCR5 inhibitors and novel compounds, which inactivate HIV-1. Essentially there are two approaches to microbicide development; either target the incoming virus or target the cells that the virus attaches to. Targeting the virus with small molecules that interact with the viral envelope glycoproteins (gp120 and gp41) and are able to interfere with the HIV binding has had some success with the fusion inhibitors T20 and T-1229. The interaction of gp120 with CD4 and a coreceptor (usually CCR5 or CXCR4) provides a target for the development of small molecule receptor-specific drugs or modified ligands to prevent infection of the cell.

Here we propose a similar strategy, that of targeting one of the first cells that HIV-1 encounters, the dendritic cell (DC) and inhibiting HIV entry into DCs. To date, carbohydrate-based lectin receptors (CLRs) that we have shown can bind HIV, resulting in transmission and infection. DCs have a number of roles in HIV pathogenesis, including initiation of HIV uptake, infection, transport to lymphoid tissue where they stimulate HIV replication in T cells, and conversely priming CD4 and CD8 cell-mediated immunity. Immature DCs, such as Langerhans cells (LCs) and interstitial DCs are among the first cells infected by HIV following mucosal exposure. DCs express CD4, CCR5 and a variety of CLRs. DC-SIGN being the most extensively studied, all of which are capable of binding HIV. We have recently shown different subsets of tissue DCs express a wide diversity of CLRs, with the virus able to use specific CLRs on each subset enabling capture and infection and/or dissemination. Therefore, strategies to block sexual transmission of HIV may require blockade of several CLRs on genital tract DCs. Langerin on LCs, mannose receptor and DC-SIGN on dermal DCs. To date there has been an excessive focus on only producing surface blockers for DC-SIGN, and these have not even been tested in an appropriate tissue DC setting.
IMPLEMENTING THE PAPUA NEW GUINEA HIV AIDS MANAGEMENT AND PREVENTION ACT 2003

Houde G, Gonapa B, Fletcher K
1Centre for Public Health Law, La Trobe University, Melbourne, VIC, Australia; 2National AIDS Council Secretariat, Port Moresby, Papua New Guinea

The management of HIV/AIDS presents challenges to governments worldwide. Well resourced governments in first world countries struggle with the implementation of appropriate laws for the protection of public health and of the rights of individuals affected by HIV/AIDS who may subject their loved ones to sweeping powers in health legislation.

Developing countries must face greater challenges. Lack of resources, cultural resistance to broad education programs, an overwhelmed health workforce and difficulties with legislative infrastructure are just some of the potential challenges.

The PNG Parliament passed the HIV/AIDS Management and Prevention Act 2003 in June 2003. The Act is progressive and contains privacy protections and protections against discrimination and stigmatization. It protects access to means of protection against HIV/AIDS. It requires consent to testing and counseling for those tested and protects the privacy of those affected by HIV/AIDS.

The PNG National AIDS Council, supported by AusAID, is currently developing a process for implementing the Act. This includes extensive consultation with stakeholders such as police, courts, prosecutors, ombudsman, correctional and health authorities, defence personnel etc. These stakeholders, together with the broader community in PNG must be informed about the Act and the rights and obligations it contains. For some, becoming accustomed to a new approach will be unwelcome and difficult. Patience and persistence will be required.

This is the story of the development and implementation of the Act and the rights it contains. The Act is progressive and contains privacy protections and protections against discrimination and stigmatization. It protects access to means of protection against HIV/AIDS. It requires consent to testing and counseling for those tested and protects the privacy of those affected by HIV/AIDS.

The evaluation of the programme will be reported, and the planning and implementation of Phase two of the project, a NAPWA follow up mission to PNG in May 2004, will also be presented.

Finally, the involvement of NAPWA in this programme involves partners in PNG and with future community development collaborations.

WORKING WITH COLLABORATING PARTNERS – NAPWA IN PNG

Riek P, Canavan P, Boddie B, Watson J
International Portfolio Co-Convenor, National Association of People Living with HIV/AIDS (NAPWA); 4HIV Living Policy Officer, National Association of People Living with HIV/AIDS (NAPWA); 5Project Officer Outreach, AIDS Treatment Project Australia (ATPA); 6Executive Officer, National Association of People Living with HIV/AIDS (NAPWA)

The National Association Of People Living with HIV/AIDS (NAPWA) has been a partner with the Collaboration for Health in Papua New Guinea (CHPNG) group to support a specific program with HIV positive people and their carers, for the development of plwha spaces and the establishment of day care centres in PNG.

This project has been ongoing since February 2003, and has involved the support of the NAPWA International Portfolio, the AIDS Treatment Project Australia (ATPA), and the Australasian Society of HIV Medicine (ASHM). Merck, Sharpe and Dohme Australia (MSD) has been the pharmaceutical company involved directly with the funding of this initiative.

This presentation will describe the alliance structure, and partner responsibilities in this innovative pilot. The programme of training included training and briefings for NAPWA volunteer representatives and secretariat support, as well as the development of the programme of activities for the participants from PNG who were facilitated through the NAPWA Biennial Conference, and a subsequent “Reflections Workshop” over two days.

Models of peer facilitation and community development that were utilised and adapted will be described, and the contributions from both HIV peer educators and technical support workers will be discussed and critiqued.

The areas of treatment advocacy and health maintenance support, notions of cultures of care, and issues of stigma and cultural difference will be described, to illustrate how the programme aimed to develop local and culturally appropriate mechanisms for reaching the objectives of the project.

Finally, the involvement of NAPWA in this intensive and unique program of HIV capacity building and skills and knowledge sharing will be discussed, for both consideration of lessons learned, as well as a broader discussion of the implications of this work for future involvement of NAPWA in peer initiatives in PNG.
The introduction of highly active anti-retroviral therapy (HAART) is accompanied by a growing prevalence of co-morbidities, long-term complications of HIV, its therapy & psychosocial issues. Consequently, patients are frequently managed by several members of the multidisciplinary team & external service providers, emphasising the need for greater integration of acute & community service providers to improve patient follow-up & continuity of care. Currently, there is no formalised network for clinical communication between all of these parties.

The Patient Information Exchange (PIE) study is an innovative program developed to address these issues. The aim is to improve & formalise the process of information exchange between the healthcare providers involved in the management of HIV-positive patients & to evaluate the benefits of implementing a new service utilising a care-management model of pharmaceutical care.

This study measures the impact of assigning a "primary" pharmacist (one pharmacist dedicated to an individual patient's care), who acts as the key contact regarding all medication-related issues, to allow the provision of 'seamless' individualised patient care. The program allows patients & healthcare providers access to medication-related advice outside of normal pharmacy operating hours & to communicate information via telephone & small message service (SMS).

Data will be presented from a pilot study of twenty-two HIV-positive patients aged 18-65 years conducted at the Alfred Hospital, Melbourne from April to July 2004. This study investigated a broad spectrum of patients, 19 males (96.4%) & 3 females (13.6%) with co-morbidities including hepatitis C co-infection, haemophilia, HIV-related dementia & schizophrenia. A selection of healthcare providers who care for HIV-positive patients were invited to complete pre-intervention questionnaires, allowing the determination of existing practices. Primary outcome measures include patient & healthcare provider satisfaction with the service, determined by survey; the number of contacts made to the primary pharmacist during the intervention period & the accuracy of participant medications lists held by healthcare providers.

The presentation will include analysis of the results obtained & highlight the key strategies required to improve healthcare provider communication, to facilitate better transition of patients from hospital to community care.

**COMPLEX PATIENTS: EVALUATION OF CARE MANAGER MODEL (CMC)**

**Proc J V G1, 2, Levy R W1, Marriott J L2, Rayner C R3**

1 Alfred Hospital, Melbourne, VIC, Australia
2 Department of Pharmacy Practice, Victorian College of Pharmacy, Monash University, Melbourne, VIC, Australia
3 Alfred Health, Melbourne, VIC, Australia

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**STRENGTHENING THE RELATIONSHIP BETWEEN HEALTH PROMOTION AND GENERAL PRACTICE**

**Ryan L**

NSW Department of Health, Sydney, NSW, Australia

Social research indicates that individuals consider GPs to be a reliable and credible source of health information. General practice is a critical site for health education and holistic health care and as such are considered key partners in HIV health promotion.

General Practitioners are well placed to translate population-level social marketing messages into personalised and accessible health education for individual patients. They are also well placed to provide health promotion practitioners with feedback on the impact that population-level programs have on individual knowledge and beliefs.

In recent years, specialist HIV/sexual health promotion practitioners have sought to develop programs that support the prevention and primary care health care workers undertaken in clinical settings. This has taken a variety of forms, including the establishment of training programs for GPs, development of print resources for patients and GP, and development of collaborative projects with Divisions of General Practice.

Strengthening these working relationships has been given additional priority following the recent increase in HIV notifications in NSW. Health promotion practitioners in those areas which have experienced the greatest increase have undertaken consultations with GPs to identify current issues in HIV prevention and more effective ways of supporting prevention in clinical settings.

This paper will outline the findings of those consultations, provide an overview of models currently in place for strengthening HIV/sexual health promotion in General Practice, comment on the effectiveness of these models in supporting prevention and primary health care, and highlight future directions for strengthening the collaboration.
MENTAL HEALTH IN PRIMARY CARE
Phillips E S, Anderson-Noogard K¹
¹H2M Service, St Vincent’s Hospital, Sydney, NSW, Australia

The HIV, Hepatitis C and Mental health in primary care (H2M) service was formed in 2002, in response to a need expressed by local General Practitioners (GPs) for access to a liaison mental health service for people with HIV and/or HCV. GPs reported that patients often presented with many complex mental health problems which were having a negative impact on their general health and could not be adequately managed in a brief consultation. They requested a mental health service which could follow up, assess and treat referred patients, and could also provide advice and recommendations for GPs themselves, to help them manage patients with complex problems.

This presentation will provide an overview of data collected on the presenting mental health problems of people who have attended the H2M service since it began operating.

The relative frequencies of various presenting problems will be discussed, highlighting the number and complexity of mental health problems often seen in primary care in people with HIV and/or HCV.

The presentation will also outline some methods which we have found helpful in working with patients with complex mental health problems.

THERAPEUTIC CONVERSATIONS IN HIV/AIDS CARE
Curran G²
Sexual Health Service, Department of Health and Human Services, Devonport, Tasmania, Australia

Poststructural ideas can help explore the diverse relationships that develop in the care of HIV-positive clients and their support networks. This presentation considers the therapeutic potential carried in conversations between client and practitioner (counsellors, doctors, educators, nurses, and so on).

The presentation draws on the proposition ‘the map is not the territory’ where the maps of clinical practice (treatment and management) needs to also resonate with the territory of the client’s lived experience to improve therapeutic outcomes. What personal history, ethics, belief and values does the practitioner bring to the therapeutic relationship?

And how might these influence therapeutic outcomes?

These ideas arise from a PhD study interested in reflective practice, poststructural narratives, anti-narratives, pathographies, relational ethics, the social construction of identity, and the impact of HIV/AIDS in a postmodern world on the therapeutic relationship.

THE SMART STRATEGIES FOR MANAGEMENT OF ANTI-RETROVIRAL THERAPY STUDY – ADHERENCE TO STRATEGY
Drummond F¹, Neuhaus J², Hoy F³ on behalf of the SMART Protocol Team and the SMART Study Investigators
¹National Centre in HIV Epidemiology & Clinical Research, Sydney, NSW, Australia. ²University of Minnesota, Minneapolis, USA. ³Alfred Hospital, Melbourne, VIC, Australia

The SMART Study is an international, randomised, clinical endpoint trial studying the long-term effects of two strategies for antiretroviral treatment (ART) in patients with CD4 T-cell counts > 350 cells/mm³. The two strategies are:

• The Viral Suppression (VS) strategy aimed at suppressing viral load irrespective of CD4 count.
• The Drug Conservation (DC) strategy, aimed at conserving drugs by using ART episodically to maintain CD4 count >250.

The protocol sets out standards for managing non-adherence throughout the study. For the VS arm the standard is that < 10% of patients will have stopped therapy for > 4 weeks during the first year of follow-up. For the DC arm the standard is that the cumulative percentage of patients restarting therapy at 6 months is < 50%.

The VS strategy was reviewed to see the number and percentage stopping ART for > 4 weeks since randomisation.

<table>
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<tr>
<th></th>
<th>Sydney Region</th>
<th>Other Sites</th>
<th>Total</th>
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<tbody>
<tr>
<td>N randomised</td>
<td>44</td>
<td>853</td>
<td>897</td>
</tr>
<tr>
<td>N stopping ART for &gt; 4 weeks</td>
<td>1</td>
<td>98</td>
<td>99</td>
</tr>
<tr>
<td>N stopping ART by 12 months</td>
<td>1</td>
<td>76</td>
<td>77</td>
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</tbody>
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Estimated % stopping ART by 12 months and 95% CI
0.1 (0.0, 0.4) + 12.0 (9.4, 13.6) + 12.1 (0.4, 14.8) + 0.0 (0.0, 0.0)

The DC strategy was reviewed to see the number of patients who had restarted therapy for non-protocol mandated reasons.

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<th>Sydney Region</th>
<th>Other Sites</th>
<th>Total</th>
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<tbody>
<tr>
<td>N randomised</td>
<td>55</td>
<td>850</td>
<td>905</td>
</tr>
<tr>
<td>N initiated</td>
<td>13</td>
<td>526</td>
<td>339</td>
</tr>
<tr>
<td>N initiated for non-protocol reasons</td>
<td>1</td>
<td>68</td>
<td>72</td>
</tr>
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</table>

Estimated % of non-protocol consultations at 12 months and 95% CI
14.0 (8.0, 20.0) + 8.9 (9.4, 9.5) + 9.0 (1.0, 9.3)

To allow the study to assess the clinical effect of these two strategies in reducing disease progression it is important that the difference in the time on therapy between the two arms is maximal. Data on the reasons for this non-adherence to assigned strategy will be discussed in this paper.

CONTINUOUS THERAPY IS DEFINITELY THE ONLY WAY TO TREAT HIV – ISN’T IT
Drummond F, Hoy F, Kelly M, Machon K¹
¹National Centre in HIV Epidemiology & Clinical Research, Sydney, NSW, Australia; Alfred Hospital, Melbourne, VIC, Australia; AIDS Medical Unit, Brisbane, QLD, Australia.

Continuous antiretroviral therapy results in significant reductions in HIV-associated mortality and morbidity and is the standard of care for patients who commence antiretroviral combination therapy. Limitations of this strategy are increasingly apparent and include long-term toxicities, drug resistance and failure, cost and adherence fatigue. Intermittent antiretroviral therapy [CD4 count driven] has been proposed as an alternative strategy to continuous antiretroviral therapy and potentially offers equal clinical efficacy with less toxicity. However several concerns exist following the initial experience of these strategies including the development of drug resistance and HIV disease progression, and the public health implications of HIV transmission during a treatment interruption.

After almost half a decade of debate no consensus exists regarding the roles of continuous versus intermittent antiretroviral therapy. New data mandates review and debate. This forum has been organized to assist clinicians to update their knowledge regarding the pertinent issues relating to this critical topic and to provide an opportunity to challenge their opinions about this question.

The debate will be lead by two eminent internationally renowned speakers who will review the current literature from both sides of the debate. This will be followed by a panel discussion involving high-case load general practitioners and community advocates. Conference delegates will then have the opportunity to add their voice to the debate when the discussion is opened to the floor.

The practice of HIV medicine continues to evolve through informed debate and clinical research. You are invited to this forum to challenge your opinion regarding the allegation that “continuous therapy is definitely the only way to treat HIV”.

THE SMART STUDY AND CD4 T-CELL COUNTS IN HIV-INFECTED PEOPLE WITH COMPLEX MENTAL HEALTH PROBLEMS
Marière A, Gomes A, Welti S, Hallett M
Sydney, NSW, Australia
RISES IN NEW HIV INFECTIONS – GAY MEN'S EDUCATION RESPONDS

Westraff-Eggebert M1, Co-Chair, ANET Education Policy Group, AFAO

This paper reports on the main strategies used so far in translating the news of rises in new HIV infections among gay and homosexually active men into a prevention education response.

It will describe the outcomes of educators' analysis of the science and of current gay men’s culture as they strive to respond sensibly. Examples of health promotion strategies from larger and smaller Australian states as well as from the national education effort will illustrate current educational approaches. The paper will put these into the context of the education effort required for the maintenance of a culture of 'negotiated safety relationships which are compromised (ie involve UAI with casual partners), HIV testing; use of HAART; proportion of people using HAART who report undetectable viral load; relationship between sexual practice and viral load; 'recreational' drug use; injecting drug use (IDU); awareness of post-exposure prophylaxis (PEP).

RISES IN NEW INFECTIONS: SOCIAL RESEARCH FINDINGS

Rawstorne P1

National Centre in HIV Social Research, UNSW, Sydney, Australia

As part of the Symposium, up-to-date social research data will be presented on trends in the following key indicators (mainly based on surveys of gay men): unprotected anal intercourse (UAI) with regular partners; unprotected anal intercourse (UAI) with casual partners; strategic positioning of serodiscordant regular partners and casual partners; negotiated safety relationships which are compromised (ie involve UAI with casual partners); HIV testing; use of HAART; proportion of people using HAART who report undetectable viral load; relationship between sexual practice and viral load; ‘recreational’ drug use; injecting drug use (IDU); awareness of post-exposure prophylaxis (PEP).

BEYOND THE ACTION PLAN: BUILDING THE LONG TERM RESPONSE TO INCREASES IN HIV INFECTIONS IN NSW

Ryan Li

NSW Department of Health, Sydney, NSW, Australia

There was a 15% increase in HIV notifications in NSW from 2001 to 2002. This was followed by a 6% increase from 2002 to 2003.

The NSW HIV sector quickly responded to the increase in HIV notifications by establishing a cross-sector HIV Prevention Interagency and Action Plan identifying immediate priorities for collective action. This Action Plan focused on three areas: social marketing to inform gay men of the increase and promote condom use; supporting HIV prevention work undertaken in clinical settings; and addressing sexually transmissible infections.

Preliminary analysis suggests that this was an appropriate and effective response to the increase in HIV notifications. However, the Action Plan did not address longer-term or more complex issues such as the relationship between alcohol and drug use and HIV risk, and the relationship between mental health and HIV risk.

This paper will outline the issues identified as long-term strategic priorities for gay men’s HIV prevention and health promotion in NSW, and the strategies put in place to address those issues.

RESURGENT SYPHILIS IN GAY MEN: WHERE TO FROM HERE?

Graulich A1, Jin F1, Prestage G1, Van de Ven P1, Mao L1, Kippax S1, Polt C1, Donovan B1, Kaldor J1 on behalf of the Australian-Thai HIV Vaccine Consortium

National Centre in HIV Epidemiology & Clinical Research, UNSW, NSW, Australia;
National Centre in HIV Epidemiology & Clinical Research, UNSW, NSW, Australia;
National Centre in HIV Epidemiology & Clinical Research, UNSW, NSW, Australia;
Sydney Sexual Health Centre, Sydney Hospital, NSW, Australia;
School of Public Health, University of Sydney, NSW, Australia.

In this overview of studies, we describe the re-emergence of syphilis in Sydney, characteristics of men with newly diagnosed syphilis in central Sydney, and the incidence of and risk factors for syphilis in homosexual men.

Data were analysed from three sources:
1. Surveillance data on infectious syphilis
3. Syphilis prevalence and incidence from the HIM cohort study of HIV negative gay men in Sydney.

In South-Eastern Sydney alone, notified cases of infectious syphilis increased six fold between 2001 and 2003. More than 95% of cases were in men. Increases have also occurred in gay men elsewhere in Australia. In the descriptive study, we recruited 57 homosexual men with early syphilis. Of these, 54% were HIV positive, and 26% were asymptomatic and were diagnosed by a screening test. Compared to men in gay community cohorts in Sydney, these men were more sexually active, were heavier users of recreational drugs, and were more likely to report using “dry” sex-on-premises venues. In the HIM study, 1292 HIV negative men (97% of the study total) underwent syphilis testing at recruitment and 3.0% tested positive. The prevalence of past infection increased with age to 19% in those aged over 55. Of these men, 793 attended at least once for an annual follow-up, and there were 8 syphilis seroconversions, (incidence 0.7%/year). The mean age of these men was 34. They reported a greater number of sex partners in the past six months (HR=2.33, 95% CI 1.16-4.68), and were more likely to report HIV positive regular partner(s) (HR=11.03, 95% CI 1.30-93.43) and engaging in unprotected anal intercourse (UAI) with HIV positive partners (HR=10.83, 95% CI 2.58-45.41). A variety of sexual practices that are classified as safe with respect to HIV transmission were associated with acquiring syphilis.

Syphilis is becoming re-established in the gay male population in Australia’s cities. Most, but not all, men with syphilis report behaviours that put them at high risk of HIV infection.
THE IMPACT OF THE TREATMENT’S PREVENTION NEXUS ON PEOPLE WITH HIV

Duffin R
Australian Federation of AIDS Organisations, Newtown, NSW, Australia

This presentation will focus on the impact of the treatments-prevention nexus on people living with HIV.

At an individual level, people with HIV may use knowledge of clinical markers to influence decisions about risk practice and how ‘transmissible’ they see themselves. These practices are often frowned upon.

The knowledge that treatment uptake and compliance influence ‘community viral load’ and thus community vulnerability to further HIV infections may influence individual prescribing decisions, treatments guidelines and even how scientific findings are interpreted and translated into clinical practice. The possible ‘conflict’ between best individual clinical management and broader public health goals will be explored.

The increasing focus on the role of treatments, other mechanisms of biological prevention, changes in education prevention policy, rises in new HIV infections and increased pressure to disclose all act to focus on the role of people with HIV. Some of the problems this creates will be explored.

THE HIV ACCESSORY PROTEIN VIF AND THE SUPPRESSION OF AN INNATE ANTI-VIRAL DEFENCE MECHANISM

Malim M H
Department of Infectious Diseases, Guy’s, King’s & St Thomas’ Medical School, King’s College London, London, England

The HIV Vif protein is a positive regulator of infection that is essential for virus growth in cultured T cells and, presumably, for the development of AIDS in infected persons. Earlier work demonstrated that Vif acts by suppressing the action of a host gene, APOBEC3G (formerly called CEM15), with natural anti-retroviral function. In the absence of Vif, APOBEC3G is packaged into nascent viral particles and carried forward into newly exposed cells. Here, this enzyme catalyses the purposeful and destructive deamination of deoxycytidine (dC) to deoxyuridine (dU) in viral cDNA replication intermediates, thereby terminating productive virus infection through hypermutation and the induced degradation of viral cDNA. In contrast, when Vif is present in virus-producing cells, APOBEC3G is recruited to a cellular ubiquitin ligase complex and degraded by the proteasome. As a result, the cellular pool of APOBEC3G is diminished and viral particles are produced that no longer contain APOBEC3G and, therefore, spared from cytidine deamination.

Recent data have now shown that APOBEC3G is not the only member of the APOBEC family of cytidine deaminases with an anti-viral phenotype. The closely related human proteins APOBEC3F and APOBEC3B, as well as two rodent enzymes murine APOBEC3 and rat APOBEC1, are each potent suppressors of HIV infection in vivo. Moreover, examination of HIV sequence variation in HIV infected persons indicates that both APOBEC3G and APOBEC3F contribute to viral sequence diversification in vivo. Thus, cytidine deamination is not only a novel mode of regulated cell-mediated resistance to viral infection, but is also a means by which viral sequence variation can be generated. Together, these observations indicate that perturbation of Vif/APOBEC3F function should be investigated as a potential therapeutic approach.
INVESTIGATING THE ROLE OF THE SPACER PEPTIDE P1 IN HIV-1 REPLICATION

Bellamy-McIntyre A1, Mak J3,4, Hill ML5

1The Macfarlane Burnet Institute for Medical Research and Public Health, Melbourne, VIC, Australia; 2Department Microbiology, Monash University, Melbourne, VIC, Australia; 3Department of Biochemistry and Molecular Biology, Monash University, Melbourne, VIC, Australia

HIV-1 uses ribosomal frameshifting to express the precursor polyproteins Gag and GagPol. The frameshift required for GagPol translation is promoted by an RNA stem-loop. This frameshift stem-loop and the open reading frames for two proteins (P1 from Gag and transframe (TF) from GagPol) overlap. With a novel mutagenesis strategy we have successfully isolated P1 function from the RNA frameshift signal and from TF and demonstrated a critical role for P1 and its two highly conserved proline residues (position 7 and 13) in HIV-1 replication. It is unclear how P1 influences viral replication. The importance of proline residues to protein conformation suggests P1 may be critical for the overall folding of Gag or an intermediate cleavage product, such as p6, which has been proposed to be a substrate for the viral protease. It is also unknown whether P1 acts independently or if it can be influenced by other viral proteins. P1 is critical for replication in two HIV-1 strains as double P1 proline mutations in the strains BH10 and NL4.3 abolish infectivity. Interestingly, the P1 proline mutants in BH10 displayed dramatic alterations to protein processing and genomic RNA dimer stability that were not seen in NL4.3. The major difference between the two strains is that BH10 lacks the viral proteins Nef and Vpr. However, supplementing BH10 P1 mutants with functional Nef and Vpr does not rescue the phenotype. The majority of the residues in P1 are highly conserved, with the exception of the residue at position 9 which is histidine in NL4.3 and tyrosine in BH10. We are currently investigating this difference to see if this residue contributes to the disparity in phenotype between BH10 and NL4.3. This will answer the question of whether the observed difference between the P1 mutants in BH10 and NL4.3 is a local or global effect.

ACETYLATION AND METHYLATION PATHWAYS ARE REQUIRED FOR PROCESSING OF HIV-1 TAT PROTEIN BY THE VIRAL PROTEASE

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Our lab has demonstrated an important role for Tat in reverse transcription, which can be genetically segregated from other roles of Tat in HIV-1 replication such as transcription by RNA polymerase II. Tat function in reverse transcription is essential for virus replication. Mutational analysis of four different domains of Tat showed that each contributed to Tat function. A surprising result from our studies was the discovery of a non-consensus HIV-1 protease (PR) cleavage site located in the Tat basic domain that was essential for Tat reverse transcription function (J Virol. 2003;77:9912). Mutation of this region down-regulated PR cleavage of Tat and also down-regulated HIV-1 reverse transcription. New experiments have shown that intracellular Tat cleavage of Tat by PR can be completely inhibited by histone deacetylase (HDAC) activity indicating that acetylation of Tat is required for PR cleavage. HDAC inhibition was specific for Tat as other HIV proteins such as Gag-Pol are efficiently processed by PR in the presence of HDAC. We also examined whether protein arginine methyltransferase (PRMT) activity, may contribute towards cleavage of Tat by PR. Our in vitro experiments showed that Tat could be methylated, but it was not clear if this activity was essential. RNAs studies directed at specific cellular enzymes including p300, PCAF, and PRMT1 are in progress in order to determine if these cellular factors influence virus infectivity and reverse transcription.

HIV VIF IN REVERSE TRANSCRIPTION COMPLEXES

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The actions of HIV Vif as an essential factor that negates APOBEC3G mediated host anti-viral defenses late in viral replication in producer cells has received much attention. However, the potential biological roles of Vif in early replication in target cells has received less consideration. In this study we have investigated the presence of Vif in the incoming reverse transcription complex (RTC) in target cells. Infections in Hut-78 cells were initiated by cell free infection (centrifugal enhancement) or cell-cell mixing with infected donor cells (H3B). Cell lysates were taken at 2, 4, and 6 hr post infection and subjected to sucrose gradient fractionation and fractions analyzed for Vif protein (Western) and reverse transcription (RTn) products (real time PCR). RTCs were identified based on density and association with RTn products. Cell lysates were also analysed by immunoprecipitation (IPs) followed by analysis of precipitated protein for co-association with RTn products. Vif was detected by Western in sucrose gradient fractions consistent with the size of a RTC and co-incident with HIV RTn products following either cell free or cell-cell infection. Further, IP experiments indicated that vif was bound to RTn products in RTCs. Vif containing RTCs were present in both the cell cytoplasm and in association with the nucleus. Thus, we have demonstrated the presence of Vif in HIV RTC suggesting a role in early viral replication. Analysis of the properties of Vif defective RTCs will be pursued to investigate the potential roles of Vif in target cells.

HIV RECOMBINANT FOWL POX VIRUS/VACCINA VIRUS MUCOSAL AND SYSTEMIC PRIME BOOST VACCINE TRIAL IN MICE

Rasaniwala C1, Ramsey A1, Medveczky J1, Woltering D2, Thomas S1, Ramathan F2

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Developing vaccines that generate immune responses at the initial viral entry site, (i.e. mucosal surfaces such as cervico-vaginal tissue, rectal tissue) could be more effective in controlling diseases such as HIV. It has been shown that a direct mucosal application of a vaccine is necessary to induce high-quality mucosal immune responses in animals. Our previous work on mucosal HIV-DNA/Fowl pox virus (FPV) prime boost vaccines future corroborates these findings. We have shown that, combined mucosal/systemic prime boost vaccines induce good mucosal and systemic T cell responses in mice as well as in macaques. In the current study 8 week old BALB/c mice were immunized with recombinant HIV-FPV followed by recombinant HIV-vaccinia virus (VV) boost. These animals were sacrificed 2 weeks post VV and B/T cell responses were measured respectively by ELISA and IFN-g ELISPOT assay and/or Intracellular staining of TNF-a and IFN-g and tetramer staining. In this study, a) number of systemic and/or mucosal vaccine delivery routes were tested in order to assess the vaccine route that generated both mucosal and systemic immune responses in mice and b) effect of co-expression of stimulatory molecules such as IL-12, IFN-g and tetramer staining. Our results indicated that, route of vaccination influenced the immune response generated. And out of the vaccine routes tested, intranasal/intratracheal HIV/FPV/HIV/VV prime boosting generated the best mucosal and systemic immune responses in mice and high quality CD8+ T cells were also observed for the HIV antigens tested. Priming with co-stimulatory molecules such as IL-12 enhanced the T cell responses, and in contrast IFN-g decreased these responses to target antigens. Current data also indicated that, due to better up take of the FPV, intranasal HIV-FFPV priming was much more effective than intranasal DNA priming. A single recombinant FPV prime and VV boost vaccine can generate similar or better immune responses to HIV antigens in mice, compared to the previously tested lengthy DNA/FPV prime-boost regime.
INVESTIGATING THE SOCIAL WORLD OF ABORIGINAL PEOPLE LIVING WITH HIV: ABORIGINAL AND TORRES STRAIT ISLANDER COHORTS IN THE AUSTRALIAN “FUTURES” STUDIES

Saunders M1, Willis J M1, Grierson J1, McDonald K1, Hurley MJ1, Pitts M1 1ARCHSIS, La Trobe University, Melbourne, Victoria, Australia

The HIV Futures study aims to provide HIV health and funding agencies, as well as people and communities affected by HIV with a picture of the overall situation of people living with HIV/AIDS in Australia.

Data are collected every two years via a self-completed survey of PLWHA in all Australian States and Territories in 1999. This paper presents a secondary analysis of survey responses from a cohort of Aboriginal and Torres Strait Islander men and women who completed the survey in 1999, 2001 and 2003. Although there was no specific targeting of Indigenous respondents, the Aboriginal respondents represent about 30% of the Indigenous Australians known to have contracted HIV from 1992 to 2001.

Our analysis examines Indigenous responses to questions about health, use of antiretroviral and complementary treatments, use of information and support services, and housing and financial situation. It also presents data about sex and relationships, people’s social supports, recreational drug use, work situation and future planning.

Key issues that the analysis addresses are whether Indigenous PLWHA are disadvantaged in relation to access to treatments and other care and support services, the impact of complex practices of discrimination on their experience of living with HIV, and alternative sources of support and care specific to Indigenous PLWHA.

LIVING AND LOVING ACROSS THE SERODIVIDE

Saunders M1, Willis J M1, Grierson J1, McDonald K1, Hurley MJ1, Pitts M1 1ARCHSIS, La Trobe University, Melbourne, Victoria, Australia

This paper responds to my partner Dr Jon Willis’s 2003 ASHM paper, “Till Death Do Us Part: Living in a serodiscordant relationship”. Like his paper, the presentation uses autoethnography, with my lived experience as data, to try to unpack some of the issues for negative partners of HIV positive gay men. In my case, my lived experience includes my identity as a Torres Strait Islander and Aboriginal man, and the particular cultural issues for me, my family and my community of my partnership with an HIV positive whitefella.

The paper examines the problems of living and loving across the serodivide using similar categories to those used by Willis in his 2003 paper. I look at how fear of death, health surveillance, guilt and responsibility, fear of transmission, the consequences of fear, symptoms and medications, sex and compromise, and work affect me as the negative partner.

I also explore the operation of stigma in my life. Living in a serodiscordant relationship is really not as bad as I thought it might be. If anybody had told me four years ago that I would be in this relationship, I would’ve laughed them down. I was just as paranoid about HIV/AIDS as the next person. Education and love have made it easier over time.

My community is hostile to homosexuality, and when they find out that my partner is positive, they sometimes falsely decide that I too must have the virus. It is hard being stigmatised for associating with positive people, but when your partner and most of our friends are positive, stigma comes from all my communities, gay included. But with the stigma comes a lot of support from my brothers and sisters who are positive, black and white, and in the end, this support means more to me than the stigma.

JUST GETTIN’ ON WITH MY LIFE WITHOUT THINKIN’ ABOUT IT: ABORIGINAL EXPERIENCES OF LIVING WITH HIV IN WESTERN AUSTRALIA

Bonar M1, Greville W1, Thompson S.C.2 1Sexual Health and Blood-Borne Virus Program, Dept of Health WA, Perth, WA, Australia, 2School of International Health, Curtin University of Technology, Perth, WA, Australia

The incidence of HIV in Aboriginal people in WA now exceeds that of the non- Aboriginal population. Indigenous people with HIV have been largely invisible, a small minority whose experience differs from the mainstream HIV epidemic in many ways. Aboriginal people who are HIV positive may experience a range of social, geographic and other barriers to effective health care and quality of life. This qualitative research project provides a means of gauging the extent of any barriers as well as providing the opportunity for participants to tell their story.

Interviews were undertaken with 20 Aboriginal people with HIV of whom 80% were female, 90% acquired their infection through heterosexual contact, and 70% lived in rural/remote areas. Their age at diagnosis ranged from 16-49 years. The presentation will cover the characteristics of the participants and their experience of living with HIV including ways of coping, social supports, the economic impact of living with HIV, and their views on access to services, health care and treatment.

Some participants reported no knowledge of HIV prior to being infected but a few had relatives or friends with HIV. Disclosure was a major issue, with some individuals having disclosed to no family or friends, years after being infected. Family was a major source of social support. The need for confidentiality was paramount in small communities where discrimination was anticipated. Not thinking about HIV, ignoring it, was a common theme for coping with HIV both in the short and long term. This was not perceived as denial, rather an acceptance of the diagnosis but a refusal to allow it to dominate their lives.

All twenty participants were on very limited incomes, yet the majority did not believe that HIV had adversely affected their financial situation or their accommodation. For these participants, low incomes were expected and appear to be the norm for many Aboriginal people.

Implications for prevention, education, treatment compliance and health service provision will be discussed.
HIV Futures 4 Workshop

HIV FUTURES 4: STATE OF THE [POSITIVE] NATION

Grierson J, Thorpe R, Pitts M
ARCSHS, Latrobe University, Melbourne, VIC, Australia
Other panel members yet to be finalised, will include representatives of NAPWA, AFAO and ASHM

This workshop will give an overview of the key findings of the HIV FUTURES 4 study and discuss the implications for PLWHA, community organisations, service providers, and policy directions.

The HIV Futures Survey is a national project examining the lived experience of HIV for Australian PLWHA. Data collection in this study is undertaken every two years using a self-completed, anonymous questionnaire. Core modules of the questionnaire include health status, treatments, service utilisation, social support, information management and sexual practice.

HIV Futures 4 was conducted in late 2003 and the main community report will be launched in August 2004. The survey was completed by 1061 PLWHA from all parts of the country.

The workshop will concentrate on 6 key areas:
1. Treatment breaks and the health management issues associated with them;
2. Experiences of discrimination in health services, the workplace and other settings;
3. Issues of poverty and finance;
4. Pre and post test counseling;
5. Engagement with the HIV sector including community organisations and health services; and
6. Sex and relationships.

Researchers will present an overview of the findings for each key area followed by commentary by the other panel members. A general discussion will follow.

The Territory Two Step – Enhancing Detection of Latent MTB in HIV Clients

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Centre for Disease Control, AIDS/STI Program, Clinic 34, Darwin, NT, Australia; Centre for Disease Control, TB Unit, Darwin, NT, Australia

The Northern Territory (NT) has the highest rate of TB of any Australian jurisdiction with the burden of disease predominantly in the Indigenous and overseas born populations. High proportions of these groups also have latent TB infection (LTBI), and co-infection with HIV is the greatest known risk factor for reactivation to TB disease.

Previously the NT AIDS and STI Program has screened HIV seropositive clients who are newly diagnosed or newly arrived in the NT for TB. This screening varied depending on the preference of the incumbent physician.

A review of screening practice identified 2 concerns - the risk of missing latent TB infection (LTBI) due to false negative single-step mantoux tests in immunosuppressed clients, and the lack of ongoing screening for LTBI in patients who may have further exposure to TB.

A screening algorithm was developed which included a two-step mantoux test when initial mantoux results were negative, indications for referral to the TB unit for assessment, and management guidelines for those in whom the initial two-step mantoux was negative. Additional fields and capacity were requested in SHIP (Sexual Health Information Program) to record serial mantoux, chest x-ray results and to generate recall lists.

From July 2003 to April 2004, 35 clients (55% of regular attendees to our clinic) have undergone mantoux testing. Positive results (≥ 5mm induration) were detected in 6/35 (17.5%) clients - at the first step in 2 (40%), and after the second step in a further 3 (60%). The remaining 30 clients had negative results after the two-step mantoux test. Of 5 with a positive test, one case of asymptomatic culture-positive pulmonary TB has been detected, and 3 out of 4 clients (75%) with LTBI have commenced preventive treatment.

Currently, ongoing screening for LTBI is thought to be a low priority in HIV management in Australia. These results should stimulate reconsideration of its importance, particularly in other regions with high rates of TB.
ORAL PRESENTATION ABSTRACTS
SATURDAY 4 SEPTEMBER 2004
MEDICALISATION OF PREVENTION

Kippax S
National Centre in HIV Social Research, University of NSW, Sydney, NSW, Australia

This paper takes up two main issues with reference to the ‘medicalisation of prevention’: the technologising of prevention; and the positioning of prevention within the context of treatment delivery. Both of these relatively recent ‘moves’, I argue, are placing prevention at risk.

The first, the technologising move, while central to the fight against HIV and AIDS, has led to a down-playing of the social and behavioural in the transmission of HIV. The second move, the move to roll-out prevention with treatments and the concomitant emphasis on voluntary counseling and testing (VCT) is destabilising prevention efforts – especially in the developing world – by bypassing and undermining the important role that civil society plays in combating HIV. VCT has moved prevention from the community back into the clinic.

HIV is transmitted by sexual and drug injection practices that are heavily imbued with social meanings, with pleasure and with pain. To be successful, prevention efforts must engage with these meanings – to avoid them or treat them as irrelevant is to court disaster. Prevention – at least in some countries – has worked and it will continue to work as long as we address the human and social aspects as well as the biological and technological ones.

HAART: WHEN TO START AND WHAT WITH

Sax P E
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Combination antiretroviral therapy using at least 3 potent agents has led to dramatic reductions in HIV-related morbidity and mortality. However, the clinical benefit of such treatment is proven only in those with advanced HIV-related immunosuppression; specifically, treatment prolongs life for those with HIV-associated opportunistic infections and/or a CD4 cell count < 200 cells/mm3. Starting therapy during earlier stages of HIV disease, where the short-term prognosis is excellent even without treatment, has no proven benefit; hence the optimal time to start for these individuals remains uncertain, with current guidelines deriving data from recent observational cohort studies. Once the decision is made to start therapy, there are presently 20 available antiretroviral agents from which to choose. The best outcomes in clinical trials have been from regimens that contain either efavirenz or lopinavir/ritonavir; these should be combined with two nucleoside (or nucleotide) reverse transcriptase inhibitors, of which one should be lamivudine or emtricitabine. Despite the availability of treatment guidelines, antiretroviral therapy must be individualized for each patient, and no single regimen is suitable for all clinical settings. The purpose of this presentation will be to review data on the timing of antiretroviral therapy as well as the selection of individual agents.
As an obligate intracellular parasite, HIV is dependent upon many cellular factors for effective infection, replication and dissemination. Recent years have seen an avalanche of information regarding newly discovered interactions between HIV and the infected host cell. In some cases, these interactions benefit virus replication, whereas in others they can impede replication. This presentation will discuss recent findings concerning two aspects of the dynamic interface between HIV and the human host: 1) the role of APoBEC-mediated DNA editing in innate resistance to HIV replication; and 2) the role of cellular TRIM proteins in blocking the early steps of HIV infection. By expanding knowledge in these areas, it is possible that new approaches for anti-HIV/AIDS therapeutics can be designed.
THE HIV/HSV NEXUS

Russell D1

1The University of Melbourne, Melbourne Sexual Health Centre, Carlton, VIC, Australia

Increasingly, Herpes simplex virus type 2 (HSV2) is being recognised as a potent factor in the transmission and acquisition of HIV infection. Having HSV2 antibodies (whether or not the individual is symptomatic) approximately doubles the risk of acquiring HIV. This risk is much greater in the first 12 months following the acquisition of HSV2.

In addition, HSV2 leads to an increase in HIV plasma viral load, and this effect is mitigated by treatment with aciclovir. Studies in the early 1990s suggested that treatment of HIV-infected individuals with aciclovir led to a decreased mortality – this may not hold true in the era of effective antiretroviral therapy.

In Australia, HSV2 is common in the people most at risk of acquiring HIV, namely homosexually-active men. In this population, a study published in 2001 showed a seroprevalence rate of 28% in HIV-negative gay men, and 61% in HIV-positive gay men. More seroprevalence data are needed.

Serotesting for HSV2 is now possible with the Focus™ ELISA test, augmented by Western Blot testing. This should form part of the routine serological testing of HIV-positive individuals. Transmission of HSV2 infection can be reduced by a combination of diagnosis, education, condom usage, and the use of antiviruses.

Furthermore, the population-attributable risk of HSV2 for HIV infection may be 25% in the Australian context, and HSV2 should be viewed as a modifiable risk factor for the acquisition and transmission of HIV infection in Australia. Studies are underway in the USA, Peru and Zimbabwe to assess whether treatment of HSV2 will reduce the transmission of HIV.

MANAGING SEXUALLY TRANSMISSIBLE INFECTIONS IN GAY MEN

McGuigan D, Gray B K

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Sexually Transmissible Infections (STIs) are one of the key health issues facing sexually active gay men. There has been a sustained gonorrhoea and chlamydia epidemic in inner city Sydney gay men since 1999 and recently Syphilis notifications have risen dramatically.

Managing STIs in this population requires a multi faceted approach, utilising a variety of strategies.

These strategies include:

- Print media campaigns and materials
- Web based learning and information provision
- Working with general practice to incorporate education into clinical interactions
- Workforce development
- Reorientation of sexual health services
- Group work and individual interventions

This paper will focus on the application of a range of strategies to address the issue of sexually transmissible infections in gay men as well as outline some of the barriers to sexual health.

SCREENING FOR SEXUALLY TRANSMITTED INFECTIONS IN INDIVIDUALS RECEIVING NON OCCUPATIONAL POST EXPOSURE PROPHYLAXIS

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Non Occupational Post Exposure Prophylaxis against HIV (NPEP) is routinely prescribed after high risk sexual exposure. This provides an opportunity to screen and treat individuals at risk of concurrent sexually transmitted infections (STIs). Our clinic offers routine screening for gonorrhoea, chlamydia, syphilis and hepatitis B to all individuals on NPEP. The aim of this study was to assess the efficacy of STI screening in this cohort.

All individuals undergoing STI screening between March 2001 and May 2004 were included in the analysis. STI results were compared to type of sexual exposure and baseline patient characteristics. For individuals receiving NPEP on more than one occasion the first screen only was included in the analysis.

A total of 253 individuals were screened. This represents 84.6% of the target population. All were men who had sex with men (MSM). Exposure risk were as follows: receptive anal sex (RAS) 61%, insertive anal sex (IAS) 33%, receptive oral sex (ROS) 4%, mucous membrane exposure 0.40%, other 1.6%, 12.6% had one STI or more. The most common STI was rectal chlamydia in 4.8% followed by rectal gonorrhoea in 2.4%. There was a significant association between infection with rectal chlamydia and rectal gonorrhoea (OR 13.2 95% CI 2.86; p<0.001). There was no association between presence of a rectal STI and age or exposure risk. Exposure risks of IAS and ROS were significantly associated with urethral STIs (p<0.015).

These data, with high numbers of positive STI results, highlight the importance of full STI screening in MSM after high risk sexual exposure.

SECONDARY STUDENTS AND SEXUAL HEALTH

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Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, VIC, Australia

Secondary students in Years 10 and 12 students were surveyed in 1992, 1997 and 2002. The surveys examined key aspects of sexual health and can be used to chart changes in sexual behaviour and knowledge over time. The survey in 2002 involved 2,385 young people from all States and Territories and from all school sectors.

Knowledge of HIV transmission is very good; however the 2002 survey identifies a decline in HIV knowledge. Knowledge of STIs remains poor. Knowledge of hepatitis A, B and C is also poor, but has improved somewhat over the past five years. There has been a clear trend since 1992 for students to perceive themselves to be less at risk of contracting an STI; there has been no change in perceived risk of HIV.

The proportion of young people who are sexually active has increased over the time of the three surveys. Condom use is common; there is now a marked change between Years 10 and 12, with fewer Year 12 students reporting regular use of condoms; this can be accounted for by higher rates of oral contraception. More than one in five students reported being either drunk or high on their most recent sexual encounter.

The implications of these findings will be discussed.
HOLDSWORTH HOUSE MEDICAL PRACTICE, A SYDNEY MODEL FOR HIV PATIENT CARE

Quinn, D.  
Holdsworth House Medical Practice, Sydney, NSW, Australia

Holdsworth House Medical Practice established in 1992 recognises the evolving needs of those affected by HIV and those at risk of HIV. The practice has been growing to provide as many choices and as many services as possible for these changing needs of the community.

Based on patient surveys and a mission to overcome barriers to optimal HIV care, the Holdsworth House model aims to deliver advances in technology [IT], Care Planning and a diverse complement of health professionals to yield the care that our patient population needs.

With Dentists, psychologists, podiatrists, counsellors, nurses and medical specialists who have an interest in HIV Health, as well as working with complementary therapists: Chinese herbalist, acupuncturist, chiropractor, physiotherapists, dietician, a comprehensive choice of practitioners are available to deliver better health outcomes to diverse community of patients.

Key to the approach is developing our own customized computerized record system designed to monitor, communicate and provide access to the multidisciplinary approach that Holdsworth House Medical Practice views necessary in patient care.

THE HIV/AIDS PROGRAM IN CANBERRA

See, T. M.  
Interchange General Practice, Canberra, ACT, Australia

Different areas in Australia have come up with different ways to address the issues involved in managing HIV in general practice. In the ACT, the HIV/AIDS Program run by the ACT Division of General Practice plays an invaluable role in supporting general practice in the management of HIV.

This program started in 1992 as one of the general practice projects funded by the Federal Government. Since 1994, it has been managed by the ACT Division of General Practice. The Program employs an HIV nurse full-time based in general practice and also contracts with a counsellor to provide counselling sessions. It also employs a general practitioner to oversee the project. The project also organises monthly education sessions as well as quarterly peer discussion meetings. These are invaluable for maintaining contacts between the different health providers and NGOs working in the HIV area in the ACT. The Program also helps pay for ongoing education to meet the accreditation needs of the general practitioners as well as the training costs of new GP S100 prescribers. This project plays an invaluable role at supporting general practice in the ACT in managing HIV in the ACT community.

A PRIMARY HEALTH CARE PROGRAMME PROVIDES LONG-TERM BENEFITS FOR HOMOSEXUALLY ACTIVE MEN: SIX-YEAR OUTCOMES OF THE CARE AND PREVENTION PROGRAMME

Rogers, G.  
The Care and Prevention Programme, Health in Human Diversity Unit, Department of General Practice, University of Adelaide, Adelaide, SA, Australia

The Care and Prevention Programme has provided a comprehensive Primary Health Care service for homosexually active men (HAM) in South Australia (SA) since the beginning of 1998. 562 HAM have enrolled over that time, of whom 368 have so far been reviewed an average of eighteen months after enrolment. 224 have been reviewed a second time an average of 36 months after enrolment and 80 have been reviewed a third time an average of 55 months after enrolment.

As we have reported previously, enrolment data for the Programme show a pattern of social and health disadvantage that identifies HAM participants as subject to serious health inequity when compared with SA men generally.

Extended follow up of the cohort demonstrates high levels of satisfaction with the Programme (62% ‘Completely Satisfied’, 25% ‘Largely Satisfied’ and only 1% expressing any level of dissatisfaction).

Outcome measures, particularly those at the psychosocial end of the health spectrum, show a pattern of steady continuing health improvement across the period of participation suggesting therapeutic benefit associated with participation (e.g: proportion with suicidal ideation in prior two weeks = 12.9% at enrolment, 6.2% at first review [P<0.05], 4.3% at second review [P<0.01]; proportion with Major Depressive Episode 26.2% at enrolment, 15.2% at first review [P<0.01], 12.9% at second review [P=0.001], all repeated measures analysis, n = 210]).

The proportion of men reporting unprotected anal intercourse with a casual partner in the prior six months fell marginally from 11.6% at enrolment to 9.7% at first review [NS] but had returned to 11.6% by second review [P=0.20, repeated measures]. However, while the rate at enrolment was not significantly different from that in the roughly contemporaneous 1999 Adelaide Periodic Survey (12.1%), the rate at second review was significantly lower than that in the roughly contemporaneous 2001 Periodic (15.9%, P=0.001 by Fisher’s Test) suggesting an effect of participation compared with the prevailing community rate at the time.

Qualitative data suggest that any beneficial effect has resulted from perceived improvement in access to care, information and support resulting from a sense of acceptance and “comfort” for gay-identified men attending the Programme.
**HIV HYPOCHONDRIA: A WORKSHOP TOWARDS A COMPASSIONATE APPROACH**

Hayes, S.
Keamy, E.
Milner, R.

1. Manly Sexual Health Clinic, Sydney, ACT, Australia
2. Canberra Sexual Health Centre, ACT Division of General Practice HIV Program, ACT, Australia
3. Geelong Sexual Health Centre, Geelong Hospital HIV Clinic, VIC, Australia

People who present for HIV testing with low stated risk, high anxiety associated with fear, guilt or shame, and are unrelied by appropriate testing and reassurance, could be described as being hypochondriacal. These people present a unique challenge to both sexual health and HIV practitioners as we struggle to meet their needs, at times perpetuating their anxiety by inappropriately re-testing or taking out our frustrations on them.

This workshop that brings the perspectives of a psychologist, social worker and physician to the condition, aims to develop in participants:

- a recognition of the seriousness of the condition
- an understanding of the spectrum of illnesses
- an appreciation of how we may perpetuate anxiety in our clients
- an exploration of the social context that contributes to the illness, and
- an understanding of therapeutic approaches appropriate to the spectrum of illnesses

Workshop facilitators will use the information collection technique of real-time capture on a big screen, to both collect and organise findings, the printout of which will be presented to participants at the end of the session.

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**Symposium – International Policy Initiatives**

**BEST POLICIES; WORST EPIDEMIC**

Crewe, M.
Centre for the Study of AIDS, Pretoria, South Africa

This paper will look at the paradox of the South African AIDS epidemic – where the country has excellent policies and programmes to address HIV and AIDS, along with some of the most progressive legislation in the world and a constitution that protects and guarantees rights crucial to fighting the epidemic – but continues to have an epidemic that is ‘out of control’. Why is it, that, despite a strong NGO sector, sound policies in government and an acclaimed National AIDS plan the country still has very high levels of infection, stigma, prejudice and discrimination.

What is it about the South African society that produces this paradox and how can the recent response from the President and the Health Minister be understood?

This paper looks at the disjuncture between policy, implementation and action and analyses what went wrong in the South African response.

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**IMPACTS OF REGIONAL AND BILATERAL TRADE AGREEMENTS ON ACCESS TO MEDICINES**

Dinh, K.

Medecins Sans Frontiers, Sydney, NSW, Australia

Members of the World Trade Organisation have long been debating access to medicines through the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement. Where the United States Government has not been able to gain ground though this multilateral forum, it is now using regional and bilateral trade agreements to be able to extend pharmaceutical patent monopolies beyond what is required under TRIPS. In the Asia-Pacific region the US has, or continues to be, in FTA negotiations with Singapore, Australia and Thailand. The US has plans for FTAs with other countries in the Asia Pacific through its ASEAN regional trade initiative.

US trade strategy involves establishing model FTAs and replicating them in other countries. US bilateral and regional FTAs recently concluded, or in negotiation with, developing countries include several common provisions that seek to extend pharmaceutical patent monopolies and limit generic competition. These include extension of patent terms, limitations on the use of compulsory licences and other provisions for delaying entry of generic competition into the market. Such provisions should be excluded from FTAs.

The net effect of such provisions in FTAs will often mean that prices for originator drugs will remain high for longer periods as generic competition is obstructed. In developing countries that enter into FTAs with the US, these high prices could keep medicines out of reach of many in the population. The result, a significant impact on the health of a population, many of whom may be unable to outlive the delays in accessing affordable medicines introduced by the FTA.

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**HIV HYPOCHONDRIA: A WORKSHOP TOWARDS A COMPASSIONATE APPROACH**

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2. Canberra Sexual Health Centre, ACT Division of General Practice HIV Program, ACT, Australia
3. Geelong Sexual Health Centre, Geelong Hospital HIV Clinic, VIC, Australia

People who present for HIV testing with low stated risk, high anxiety associated with fear, guilt or shame, and are unrelied by appropriate testing and reassurance, could be described as being hypochondriacal. These people present a unique challenge to both sexual health and HIV practitioners as we struggle to meet their needs, at times perpetuating their anxiety by inappropriately re-testing or taking out our frustrations on them.

This workshop that brings the perspectives of a psychologist, social worker and physician to the condition, aims to develop in participants:

- a recognition of the seriousness of the condition
- an understanding of the spectrum of illnesses
- an appreciation of how we may perpetuate anxiety in our clients
- an exploration of the social context that contributes to the illness, and
- an understanding of therapeutic approaches appropriate to the spectrum of illnesses

Workshop facilitators will use the information collection technique of real-time capture on a big screen, to both collect and organise findings, the printout of which will be presented to participants at the end of the session.
EXTERNAL DONOR RESOURCES AND THEIR IMPACTS ON NATIONAL HIV/AIDS RESPONSES

Reis E
Australasian Society for HIV Medicine, Inc., Sydney, NSW, Australia

There is now a long history of western donor agencies providing valuable assistance to address the requirements of HIV/AIDS responses in resource poor countries. As well as established bilateral and multilateral projects, there are more recent activities that include the WHO 3 x 5 program and the Global Fund for HIV/AIDS, Tuberculosis and Malaria. In many countries these activities are having profound effects on the administration and focus of national HIV/AIDS responses. This paper will consider some of the ways in which external donor support programs might hinder or help national responses. What are the implications for recipient countries in terms of program management to ensure that national responses are consistent, sustainable numbers of multilateral and bilateral agencies willing to sustain national responses?

HIV . How can these projects continue to provide technical support to achieve this goal? Evidence indicates that in many places, donor agency projects have channelled their support to in many places, donor agency projects have on the one hand, provided excellent support and resources in particular locations or to counterpart organisations, but on the other hand, have failed to build national capacity to respond to HIV. How can these projects continue to provide technical and strategic resources in ways that also build capacity to sustain national responses?

In a context of growing regional epidemics and growing numbers of multilateral and bilateral agencies willing to contribute to efforts to stop those epidemics, it is essential that available resources be coordinated. This will better ensure that national responses are consistent, sustainable and avoid duplication.

Gay Men and Condoms: Exploring the Rise in Unprotected Sex

Clayton S, Ellard P, Prestige G, Chan D, Brotherton A
AIDS Council of New South Wales, Sydney, NSW, Australia; National Centre in HIV Epidemiology and Clinical Research, Sydney, NSW, Australia; 1’Albion Street Centre, Sydney, NSW, Australia.

In 2004 very few gay men in Australia don’t know that consistent use of condoms and water-based lube will prevent transmission of HIV and other sexually transmissible infections. Yet in 2002 51% of gay men reported at least one event of unprotected anal intercourse in the last six months up from 35% in 1996. HIV prevention is obviously just one factor in gay men’s decisions about condom use.

The speakers on this panel will discuss how gay men decide to use condoms in the context of other factors such as: educational messages, erectile dysfunction, psychological issues, drug and alcohol use, long term relationships, intimacy and community attitudes.

Stevie Clayton: The factors that impact on gay men’s decisions about condom use are many and varied. They range from the pursuit of sex without condoms as better sex, through mistaken beliefs about risk practices and a desire for greater intimacy, to external factors such alcohol and drug use. Many of the commonly held beliefs about these factors are not borne out by research findings. This paper examines the different influencing factors, contrasts anecdotal justifications with research findings and explores the ramifications for a health promotion response.

Jeanne Ellard: The Seroconversion study identifies a range of factors that influence sexual practice. These include location, assumptions about serostatus, level of familiarity with the partner, ideas about intimacy, sexual attraction and romance. This paper examines gay men’s attitudes towards and experiences with condoms in order to glean an understanding of why some men sometimes decide not to use them. Many participants viewed condoms as an integral part of safe sex, not always desired but necessary in the era of HIV/AIDS. Participants articulated a variety of attitudes toward condoms including: ‘disease control’, ‘I definitely feels different’, ‘I’ve never really seen them as a hassle’, ‘I hate them’, ‘it’s, a passion killer’; ‘It’s just part of my routine’; ‘I get an allergic reaction to latex’; ‘I could never use a condom, could never maintain an erection’, ‘a condom was just the natural function of sex and that’s that’. These responses reveal a range of practical and interpersonal issues that are likely to impact on sexual practice and more specifically decisions about protected and unprotected anal intercourse.

Garrett Prestage: Gay men make various ‘arrangements’ with their sex partners to make the sex they have with each other more pleasurable and stress-free. With their boyfriends these ‘arrangements’ often include the kind of sex they have with each other, as well as under what conditions sex with other men is permitted. With fuckbuddies they might agree on what sort of limitations there should be to emotional entanglements. And with a casual partner they might ask ‘what are you into?’ before figuring out what they’re going to do with each other. In all of these situations, HIV and condoms are just one factor, and often not the most important factor, guiding their decisions. These sorts of ‘arrangements’ are largely based on what they know about the other person, how well they know them, and how much they care about them. HIV-prevention is just a part of that picture.

Alan Brotherton: The central role of positive people in prevention is a much quoted maxim in HIV strategy documents at all levels. What this looks like in practice is far from clear, and a source of contention both in Australia and overseas. Although there are a number of “explanations” circulating for positive gay men’s failure to use condoms, research and discussion on HIV positive men’s motivations for condom use is somewhat more limited. This presentation will look at some of the possible motivations and rationales for condom use as well as a condom negative approach to HIV positive gay men, with a view to identifying productive approaches to the inclusion of positive people in prevention strategies and activities.

Dr Derek Chan: Erectile dysfunction is commonly experienced by HIV positive men. Apart from the normal decreases in sexual function and performance men experience with age, there are numerous other physical and psychological factors that may exacerbate the problem. An overview will be provided about the biological mechanisms of erectile dysfunction as well as the available treatment options in the light of the HIV epidemic.
SOCIAL CAPITAL AND THE PHENOMENOLOGY OF BAREBACKING

Batrouny C1

This paper will describe Social Capital theory and discuss applying this theoretical framework to the practice of unprotected anal intercourse known within gay community vernaculars as ‘barebacking’. The paper will suggest ways in which educators might take advantage of the social capital attached to barebacking cultures to reinforce HIV prevention. The paper will look at the phenomenology of barebacking and define the meaning of the term within Australian sex cultures. This will include a discussion of safe sex culture as well as the oppositions to that culture as a community ‘norm’. It will describe the advent of a safe sex culture that had, as its foundations, social mobilisation and activism and how, over time, safe sex practice has been layered with moralism and institutionalised instruction. The paper will further describe the development of the sexual maverick and sexual adventurism as it applies to barebacking and define the meaning of the term within this location.

The Australian Study of Health and Relationships (ASHR) was a survey of the sexual behaviour, sexually transmissible infection (STI) prevalence and STI knowledge of a random sample of Australian adults aged 16 – 59. An over-sample of this survey was performed amongst 1000 males in eastern Sydney, within the five most commonly reported postcodes of residence in studies of Sydney gay men. Postcodes 2010, 2011, 2016, 2021 and 2026 were included in the over-sampling exercise. The proportion of males who reported:

- that they identify as ‘gay or homosexual’ varied from 3.9% in 2020-30% in 2010;
- having sexual experiences exclusively with men varied from 4.2% in 2021 to 10% in 2010; and
- only ever having feelings of sexual attraction towards men varied from 3.3% in 2026 to 15.5% in 2011.

In this presentation we examine the proportion of men who report same sex behaviour, same sex attraction and who identify as ‘gay or homosexual’ and provide an illustration of the boundaries of the population of gay and homosexually active men in inner city Sydney.

These findings provide a valuable source of information for health promotion intervention and policy planning, particularly regarding resource targeting and allocation decisions.
NEW APPLICATIONS OF PEER EDUCATION IN YOUNG GAY MEN’S SEXUAL HEALTH PROMOTION

Scott S1
ACON, Sydney, NSW, Australia

Peer educators have contributed enormously to the spread of knowledge about prevention of HIV transmission and the changing of attitudes to HIV positive people and safe sex. In the context of community education of young gay men, this has most frequently been executed through their facilitating peer-run workshops or acting as informal sources of information among their peer group.

This presentation will consider means of extending the utility of peer educators beyond their traditional or most widely applied roles. In particular it will look at ways that peer education might be adapted to respond to challenges in young gay men’s health and wellbeing. Possible areas of application may include the promotion of routine sexual health testing, knowledge and uptake of non-occupational post-exposure prophylaxis, vaccination against hepatitis A and B and HIV seroconversion. The potential of peer education to more greatly affect young gay men’s social networks to be more supportive of young men living with HIV and to more naturally engage with HIV prevention will also be discussed.

POSITIVE IN PREVENTION

Canavan P1
HIV Living Policy Officer, National Association of People Living with HIV/AIDS (NAPWA), Sydney, NSW, Australia

Recent rises in new HIV infections has led some commentators to comment that prevention education has failed and has led to some considerations of the place that disclosure by HIV positive people has played as a factor influencing these rises.

In the US, the Centre for Disease Control (CDC) in May 2003 has adopted a prevention model which places increased focus on identification of those at risk and testing; increased surveillance of positive people and getting them onto treatment together with promotion of a disclosure ethic for HIV positive people.

This new CDC prevention education model has the very real potential to create division and if you like viral apartheid between those who bear the virus and the uninfected and is strenuously opposed by NAPWA.

NAPWA considers that there are some very important education and policy questions which need examining so that the needs of positive people and their individual rights are not at odds with the needs of negative men and the agendas of public health.

If a model such as the CDC were to be adopted in Australia by policy makers and government, it would have the effect of leading to further stigmatisation and discrimination of positive people with the very real potential for this approach to be to the detriment of HIV positive people, their health and well being.

This paper builds upon the recent work that the National Association of People Living with HIV/AIDS (NAPWA) has conducted with its own membership on the desired roles and responsibilities of positive people in prevention and includes some of the points of discussion from the 2004 national HIV Educator’s conference Search Stream on positive in prevention.

In this paper NAPWA argues that there are compelling reasons for the continuation of a national response for prevention under the 5th National HIV Strategy, which is based upon shared responsibility, and a partnership model of combination prevention.

Concurrent Session – Social Research – Multicultural & IDUs

CULTURAL CHARACTERISTICS AND VULNERABILITY TO BLOOD BORNE VIRUSES OF ETHNIC VIETNAMESE INJECTING DRUG USERS

Ho HT1, Maher L1, Crofts N2
School of Public Health and Community Medicine, University of New South Wales, Sydney, NSW, Australia; ‘Centre for Harm Reduction, The Burnet Institute, Melbourne, VIC, Australia

There is increasing concern about the potential for a sudden and significant increase in HIV among ethnic Vietnamese injecting drug users (IDUs) in Australia. The current study aimed to systematically explore the cultural beliefs and behavioural practices of Vietnamese IDUs, to identify barriers to accessing health and preventive programs and to determine the prevalence of antibody HIV and HCV in this population. We present here qualitative data on cultural characteristics and sensibilities that influence vulnerability to blood-borne viruses.

Snowball sampling strategies, including ethnographic fieldwork and street outreach, were used to recruit Vietnamese-Australian IDUs (n = 44) in South Western Sydney. Eligibility criteria for the study were: Vietnamese cultural background, aged 16 years and over and injected drugs in the last six months. In-depth interviews were tape-recorded and transcribed and open coding was used to classify data into themes. Data were examined for regularities and variations in relationships between and within themes.

We identified four main cultural characteristics that appear to influence vulnerability to HIV and other blood-borne viruses: trust and obligation, a reluctance to discuss problems with outsiders, stoicism and a belief in fate. The paper discusses how these culturally shaped sensibilities impact on health beliefs and practices, including risk and preventive behaviours. Results suggest that service providers working with Vietnamese IDUs need to be aware of and to understand these sensibilities in order to work effectively with this group.

WHAT ROLE DO KEY INFORMANTS PLAY IN HELPING US TO UNDERSTAND AND ADDRESS BLOOD BORNE VIRUS PREVALENCE AND RISK BEHAVIOURS AMONG ETHNIC-VIETNAMESE INJECTING DRUG USERS IN MELBOURNE?

Naarn Q1, Higgs P1, Hellard M1
The Macfarlane Burnet Institute for Medical Research and Public Health, Melbourne, VIC, Australia

Key informants or “experts” are often asked to estimate the prevalence of a disease, the numbers in particular risk groups, or the frequency of particular risk behaviours. The figures derived from key informant estimates often used become accepted as “the truth” and used to inform the direction of social and public health policy and resources.

As part of a larger study responding to an increasing concern regarding ethn-Vietnamese injecting drug users (IDUs) in Melbourne being at high risk of HIV infection, a modified Delphi technique was used. The Delphi is a method for the systematic collection and aggregation of informed judgments from a group of experts (or key informants) on specific questions or issues. The study objective was to examine the role and usefulness of key informant information in an area such as injecting drug use where the populations are often marginalised and difficult to identify, and the illnesses (HIV and hepatitis C) associated with the risk behaviour can lead to discrimination by the general community as well as within the social group.

The study selected a panel of key informants from various sectors, with knowledge and skills in the area of interest, who were asked to answer a number of questions relating to ethnic-Vietnamese IDUs in Melbourne. The panel were also asked to indicate the level of confidence they had in their responses to the questions asked of them.

The results and outcomes of this study indicate a lack of specific knowledge and confidence in key informant responses to the questions asked by the study. Our study results highlight the limitations of relying upon key informant information alone to provide specific information or accurate data about ethnic-Vietnamese IDUs, without also obtaining sound evidence. Whilst exercises such as the Delphi technique can be used to generate the broad view of what is occurring in marginalised populations, we argue that care must be taken when using such information as “evidence” on which to base the direction and design of social and public health policy and resources.
CULTURE AND INTERDEPENDENCE: NEGOTIATING HIV DIAGNOSIS AND DISCLOSURE AMONG PEOPLE FROM CULTURALLY AND LINGUISTICALLY DIVERSE BACKGROUNDS

Körner H1, Petrolitos M2, Maseddu D3
1National Centre in HIV Social Research, Sydney, NSW, Australia. 2Multicultural HIV/AIDS and Hepatitis C Service, Sydney, NSW, Australia

The project “Living with HIV and Cultural Diversity” investigates the experiences of living with HIV among people from culturally and linguistically diverse (CALD) backgrounds. This group has been identified in the National HIV/AIDS strategy 1999–2004 as having specific needs relating to education, prevention and health promotion. People from CALD backgrounds made up 22% of HIV notifications in Australia in 2002.

Participants were recruited among the clients of the Multicultural HIV/AIDS and Hepatitis C Service and a sexual health clinic in Sydney. Data were collected through in-depth, open-ended interviews.

One major theme emerging from the narratives was interdependence between the individual, family and ethnic communities. Because of the association of HIV with ‘shame’ in many ethnic communities, an HIV diagnosis affected not only the person with HIV but the whole family. Disclosure required the careful balancing of individuals’ needs for support, their obligations within the family, and their desire to be free from stigmatization. A sense of interdependence was experienced as a barrier to disclosure where the family needed to be protected from negative judgements. However, it could also be a catalyst for disclosure out of a sense of obligation. Disclosure was described by some as a process of negotiating these constraints in a culturally sensitive manner.

Support services for people from CALD backgrounds need to be sensitive to family and cultural dynamics within ethnic communities. The role of bilingual and bicultural co-workers was highly valued. They provide participants with a relationship where they can communicate in their own language. They also provide a relationship that is culturally sensitive, free from negative judgements and ensures confidentiality.

HIV AND INJECTION DRUG USE: IS HAART A REALITY?

Haus P
The Burnt Institute, Melbourne, Victoria, Australia

Sudden outbreaks of HIV in injecting drug users have occurred across the globe with the prevalence rising in just a few years. Victoria has seen a disproportionate number of ethnic Vietnamese injecting drug users with newly diagnosed HIV infection. Since January 1999 over 48% of the IDUs diagnosed with HIV have been ethnic Vietnamese. Although the numbers are small there remains apprehension about the potential for a sudden and significant increase in the number of cases of HIV in the injecting drug using population, particularly within the ethnic Vietnamese subgroup.

A recently completed cross-sectional study among ethnic Vietnamese IDUs found three HIV positive cases. One of these was a new notification; and, despite all being eligible for HAART, none of the three HIV cases in our study were in current contact with any HIV services. Our participants remain in complex and unstable social situations and are not well linked into available services. Our research highlights that these people are not accessing health services to the same extent as other HIV positive people.

Drug related crime and arrest, lack of opiate treatment, ambivalence about HAART, and issues of disclosure are a few of the social issues which mark the difficulties this group of HIV positive people have in dealing with their infection. Despite having case workers who are experienced, culturally aware and well known to the participants follow up has been problematic. Streamlined and flexible access to the infectious disease clinic has not increased compliance to attending appointments or to HAART.

This paper describes the difficulty the authors have had in sustaining primary health care for HIV positive IDUs. It will present a case study to outline the ways the authors have struggled with offering and maintaining a harm reduction focused health service.

ADHERENCE AND DIVERSITY

Petrolitos M1, Eisenberg M2, Katakas P3
1Multicultural HIV/AIDS and Hepatitis C Service, Sydney, NSW, Australia

People from culturally and linguistically diverse (CALD) backgrounds made up 22% of all new cases of HIV in Australia in 2002. Living with HIV/AIDS they experience many similar issues to others living with the virus – physically, socially, and psychologically. But their experience is often compounded by their migration, culture, language, and family, which in turn influence their experience of treatment and adherence.

The Multicultural HIV/AIDS and Hepatitis C Service uses bilingual/bicultural workers to provide a culturally relevant support to people living with HIV/AIDS (PLWHA). It currently targets 20 language backgrounds and the annual number of new referrals roughly equals half the new HIV notifications in NSW from people of CALD backgrounds.

This paper presents case studies from the cumulative experience of the Service to show that culturally relevant support can result in a series of positive outcomes, including ‘better’ adherence.

The paper argues that, contrary to some assumptions, CALD clients are often highly accepting of medical ‘authority’ and treatments, and their ‘non-adherence’ is usually a response to situational constraints, eg disclosure, residency, etc. Even where disclosure is an issue, negotiating these constraints in a culturally sensitive manner can result in positive outcomes.

The paper suggests that clinicians responding to the cultural diversity of their clients need to be sensitive to these issues.

HIV/AIDS MULTILINGUAL RECORDED LINES FOR PEOPLE FROM CULTURALLY DIVERSE BACKGROUNDS

Keynan M1, Sabri W1, Rissel C1, Mung Won L1, Paljar S1
1Multicultural HIV/AIDS and Hepatitis C Service, NSW, Australia

According to the most recent National Centre in HIV Epidemiology and Clinical Research (NCHER) surveillance report, 22 per cent of HIV cases in Australia in 2002 were among people born in non-English speaking countries. In NSW for the two years 2001-2002, 38% of HIV notifications were among people who spoke a language other than English at home.

Data from the NCHER has consistently found that people from Culturally and Linguistically Diverse (CALD) Backgrounds are more likely to present late with HIV when compared to people born in Australia - i.e. a diagnosis of an AIDS-related illness within 3 months of being tested for HIV. Late presentation has important public health implications, as well as personal implications for people from CALD backgrounds, who may not access HIV treatment early.

The Multicultural HIV/AIDS and Hepatitis C Service (MHAHS) carried out a consultation process with service providers and with people living with HIV/AIDS from CALD backgrounds to get their views on late presentation with the overall aim of reducing late HIV presentation, mainly by promoting access to HIV testing. The consultation process strongly supported the development of HIV/AIDS Multilingual recorded information lines. The consultations indicated that people from CALD backgrounds, especially those who have language difficulties, want anonymous ways to access accurate information in their own language.

This paper will present the strategies implemented with the HIV/AIDS Multilingual Recorded Information Lines over the past year. The paper will focus on the strategies implemented since the information lines – in 21 community languages - were launched in November 2003. These include an ethnic media campaign data on the number of hits to the lines and the evaluation of the lines using HIV testing data from sexual health clinics in the Sydney region.

The paper will also explore the difficulties and successes encountered in working with a diverse range of stakeholders, developing the lines and point to strategies which services may be able to use to engage these communities on health issues.
Proliferating Antigen-Specific CD4+ with a CCR5, Cytotoxic T Lymphocyte Phenotype During Primary HIV-1 Infection

Zauderna J1, Munner J1, Jo S1, Grey P1, Smith D E1, Kuttmann D1, Walker B D1, Kaldor J1, Cooper D A1, Kelleher A D1 on behalf of the Phaedra Study Team

1Centre for Clinical Immunology and Biomedical Statistics, Royal Perth Hospital, Perth, WA, Australia

HIV and Hepatitis C Adaptation to HLA-Restricted Immune Responses

Mallal S1

1Centre for Clinical Immunology and Biomedical Statistics, Royal Perth Hospital, Perth, WA, Australia

HIV has an almost unprecedented ability to adapt rapidly to HLA-restricted immune responses both within an individual and at a population level. This appears to be a major driver of HIV Clades and the enormous global HIV diversity that is a major challenge to HIV vaccine design. On the other hand, this capacity for HIV genetic mutation and recombination is so great that it is possible to analyse HIV-viral mutation associations at the single amino acid level and we have been able to exploit this predictable relationship for vaccine design and evaluation.

Specifically the relationship between HLA alleles and HIV polymorphism in chronically infected patients may be used to predict protective responses to a preventative vaccine in a population with similar HLA diversity exposed to a similar range of HIV diversity. Importantly, the immune advantage provided by intense human HLA diversity can then be exploited to ameliorate problems posed by HIV diversity. Analyses of real and theoretical candidate vaccines suggest that “polyallelic” vaccines will most effectively exploit HLA diversity to cover HIV diversity. The degree to which these principles can be generalised to Hepatitis C and other organisms that can adapt rapidly to the host is being examined.

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CAUTIONARY TAIL
GETTING TO THE BOTTOM OF ANAL ITCH – A
P1

positive men, no matter how insignifcant they may appear.
Furthermore, this case also emphasises the need to
screening in high-risk groups. However, there are currently
no accepted screening guidelines.

We report a case of a homosexually active HIV-infected
man with two pre-cancerous lesions of the anal region and
suggest that it may be useful to offer targeted screening for
anal cancer.

A 44 year old homosexual man presented with persistent
pruritus ani and a diagnosis of “chronic eczema” of the peri-
anal skin for 12 months. Physical examination revealed li-
chenifi ed perianal skin. Histological assessment of a biopsy
from this area revealed the characteristic histological chang-
es of “atypical condyloma” – an unusual variant of human
papilloma virus lesion, fi rst reported in the cervix in 1977,
now known to be associated with “high risk” viral subtype
and increased risk of neoplastic transformation compared
to “usual” condylomatosus lesions. The patient was referred
to a colorectal surgeon for excision of the lesion.

Anal cytology was performed at the time of biopsy, and
revealed high-grade squamous intra-epithelial changes.

This case demonstrated the so-called ‘fi eld effect’ of human
papilloma virus – a well-recoginised phenomenon in women,
where cervical intraepithelial neoplasia is frequently found
in association with intra-epithelial (“dysplastic”) changes in
the vagina and vulva. We believe that the changes described
in this man represent a similar phenomenon occurring in the
anal region and suggest that peri-anal lesions may provide
a useful indicator of individuals at increased risk of intra-
epithelial neoplasia in the anal canal.

Furthermore, this case also emphasises the need to
thoroughly investigate persistent anal symptoms in HIV
positive men, no matter how insignifi cant they may appear.
The development of antiretroviral drug resistance mutations is a serious obstacle to sustained suppression of HIV during HAART. Antiretroviral drug resistance testing allows clinicians to choose appropriate therapeutic options. A retrospective study was conducted to assess the prevalence of antiretroviral resistance mutations in treated and untreated HIV patients in a clinic environment, and results compared with overseas data. Resistance to at least one PI was fairly similar (approximately 2%) among treatment naive patients in different countries, except for Canada (3.8%). More variation was observed with NRTI, with resistance to 1 or more NRTI ranging from 1% in Argentina to 28.9% in Warsaw. NNRTI resistance ranged from 0% to 4.9%. Warsaw had higher frequency of resistance mutations in M184V (17%), K70R (42%) and M41L (9%). In pretreated patients, the proportion of PI resistance among the various countries varied from 12% to 58%. The percentage of NRTI resistance mutations ranged from 48% to 77%. Westmead had a higher frequency of L74V (19%) and Y181C (18%) mutations. Brazil-Ti9D9N (47%), Canada-M41L(50%), M184V (65%), D67N (43%) and L90M (40%). Spain-T215Y (51%), G190A/S (34%) and Puerto Rico-K103N (48%). Thailand had a lower frequency of PI resistance mutations- L90M (7%), I54V/L (6%), V82A (8%). The prevalence of primary and secondary resistance mutations in different regions or country will depend on the local treatment practices and antiretroviral drug availability, the patterns of cross-resistance, the presence of different HIV-1 subtypes, and the frequency of resistance mutations in treatment naive individuals.

**P4 VALIDITY OF A NEW COMPUTERISED BATTERY FOR THE ASSESSMENT OF NEUROCOGNITIVE FUNCTION IN HIV-FREE AND AIDS DEMENTIA COMPLEX**

Coxeja L, Mantell P, Brew B, Darby D

Faculty of Medicine, St. Vincent’s Clinical School, University of New South Wales, Sydney, NSW, Australia; School of Psychology, LaTrobe University, VIC, Australia; Departments of Neurology and HIV Medicine, St Vincents Hospital, Sydney, NSW, Australia; Cogstate Ltd, Melbourne, VIC, Australia.

The early identification of AIDS Dementia Complex (ADC), the most severe manifestation of HIV-associated neurocognitive impairment is essential, as several studies have demonstrated the benefit of Highly Active Antiretroviral Therapy (HAART). Conventional neuropsychological assessment is costly in time and resources. A practical brief screening tool is needed.

Sixty individuals with advanced HIV-infection (stage CDC C3, 1993) were randomly selected from a tertiary referral hospital outpatients clinic. Eleven were currently diagnosed with ADC stage 1 or 2. Twenty-one seronegative individuals were recruited as controls. Participants were examined with a comprehensive standard neuropsychological examination and a brief computerised examination, lasting ten to fifteen minutes, assessing psychomotor speed, attention, decision-making and memory learning.

Computerised assessment showed that advanced HIV-infected individuals were significantly slower (p<0.001) and less accurate (p<0.03) than controls. ADC patients demonstrated worse performance when compared to non-demented patients on most speed measures (p<0.001) and the most demanding accuracy (p<0.03) measures. Computerised measures were correlated with standard measures of complex attention and processing speed (r = 45 to 62). Computerised total reaction time (p<0.003) and learning accuracy (p<0.02) were significant predictors of neuropsychological impairment and ADC. When using the standard neuropsychological measures as a gold standard, the brief computerised examination had a sensitivity of 83.8% and specificity of 47.8%.

In conclusion, our study showed that a short computerised test was sensitive to the neurocognitive deficits associated with HIV-infection. The use of this battery could help screening patients at risk for ADC.
Atazanavir (ATV) is a potent once daily protease inhibitor (PI) that has demonstrated clinical comparability to standard of care in naïve and treatment experienced patients, with a superior metabolic profile. ATV was made available through a Special Access Scheme (SAS) in Australia in 2003. Presented is an interim summary of mandatory safety timelines for submission of data. Parameters such as HIV RNA, CD4 and lipids were not routinely collected.

733 patients enrolled in the Scheme from January 2003 to May 2004. Patients are treatment experienced. Patients were presented if experiencing virologic failure (74.4%), toxicity (65.8%) and/or severe, refractory hyperlipidaemia (31.4%).

Sites enrolled in the Scheme from January 2003 to May 2004. Patients are treatment experienced. Patients were included if experiencing virologic failure (74.4%), toxicity (65.8%) and/or severe, refractory hyperlipidaemia (31.4%) with previous therapy. The average age of participants is 46.1 years (SD = 10 years) and the majority (91%) are male. 539 (73.5%) of patients are receiving Atazanavir (ATV) 300mg plus 100mg ritonavir, once a day.

Sites involved in the Scheme were asked to submit safety data one month (OT1) after commencement of Atazanavir and every 2-3 months thereafter. On average the visit interval for data collection is 60-70 days.

ALT and bilirubin are the mandatory laboratory parameters collected. The proportion of patients that experienced concurrent ALT and bilirubin rises was low, with the rate at baseline being nil and increasing to approximately 9% (OT1-OT5). At baseline 12.9% of patients reported an ALT of 55-100 U/L, this increased to 21.3% at OT1 and was stable (±2 years), era and gender (before and after HAART (1996) without documented cardiac events. Thirty three cases and sixty six controls were identified.

CD4 at admission and nadir, HIV RNA at event/ matching date and prior peak, antiretrovirals, and cardiovascular risks were analysed. There was no difference in recorded smoking history, diabetes mellitus, cholesterol, triglycerides, hypertension, HAART therapy, HIV viral load or days of protease inhibitor therapy.

As a sub-study of this study we examined the HS-CRP (highly sensitive C reactive protein) levels in our cases and controls in the twelve months prior to censoring from stored viral load samples usually taken at routine outpatient visits. The CRP level has been shown to be one of the stronger predictors of a cardiac event in HIV negative population and postulated to be a direct player in the pathogenesis of coronary disease. Whereas the normal levels in an HIV negative population are less than 5 the levels in our study were a mean of 7.83 (N=22 SD= 13.6) for controls and 12.87 (N=13 SD=24.56) for cases. The difference between cases and controls did not reach statistical significance by univariate analysis. This data in a small population suggest further examination in a larger population is warranted.

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1. Rapid tests for Leishmania sp. are commercially available as lateral flow tests (LFTs) which have high sensitivity and specificity. They detect Leishmania-specific antigens and are simple to use, requiring only a small amount of blood. LFTs are widely used in clinical practice for initial screening and for follow-up of patients on treatment. They are particularly useful in areas with high endemicity where routine laboratory facilities are limited.

2. The presence of specific reactions on LFTs, such as the development of precipitin lines, is indicative of Leishmania infection. The use of LFTs can help in the early detection of disease, monitoring of treatment response, and in the surveillance of endemic areas. However, LFTs are not diagnostic on their own and should be complemented with other diagnostic methods such as PCR or serology for confirmation.

3. The interpretation of LFT results should be done with caution, as false-positive and false-negative results can occur. False-positive results may be due to cross-reactivity with other pathogens or immunological reactions. False-negative results may be due to low antigen loads or technical errors.

4. To improve the accuracy and reliability of LFT results, it is recommended to perform the test in a standardised laboratory setting and to follow the manufacturer's instructions closely. Interlab comparisons and proficiency testing can also help in assessing the performance of LFTs across different laboratories.

5. In conclusion, LFTs are valuable tools in the diagnosis of leishmaniasis, especially in resource-limited settings. However, they should be used in conjunction with other diagnostic methods, and interpretation should be based on a thorough clinical assessment.

**References:**

Clinical Medicine Posters

**P15** Therapeutic Drug Monitoring of Atazanavir Identifies Low Exposure to the Drug in Some Patients

Ray J.E., Bloch M., Marriott D.
Division of Clinical Pharmacology & Toxicology, St. Vincent’s Hospital, Sydney, NSW, Australia; Holdsworth House General Practice, Sydney, NSW, Australia;
Division of Microbiology, St. Vincent’s Hospital, Sydney, NSW, Australia

Therapy for HIV is complex. Interpatient variability in drug absorption, distribution and elimination is substantial and drug interactions are problematic.

Plasma samples from 110 highly treated experience patients were submitted for therapeutic drug monitoring. ATV plasma concentrations were quantitated by HPLC with a limit of detection of 25 µg/L and pharmacokinetic data analysis was performed using Kinetic V 4.2. A number of patients (18%) had trough ATV concentrations below the limit of detection (<25 µg/L). The assay was selected for further evaluation. Patients were interviewed to assess adherence and medical records were examined for interacting drugs. Furthermore, pharmacokinetic analysis was performed on eleven patients who had plasma samples collected 0,3,6,9 and 24 hours after an observed ATV dose was taken with a standard meal. The solubility of ATV decreases as gastric pH increases and seven patients were given ATV with 100 ml of classic cola drink (which is known to have a pH of 3.0) and a 3 hour blood sample was collected to observe the effect on ATV concentrations.

This study confirmed low exposure in 8 people with HIV receiving ATV 400 mg daily when compared to population pharmacokinetic data for HIV infected patients: mean area under the curve (AUC0-24) was 13,027 µg/L.h (range 3499 –23,500 µg/L.h) and the mean half-life of ATV was reduced in this group (3.8 ± 1.1 h compared to the population average (AUC0-24 of 23,500 µg/L.h) Furthermore, the mean half-life of ATV was reduced in this group (3.8 h; range 1.7-5.1) compared to healthy subjects (half-life 6.3 h). Reasons for low ATV exposure in this cohort of people include administration of interacting drugs, including an unexpected drug-drug interaction (RTV, fluticasone and ATV), impaired ATV absorption secondary to suspected cholelithiasia and potential interactions with colchicine or nandrolone that need further investigation. Viral load remained undetectable in most of these patients with low ATV exposure. The frequency of low ATV results appeared to decrease (4%) after early intervention by the pharmaceutical manufacturer, reminded prescribers of the potential for contraindicated medications to lower ATV exposure.

TDM and pharmacokinetic studies should be viewed as fundamental tools in the development of ART, to improve pharmacotherapy for people with HIV.

**P16** Hepatic Histoplasma Capsulatum Causing Fever of Unknown Origin in a Woman with Advanced HIV Infection

Raymond N. F., McKnight L., Guillard B., Blackmore TK.
Infectious Diseases Service, Internal Medicine; Microbiology Departments, Wellington Hospital, Capital & Coast DHb, Wellington, New Zealand

A 28 year old woman presented to several GPs with high fevers and weight loss. She reported negative HIV tests in the recent past, but a test performed locally was diagnostic for HIV infection with a CD4 count of 20 cells/mm³. In spite of full investigation, and empiric pneumocystis and mycobacterial antibiotics, she had recurring high fevers and malaise. The only localising sign was of hepatomegaly. Liver biopsy was performed and sent for histology and culture. The histology was consistent with a non-specific reaction suggestive of drug reaction. Culture for bacteria and mycobacteria was negative, but extended incubation yielded a filamentous fungus. This was identified as Histoplasma capsulatum using 28S rDNA sequencing and review of the fungal morphology after prolonged incubation.

This case demonstrates the importance of sending tissue for culture as well as histology. It also demonstrates the need to be knowledgeable about diseases of travel.

**P17** A Single Centre Six-Month Clinical Experience of Atazanavir in a Special Access Scheme (SAS) in Australia

Saranapanne J., Kelly M., Bridle S., Gold F.
Albion Street Centre, Sydney, NSW, Australia

Clinical trials have demonstrated atazanavir (AZV) to be potent, safe and well tolerated in both naïve and treatment experienced patients. However, little is known about how this drug performs in a clinic setting. This audit was performed to correlate our experience with published reports.

Patients commencing AZV at a designated HIV outpatient clinic from July 2003 to April 2004 were identified on the clinic pharmacy’s data. Data were retrospectively collected from patients’ medical records.

30 patients received AZV during the period. The reasons for commencing AZV were: virological failure in 6 (20%) of cases, toxicity to previous regimen in 13 (43%), restarting antiretroviral treatment following treatment interruption in 9 (30%) and simplifying dosing regimen to once daily in 2 (7%). 6 (20%) discontinued AZV during the observation period. 1 due to virological failure, 2 due to toxicity to cointerventions, 2 patient choice and 1 physician’s decision. 18 patients commenced AZV in combination therapy with a detectable viral load (VL). The mean baseline VL was log 6.9 ± 1.1 copies/ml and the mean period of observation was 6.9 ± 3.5 months. During this period 13 (83%) had >1.0 log decrease in VL with 11 (61%) achieving viral suppression to <50 copies/ml. 3 (16%) failures were recorded in this group. 12 patients commenced AZV with undetectable VL. One (8%) virological failure was recorded in this group.

Mean bilirubin increased by 22.7µmol/L (p <0.001). Significant decreases in serum cholesterol [1.3 mmol/L, p<0.01] and triglyceride [1.3 mmol/L, p<0.01] were observed in 12 patients who were switched to ritonavir-boosted AZV from other protease inhibitors and not on lipid lowering drugs.

Mild gastrointestinal disturbance occurred in 50% of patients. Jaundice was reported in only two subjects. This audit found AZV to be safe, well tolerated and have good potency in treatment-experienced patients. In addition this audit found significant decrease in lipids in this group of patients. However considering there was one failure in the undetectable group and 3 failures in the detectable group, caution should be exercised in switching to AZV in some heavily pre-treated patients.

**P18** The Use of a Triple Nucleoside-Nucleotide Regimen for Non-Occupational HIV Post Exposure Prophylaxis

Winston A., McAllister J., Cooper D., Carr A.
St Vincent’s Hospital, Sydney, NSW, Australia

Non-occupational HIV post-exposure prophylaxis (NPEP) is recommended for individuals after high-risk sexual exposure. Furthermore, published surveys reveal more than 75% of physicians would prescribe a triple antiretroviral regimen containing a protease inhibitor (PI). Due to the high incidence of intolerable side effects observed with PI based and nelfinavir-based NPEP regimens, our department changed standard NPEP treatment to 28 days of stavudine-lamivudine-tenofovir (d4T-3TC-TDF) in December 2002. The aim of this study was to compare side effects and number of individuals completing NPEP before and after this change.

Parameters were compared between individuals commencing the following NPEP regimens: nelfinavir-3TC (Combivir, group 1) and Combid-tenofovir (group 2) between August 1999 and November 2002 and d4T-3TC-TDF (group 3) between December 2002 to November 2003. The clinic protocol for prescribing NPEP and follow up did not change between these time periods. Episodes where individuals received a NPEP regimen on more than one occasion were excluded.

A total of 398 individuals received NPEP in the above time period with 525 and 157 individuals in groups 1, 2 and 3 respectively. There were no differences in age or sex between groups. Non-completion rates for the prescribed regimens were 25%, 32% and 15% respectively for the three regimens (p=0.001) with odds ratios for non-completion 2.0 and 2.7 in groups 1 and 2 relative to group 3 (p<0.001). Adverse events were generally less common with d4T-3TC-TDF with total event rates in groups 1 and 2 versus group 3 as follows: nausea 53%, 42% and 23% respectively (p<0.001), headaches 17%, 12% and 0.7% respectively (p<0.001), but not peripheral neuropathy, which was more common in group 3 (6%, 0% and 8% respectively, p=0.01). There was no HIV seroconversion in any group.

d4T-3TC-TDF is significantly better tolerated than Combivir or Combid-tenofovir as NPEP and results in greater numbers of individuals completing 28 days of treatment.
Primary Care Posters

P19
MANAGEMENT OF THE HIV-PREGNANT PATIENT: USE OF TENOFOVIR

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36 year old pregnant HIV positive female presented for antiretroviral therapy at 5/40, CD4 count 680, viral load 9730 copies/ml. The plan decided on was suppressive therapy from the second trimester. She was commenced Combivir and Nevirapine at 16 weeks. Liver function tests (LFTs) were normal after 2 weeks. She developed a rash, medications were discontinued. After 10 days she became jaundiced with abnormal LFTs. Liver ultrasound was normal. Symptoms settled spontaneously. Recommended AZT, 3TC and Tenofovir ( compassionate release from Gilead) at 28 weeks. LFTs remained normal. Viral load undetectable at 36 weeks. Ruptured membranes at 38 weeks. AZT IV infusion started. The patient had requested elective caesarian section, regardless of viral load. LSCS under spinal after 4+ hours. Baby delivered with membranes intact. Post-op course un complicated. The infant was provided with oral Zidovudine for 6 weeks.

Antiretroviral therapy was not initiated on the patient prior to pregnancy, because she was asymptomatic, had a stable and relatively low HIV-1 viral load with normal CD4 counts. We initially followed the US Public Health Service recommendations (2002) for an HIV-infected pregnant woman who had not received prior antiretroviral therapy and who had an HIV RNA of over 1000 copies/ml (regardless of clinical and immunologic status), and provided triple antiretroviral therapy. As the patient was intolerant to Nevirapine, she was switched to Tenofovir for the following reasons: 1) her HIV-1 viral load did not warrant putting her on a protease inhibitor, 2) Tenofovir is an FDA Category B drug. “animal reproduction studies fail to demonstrate a risk to the feto/us and adequate and well-controlled studies of pregnant women have not been conducted”, and 3) continued triple antiretroviral therapy would prevent the development of resistance, should she require antiretrovirals in the future. Newer studies though show that Tenofovir in a combination with other nucleoside analogues are not effective in producing a sustained viral load response. Tenofovir was well tolerated, and in combination with Combivir, resulted in an undetectable viral load prior to delivery.

P28
INVOLVING GENERAL PRACTITIONERS IN HEPATITIS C CARE & PREVENTION

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General Practitioners (GPs) are pivotal to any program of best practice hepatitis C care. They play a crucial role in detecting and diagnosing the infection and many cases of uncomplicated hepatitis C can be managed entirely in general practice. If referral is required, GPs are best placed to play the central role in the shared-care management of their patients.

The C Clearly program was established to assist people with hepatitis C, and those at risk of infection, to maximise their health and well-being. One of its principal aims was to support GPs recruited by the program to become and remain involved in a primary care and prevention response to hepatitis C. The program has found that:

- There is considerable ignorance of hepatitis C and misinformation being propagated by many GPs.
- There is great variability in the numbers of patients being seen and actively managed by different GPs.
- People with HCV infection pose particular challenges for GPs as they are generally a very mobile group with complex issues – clinical, mental health, social, and drug use.
- There is poor uptake in the use of Medicare Extended Primary Care (EPC) items as a way of managing and financing hepatitis C care.
- GPs see themselves as generalists and there is limited enthusiasm for more extended specialised involvement in HCV management.

The C Clearly program has succeeded in engaging over 160 GPs in a series of professional development seminars and through direct Project Officer support in managing program participants. This paper describes issues involved in engaging GPs in this area, outlines some successful strategies, and explores problems identified with establishing an adequately resourced primary health care response to hepatitis C care and prevention.
**P22**

**DELAYED DIAGNOSIS OF HIV/AIDS**

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The Holden Street Clinic is situated on the NSW Central Coast. The clinic has a relatively high proportion of clients who were diagnosed HIV positive with an AIDS defining illness. The demographics of this client group are similar to that found in previous studies. Variables associated with delayed diagnosis of HIV were found to be: male gender, heterosexual and age over 44. The Holden St cohort supports these findings.

The majority of clients presented with opportunistic infections and were subsequently found to be profoundly immunosuppressed. In addition, testing for HIV had occurred as a 'last ditch' option after multiple investigations failed to determine cause of illness. These clients did not fall into an obvious high risk group therefore HIV infection was not immediately considered.

An HIV diagnosis was associated with multiple psychosocial problems when clients had to come to terms with an unexpected, potentially life threatening outcome and face the daunting task of disclosing their diagnosis to family and friends. HIV incidence in Australia remains, to a great extent, an infection restricted to men who have sex with men, occurring mainly in metropolitan areas. Therefore the potential remains that individuals not falling into a specific category will continue to have delayed diagnosis and associated adverse health outcomes in an era where antiretroviral therapy has significantly reduced the incidence of AIDS.

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**P21**

**BENEFICIAL EFFECTS OF INTERACTIONS BETWEEN ANTIRETROVIRAL AGENTS**

Aran S1

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The therapeutic options for human immunodeficiency virus type 1 (HIV-1) patients have dramatically improved with the availability of highly active antiretroviral therapy (HAART). Protease inhibitors (PIs) are metabolised by the cytochrome P450 enzyme system in the gastrointestinal tract and liver. When PIs are used in combination, significant drug interactions may occur that are useful in practice.

Ritonavir, a protease inhibitor, is increasingly used in low doses in HAART to augment the plasma concentrations of other concomitantly administered protease inhibitors such as atazanavir, saquinavir, lopinavir, and indinavir.

The combination of ritonavir with other PIs offer many advantages such as utilisation of lower doses with longer dosing intervals (eg: daily instead of twice a day), better patient compliance to therapy and higher treatment potency. These concepts have led to the implementation of prescribing guidelines (eg: drug interaction charts) at our institution that will help practitioners to use these drug combinations in their practice.

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**P23**

**SEXUAL HEALTH: A RESPONSIVE PARTNERSHIP APPROACH**

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Griffith University, in collaboration with Queensland Health, has offered a Graduate Certificate of Sexual Health Nursing since 2001. This program provides sexual health nurses with the theoretical knowledge and clinical competency to achieve Sexual & Reproductive Health Endorsement - Drug Therapy Protocol (DTP) with the Queensland Nursing Council.

Recent evaluation of the program indicated the need to revise content and restructure the program to meet the changing higher education needs of sexual health clinicians, provide a mechanism of training for beginner practitioners entering the speciality field and target a broader multidisciplinary cohort of students.

This paper describes the ways in which the program will provide flexible pathways for clinicians from a broad range of disciplines and a variety of health care settings to advance their expertise in the specialty of sexual health. The challenges of flexible on-line internet delivery mode will be discussed as well as strategies to enhance interactive student learning and provide highest quality sexual health education. Courses aim to promote best practice and research for a diverse range of students both nationally and internationally.
Policy guidelines on feeding of infants and young children in the context of HIV/AIDS were adopted in 2001 by the Ugandan Ministry of Health (MOH). The policy recommended infant feeding counseling (IFC) for all HIV positive (HIV+) parents.

We performed a comparative cross sectional study to assess the effect of IFC on infant feeding choices and practices among parents who had attended the prevention of mother to child HIV transmission (PMTCT) program in Bushenyi district, Uganda, East Africa.

By May 2003, 200 interviews had been conducted: 161 were of women and 39 were of male partners. In total, 61 mothers were HIV+, and 100 were HIV negative. Overall, 103 respondents had ever heard of IFC and 43 (42%) had ever attended an IFC session, of whom 5 were men. Of these, 35 (81.4%) were HIV+ women. Of the 38 mothers who attended an IFC session the majority (23, 61%) chose exclusive breastfeeding (EBF); 11 (29%) chose replacement feeding (RF) and were practicing RF at the time of the interview. This indicates the high adherence of these mothers to their choice of infant feeding option made during the IFC session. Adherence to EBF was lower with 18 (73%) adhering to this mode. Choice of feeding mode differed between HIV+ and HIV negative mothers (p = 0.002): 21.7% of the HIV+ women EBF; 21.7% mix fed and 15% complement the infant feeds compared to 15%, 53% and 23% respectively, among the HIV negative women. Overall, 36.7% of the HIV positive women were feeding contrary to Ugandan policy recommendations. As only 53.4% of the HIV positive women had attended an IFC session, this is not surprising.

These results have important infant feeding policy implications for this community: while IFC is crucial in the reduction of perinatal HIV transmission, more than 40% of HIV+ women had not attended an IFC session, and 37% were feeding contrary to policy recommendations.
In this document, the main points can be summarized as follows:

**Public Health and Prevention Posters**

- **Evaluation of Interagency Action Plan in Response to the Reported Increase in HIV Notifications**
  - Moore R1, Mackie B2, Nelson M3, Moreton R4, Turner R5, Murphy D6
  - 1Northern Sydney Area Health Service, Sydney, NSW, Australia; 2NSW Department of Health, Sydney, NSW, Australia; 3Albion ST Centre, South Eastern Sydney Area Health Service, Sydney, NSW, Australia; 4Central Sydney Area Health Service, Sydney, NSW, Australia; 5AIDS Council of NSW, Sydney, NSW, Australia; 6National Centre in HIV Social Research, Sydney, NSW, Australia

- From 2001-2002 there was a reported 15% increase in HIV notifications in NSW. This was predominantly concentrated among gay and homosexually active men in the inner city of Sydney. This represented the largest increase in HIV notifications in NSW since the epidemic was brought under control in the late 1980s. This paper will outline the notification patterns in NSW. This was predominantly concentrated in HIV Social Research, Sydney, NSW, Australia.

- **Provision of Care to HIV Positive Inmates in NSW Correctional Environment**
  - O'Reilly M1, Sharpe N2, Douglas J3
  - 1Corrections Health Service, Matraville, NSW, Australia

- There are clinics in 31 correctional centres, 11 periodic detention centres, two transitional centres, 8 police cell complexes, 14 court complexes and nine juvenile detention centres across New South Wales. The fulltime population is currently around 8,500. Twenty seven percent of people stay less than eight days, 17% eight to 30 days, and 56% longer than 30 days with only 10% longer than six months. Recidivism is high at about 69%.

- Within the Corrections environment a large number of inmates are either already infected with a blood borne virus, or are at risk of acquiring one. In addition inmates are often in a situation whereby they are exposed to ongoing risk during their incarceration. Education and health promotion are important roles for staff working with these clients, as access to harm minimisation strategies is limited.

- While only a small number of inmates are HIV positive, these numbers are steadily increasing. Often inmates have complex health needs related to co-infection with hepatitis C and/or hepatitis B, drug and alcohol and mental health related problems. They can be housed at any of the correctional centres around the state. These clients are managed by a team of experienced Sexual / Public Health Nurses in collaboration with Specialist Medical Services. CHS also works closely with Specialist Health Services and Community Based Organisations both in relation to the provision of care and transfer to the community.

- Providing these clients with optimal care presents many challenges. These include potential movement of clients to any Correctional Facility in the state making follow up for specialist services and routine monitoring complex, in addition to presenting challenges related to the maintenance of confidentiality and privacy. Clients who are on antiretroviral therapy present particular challenges in relation to compliance and management of side effects. HIV positive inmates can also feel isolated and marginalised as access to their usual community support networks is limited.

- The scope of managing harm minimisation strategies within the correctional environment is also challenging when providing health care to HIV positive clients.

- **Harm Minimisation in an Environment of Zero Tolerance: The Australian Prison Experience**
  - Read V1, Levy M2
  - 1Department of Justice, WA, Australia; 2Centre for Health Research in Criminal Justice, NSW, Australia

- Over 22,000 prisoners reside in Australia’s prisons and 40,000 prisoners are released back to the community annually. It is important to examine how the experience of incarceration has impacted on these people giving the prevailing policy of zero tolerance within the prison system.

- In recent years there has been a significant strengthening of partnerships across Australia of those in the prisoner health sector who actively work towards the introduction of harm minimisation strategies. Resistance to harm reduction initiatives is gradually shifting among custodial services from a policy of zero tolerance to acceptance of a harm minimisation framework.

- The prison system is often criticised for its lack of progress in the introduction of harm reduction strategies. However progress is being made and innovative strategies are in place in the different jurisdictions across Australia – only some of the examples to be presented include methadone maintenance programs, henna tattooing and conjugal visits for prisoners. This paper takes a national perspective on these achievements, their implementation milestones, and obstacles.

- Importantly the paper also examines how the sometime uneasy partnership between health and custodial services can be strengthened in relation to the introduction of demand and harm reduction strategies.

- **Safer Sex-Related Knowledge, Risk Perceptions and Behaviours Among Young Mental Health Clients who have Experienced a First Episode of Psychosis**
  - Shields H1, Fairbrother G1, Ohmann H2
  - 1Prince of Wales Hospital and Community Health Services incorporating Albion Street Centre, Sydney, NSW, Australia

- To describe and cross-sectionally analyze sexual health knowledge, risk behaviour and sexually transmissible infection (STI) screening history among young people who have been diagnosed with a first episode of psychosis, presenting to community based early psychosis programs in south-eastern Sydney.

- A self-report questionnaire was distributed among young mental health clients presenting with a first episode of psychosis to a south-eastern Sydney early psychosis programme. Sixty-two complete surveys were obtained from 110 approaches (56%). Among sexually active respondents, females were much more likely to report >3 partners than males (57% vs. 7%; x²=13.3; P<0.0001). Comparison with available findings among adolescents without a mental illness suggests that this significant gender disparity is particular to young people who have a mental illness. Eighty two percent of respondents identified as safe sex knowledge confident, however 24% of males and 45% of females expressed concern that they had had unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex. Most respondents who were concerned about the occurrence of unsafe sex in the past 12 months. Knowledge regarding STI transmissibility was fair and knowledge of risk associated with sexual practice was good, excepting anal and oral sex.
P32 LIVING WELL WITH HIV
Bourne A1, Gaston W1, Leane K1
1Relationships Australia (SA), SA, Australia, 2PLWA (SA), SA, Australia

MOSAIC, a program of Relationships Australia (SA), provides an innovative counselling service for people affected by HIV and Hepatitis C. This lively, interactive workshop will provide an overview of how a counselling service underpinned by health promotion principles works with the HIV affected community to develop personal skills and resources, strengthen community action, and build supportive partnerships as the foundation for a holistic, effective and responsive service for people living with HIV.

The workshop will showcase how best practice in counselling, group work, and the development of collaborative partnerships with HIV community organisations, hospitals, and other relevant services promotes the emotional and mental health and well being of people living with HIV.

P33 LOBBYING FOR LEGISLATIVE EQUALITY IN ORDER TO ESTABLISH AND MAINTAIN AN ENVIRONMENT FOR SUPPORTIVE PUBLIC POLICY IN HIV IN NSW
Gallagher S1
AIDS Council of NSW, Sydney, NSW, Australia

Cultural and legislative discrimination against gay men, people who inject drugs and sex workers continue to be constant barriers to the delivery of effective health care interventions and education.

This presentation will draw on a range of lobbying interventions, social marketing campaigns and community mobilisation strategies utilised over the last 20 years in the NSW response to the HIV epidemic. Examples of the successes and failures in the response related to the decriminalisation of sex work, homophobia and the provision of sterile injecting equipment in order to create a supportive environment to minimise the transmission of HIV will be used.

Legislation which discriminates against gay men, people who inject drugs and sex workers creates an environment where HIV can pose a serious public health threat to marginalised populations and the community at large.

In order for public policy to create an environment where individuals and communities can make the best health decisions and establish collective healthy normative behaviour, all levels of government, non-government advocacy agencies and affected communities need to be committed to an on-going response.

P34 A SENSITIVE, QUANTITATIVE REAL-TIME PCR ASSAY TO DETECT LAMIVUDINE RESISTANCE-ASSOCIATED MUTATIONS IN HBV VIRUS
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1Department of Medicine, Monash University, Melbourne, VIC, Australia, 2Victorian Infectious Diseases Reference Laboratory, Melbourne, VIC, Australia

Rapid inexpensive detection of drug-resistant HBV quasispecies would be of benefit in the rational choice of antiviral therapy for HBV. The most common antiviral currently used for treatment of HBV is Lamivudine. Mutations leading to Lamivudine resistance are located within the HBV polymerase at the YMDD motif and are known as the rtM204I and the rtM204V mutation. Currently, detection of drug resistance requires sequencing of the HBV polymerase.

Discrimination between the 3 variants (wild type, rtM204I and rtM204V) was possible using a common forward primer specific for a highly conserved sequence in the coding region of the viral polymerase paired with reverse primers specific for each variant (separately) at the 3’ terminal. Real-time PCR and a molecular beacon specific for a highly conserved region between the primer pairs was used to detect amplicons. External plasmid standards constructed with wild type HBV and with either the rtM204I or rtM204V substitutions enabled quantification of each quasispecies.

Using the plasmid standards as template we determined the degree of cross priming between mismatched template-primer sets. Cross priming occurred when the mismatched species was present in excess of 4 logs greater than the complementary quasispecies. This was factored into further analysis. Using mixes of known ratios of wild type to mutant template we confirmed the accuracy of the assay. Input and calculated copy numbers for each variant were identical, with the assay able to detect minority quasispecies at 1 in 1,000.

Real time PCR was performed on sera from 24 individuals never treated with Lamivudine. Only wild type virus was detected by both real time PCR and sequence analysis. A further 59 plasma samples obtained from 21 HBV-infected individuals taking lamivudine were analysed by real time PCR, sequencing and line probe (LiPA) analysis. This collection of sera included sequential samples for 15 individuals and infection with wild-type, rtM204I and rtM204V mutations. A high degree of correlation between the techniques was observed, with the added advantage of quantification of each quasispecies with real-time PCR.

Discriminatory real-time PCR is a simple and rapid technique that can reliably detect and quantify Lamivudine-resistant HBV.

P35 MAKING, KEEPING AND BREAKING AGREEMENTS WITH REGULAR PARTNERS AMONG GAY MEN: THE HEALTH IN MEN STUDY
Prost et al.1, Gruelich A1, McGuigan D3, Mao L1, Van de Ven P2, Kappax S2, Kalder J1 on behalf of the Australasian-Thai HIV Vaccine Consortium
National Centre in HIV Epidemiology & Clinical Research, Sydney, NSW, Australia, 1National Centre in HIV Social Research, Sydney, NSW, Australia, 2AIDS Council of NSW, Sydney, NSW, Australia

This paper will report on negotiated agreements among HIV-negative gay men in Sydney.

Data from the Health in Men longitudinal study of HIV-negative men participating in Sydney’s gay community will be used. 1333 men were interviewed between 2001 and 2003.

903 men had a primary regular partner during the six month period before their baseline interview. Most of these men had negotiated agreements with their partners about their sex with each other (76.0%) and with other partners (69.7%). They most commonly agreed not to use condoms with each other (39.6%). For sex with other partners they mainly agreed to always use condoms (33.3%) or to not have sex with other men at all (24.7%) – only 9.5% permitted unprotected anal intercourse (UAI) with other men. 73.9% found it easy to discuss sex with their partner; and 65.0% were confident their partner would tell them if he broke their agreement. However, 31.9% were less comfortable discussing with their partner their sex with other men. 21.8% of those with agreements with their partners reported ever breaking them. Those who found it more difficult to discuss their sex with other men were more likely to break their agreements (p<.001), and to have engaged in UAI with casual partners in the previous six months (p<.01). A quarter of the men who broke their agreements did not inform their partner. Otherwise, those who broke their agreements most commonly either returned to using condoms with their partner (27.1%), or re-negotiated their agreements (27.3%).

While most gay men are able to negotiate agreements with their partners about the kinds of sex they have inside and outside their relationship, a minority of men find this less easy, particularly when it comes to discussing sex with other men. Some men may have reported difficulty discussing these issues because they had broken their agreements. Nonetheless, difficulty discussing these issues with their partners may place some men at increased risk of breaking their agreements and may place both themselves and their partners at increased risk of infection.
P36
HOUSING PEOPLE LIVING WITH HIV: SUSTAINING TENANCIES IN COMMUNITY HOUSING AND LINKING PEOPLE WITH MULTIPLE SUPPORT SERVICES

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Bobby Goldsmith Foundation, Sydney, NSW, Australia

Secure tenancies and good health are closely linked, particularly for people living with HIV. The experience of the Bobby Goldsmith Foundation in provision of accommodation support aimed at achieving and maintaining tenancies for people living with HIV and multiple other needs is described, the challenge of maintaining networks of support to meet these multiple needs are discussed, and the critical success factors in assisting people to achieve and sustain tenancies in community housing, more congregate settings, and in emerging models of housing provision are outlined. Partnerships with other services and how they are developed, formalised and maintained are also described.

P37
DECA DURABOLIN: ESTABLISHING EQUITABLE ACCESS FOR TREATING HIV COMPLICATIONS

Strum A J1
PlWHA, South Yarra, VIC, Australia

HIV wasting occurs in 40–50% of the HIV population. While metabolic wasting usually occurs in advanced disease, wasting associated with quality of life issues can occur at any stage of HIV infection where people may have difficulty maintaining adequate nutritional intake. Reduced quality of life indicators can be associated with multiple factors such as reduced libido, depression, self-esteem and body image issues. Antiviral agents can assist in slowing or preventing HIV wasting in some people, but weight gains are often only fat and not muscle. In the era of HAART, muscle wasting continues to take place in 48% of people taking antiviral medication which is often masked by fat gains. Osteopenia and osteoporosis have been identified in people with HIV.

Deca Durabolin (nandrolone decanoate) has been shown to be a safe and effective treatment for all of the above complications. Prescribing of Deca Durabolin depends on the personal beliefs of treating physicians, leading to inequitable access to what could be considered to be an essential treatment for people with HIV. Some physicians believe that HIV wasting is a straightforward classification of weight loss > 10% from normal body weight which might be considered to be an outdated definition. This paper discusses possible new definitions for HIV wasting, along with potential uses of Deca Durabolin including results from a small ad hoc survey of doctors in Melbourne. Guidelines have been drafted in an effort to encourage a national standard of care for equitable access to Deca Durabolin for HIV positive Australians.

P38
CHANGING LIVES, GIVING HOPE

Thangadu C1
Project Concern International, New Delhi, India

The rapidly rising AIDS cases need to be addressed through innovative, cost effective interventions based at home and the community. The overburdened healthcare system is incapable of providing even basic care and support that ensure better quality of life for PWHA’s. Project Concern International, implements CDC, Atlanta /GAP, India funded home and community based care project for PWHA’s viz. “Pathway – Positive Action for the health of People living with HIV/AIDS” in two Indian states; in Pune, Maharashtra with local NGO partners Sevadham Trust and NMP. In 2003, a second intervention site in Salem, Tamil Nadu. The goal: ‘to improve the quality of life of PWHA’s and their families’. Main objectives are (1) increase access to healthcare, psycho-social, economic support, prevention services (2) increase community support for PWHA’s (3) increase capacity of partners and community groups to provide HIC services. The services provided includes: VCTC, psycho-social counseling, palliative, prophylactic, curative treatment of OI’s, TB/HIV treatment, self & family care, medical & nursing care, mobile clinics, home visits, DMC, community centers, nutritional supplementation, livelihood enhancement through micro-credit enterprises, mental health services, community sensitization & outreach, capacity building, trainings, referrals and networking. ARV therapy for selected clients through Government of India ARV program.

The outcome thus far are: 830 PWHA’s identified, 4599 counseling sessions, 1532 HIV testing, 4147 visits by PWHA, 15119 general client visits to mobile clinical services, 15943 home visits, 694 referrals, 274 PWHA’s provided nutritional support, 1237 community programs, 85 micro enterprises development loans disbursed, 15 PWHA support group formed, 117 training workshops.

The lessons learnt: * Early diagnosis leads to better quality of life * Care and support to PWHA’s at home improves mental well being * Community involvement reduces stigma and discrimination * Incorporating GIPA across the board leads to better programming * Integration of HIV and TB reduce the burden of disease * Nutritional supplementation foster greater PWHA’s acceptances to services * Economic empowerment of PWHA’s key to revival of hope, family bonding, dignity * Good quality healthcare can be delivered by family members of PWHA’s * Responding health needs of PWHA’s at their doorsteps increases compliance * Care propels prevention.
This presentation will also discuss the broader policy implications for the National AIDS Foundation (PIAF), I GAT Hope network and the Pacific ASHM, and the Australian Foundation for Peoples of Asia Cross, United Nations Development Program (UNDP), and other organisations seeking such collaborations or alliances.

Several projects have sought NAPWA’s consultation for the development of guidelines, manuals, and resource development projects. NAPWA has engaged with networks of positive people in the Pacific, to encourage “twinning” and similar support to those groups or organisations seeking such collaborations or alliances.

The work of the International Portfolio includes support for regional PLWHA groups by providing technical assistance, capacity building, and technical assistance to groups and communities affected by HIV/AIDS. These programmes have been funded by networks of sexual health and related organisations. This included technical assistance to the Australian AIDS Council, Brisbane, Queensland, Australia; Queensland AIDS Council, Brisbane, Queensland, Australia; AIDS Medical Unit, Brisbane, Queensland, Australia; and the Royal Brisbane Hospital, Brisbane, Queensland, Australia.

In June 2004 a workshop examining the management of complex cases in HIV in the era of HIV as a chronic disease was conducted in Brisbane, Queensland. The Workshop was titled: ‘HIV & Wellness Workshop II: Examining Complex Cases’. The aim of the workshop was to increase knowledge, skills and confidence levels for the management of complex cases utilising a chronic condition self-management approach to healthcare.

The course was advertised through networks of sexual health and related organisations. This included ‘invitations to attend’ provided to all current HIV prescribers in Queensland and mail outs to hospitals, nursing organisations, divisions of general practice and HIV/sexual health service providers. The seminar was attended by over 40 health care workers.

The workshop centred on discussion of a complex case and provided summary presentations on topics relevant to that case. These included psychological issues with the use of publications and written resources. The workshop provided an opportunity for the exchange of ideas and experience on complex cases utilising a chronic condition self-management approach to healthcare.

This poster will examine the responses to the evaluation question. What will I do differently in my clinical practice, as a result of attending this workshop?

Relationships currently established include APN+, and the Global network of Positive People (GPP)+, Australian Red Cross, United Nations Development Program (UNDP), ASH, and the Australian Foundation for Peoples of Asia and the Pacific (AFAP), Body Positive New Zealand, Pacific Islanders AIDS Foundation (PIAF), I GAT Hope network, and the beginning of contacts in East Timor.

This presentation will also discuss the broader policy implications of the work of the NAPWA International Portfolio networks, and the underlying principles of HIV positive peer facilitation within community development for HIV positive people in the region.

This poster will examine the responses to the evaluation question. What will I do differently in my clinical practice, as a result of attending this workshop?

Specific resources have included production of organisational development manuals, guidelines for writing proposals, train-the-trainer workshops, and training modules to accompany the use of publications and written resources. Several projects have sought NAPWA’s consultation for needs analysis, program design and the implementation of these programs.

Relationships currently established include APN+, and the Global network of Positive People (GPP)+, Australian Red Cross, United Nations Development Program (UNDP), ASH, and the Australian Foundation for Peoples of Asia and the Pacific (AFAP), Body Positive New Zealand, Pacific Islanders AIDS Foundation (PIAF), I GAT Hope network, and the beginning of contacts in East Timor.

In early 2003 a female tourist was identified as having HIV infection and indicated the source of the infection as the original male contact. Coincidentally, and somewhat serendipitously, another female tourist was identified as being infected from the same source and ten male partners of this woman were also contact traced. At this time, four additional female partners of the index male were contacted, and an additional two women were subsequently diagnosed as having HIV infection. The identified HIV infected male partner subsequently received care, including extensive counselling regarding his responsibility to future sexual partners, and also anti-retroviral therapy, until mid 2001 and was then lost to follow-up.

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In summary we report the heterosexual transmission of HIV to six women in Sydney, over a five year period. In early January 1999 an 18-year old female presented to ASH as having an HIV diagnosis by a General Practitioner. Two male partners, both from another country and both having several of the female partners in common, were contact traced. One of the men was diagnosed as having HIV infection. Following that diagnosis, five women were contacted, and an additional two women were subsequently diagnosed as having HIV infection. The identified HIV infected male partner subsequently received care, including extensive counselling regarding his responsibility to future sexual partners, and also anti-retroviral therapy, until mid 2001 and was then lost to follow-up.

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Little is known of the clinical behaviour of anal cancer, and its interaction with HIV in Australia. We therefore sought to investigate the characteristics of people presenting with anal cancer in Sydney.

A retrospective case note review was performed of patients presenting between January 1994 and January 2004 to St Vincent’s Hospital in Sydney with a histological diagnosis of anal cancer in Sydney. The study population consisted mainly of young HIV infected male homosexuals who share a mutant HIV-1 strain.

The Sydney Blood Bank Cohort (SBBC) consisted of eight men whose SBBC donors reported the ARCBS. The SBBC donor cohort includes two men with a new mutation in C49, C64 and C135 have a normal CD4:8 ratio. All have HIV-1 RNA consistently below detectable limits (<50 copies).

The three remaining recipients C49, C64, and C135 have been infected >20 years, are therapy naive with no signs of disease progression. C135 and C64 have CD4/CD8 ratios of 1.1, and C49 has a normal CD4/CD8 ratio. All have HIV-1 RNA consistently below detectable limits (<50 copies).

The Sydney Blood Bank Cohort (SBBC) consisted of eight members; seven recipients with transmission transmitted HIV infection, (TTH) and a common donor. All members of the SBBC were infected with a mutant nef HIV-1 strain. Four recipients are deceased after many years of infection from causes unrelated to HIV; none had progressed to symptomatic HIV disease before death.

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LONG TERM NON-PROGRESSOR COHORT

Seventeen individuals were defined as sustained non-progressors were defined by a CD4 T-cell count non-progression and sustained viral control. Sustained non-progression was determined for every six-month period following HAART up to 5 years. Sustained virological response over time was defined in terms of the maintenance of a viral load ≤ 500 copies/μL and of sustained non-progression and sustained viral control. Sustained non-progressors were defined by a CD4 T-cell count ≥ 500 cells/μL, without any clinical evidence of HIV-related disease. The cohort has been followed to identify host genetic, immunological and virological factors associated with asymptomatic HIV infection and their influence on disease progression in LTNP individuals.

There are currently 102 individuals enrolled in the cohort with a median duration of infection of 16 years (range 8.6–19.4). Eighty-seven of these individuals have had their HLA class I alleles typed. Further analysis was undertaken of 52 LTNPs with more than 5 years follow up to determine the relationship between HLA type and sustained long term non-progression and sustained viral control. Sustained non-progression were defined by a CD4 T-cell count ≥ 500 cells/μL, for the duration of follow up and remaining treatment naïve and all other individuals were defined as progressors. Seventeen individuals were defined as non-progressors and 19 individuals showed evidence of sustained viral control. There were 43 different types of HLA class I alleles found with the cohort. The types that occurred most frequently in the cohort were A1, A2, A5, A3 (19), B8 (10), B27 (4) and B44 (17). In univariate analysis, a significant association was found between the possession of a HLA class I allele and the maintenance of a viral load ≤ 500 copies/μL, and remaining treatment naïve.

Seventeen individuals were defined as sustained non-progressors and 19 individuals showed evidence of sustained viral control. There were 43 different types of HLA class I alleles found with the cohort. The types that occurred most frequently in the cohort were A1 (17), A2 (25), A3, A5 (19), B8 (10), B27 (4) and B44 (17). In univariate analysis, a significant association was found between the possession of a HLA class I allele and the maintenance of a viral load ≤ 500 copies/μL, and remaining treatment naïve.

Patients with sustained viral load below 4 log copies for extended periods of time displayed ongoing recovery of CD4 cells. The association that was found between possession of a HLA A32 allele and sustained non-progression suggests that it may protect against HIV disease progression.

LONG TERM TRENDS IN CD4 COUNT CHANGES IN PEOPLE RECEIVING ANTIRETROViral TREATMENT FOR MORE THAN THREE YEARS

To investigate the long-term CD4 cell response in patients receiving HAART in the presence or absence of sustained virological response.

Analyses were based on patients who were recruited to AHOD up to September 2003, commenced HAART after 1 January 1997, and had at least 3 years of follow-up. Patients were required to have a baseline CD4 cell count at time of initiation of HAART and a series of follow-up CD4 cell measurements. Mean change in CD4 cell count was determined for every six-month period following HAART up to 5 years. Sustained virological response over time was defined in terms of the weighted area under the curve log viral load from one year after HAART initiation to last follow-up, stratified according to the following: <2.7 logs, 2.7–<3 logs, 3–<4 logs, and ≥4 logs. Trends in CD4 counts over time were examined overall and according to baseline CD4 cell count at HAART initiation.

By September 2003, 2311 patients had been recruited to the Australian HIV Observational Database (AHOD). Of these, 631 patients met the inclusion criteria as defined above. Mean baseline CD4 cell count was 371 cells/μL. Forty-three percent of patients had a viral load persistently below 2.7 logs copies, while 12% of patients had sustained viral load above 4 logs copies. Mean CD4 count increases at 3, 4 and 5 years in each strata were: <2.7 logs, 306, 334 and 383 cells/μL; 2.7–<3.0 logs, 260, 275 and 286 cells/μL; 3–<4 logs, 179, 148 and 119 cells/μL; and ≥4 logs, 23, 26 and 23 cells/μL. Among patients whose viral load was continually below detection (<2.7 log copies), mean CD4 remained above 350 cells/μL for 5 years of follow-up, for all baseline CD4 strata.

After 1 January 1997, 50% of patients from metropolitan sites commenced HAART (3+ antiretrovirals), compared to 54% of patients from non-metropolitan sites. Patients from metropolitan sites were more likely to begin HAART therapy which included NRTIs and a PI (51% vs 45%), while patients from metropolitan sites were more likely to commence HAART therapy which included an NRTI and an NNRTI without a PI (52% vs 45%).

Between July 2002 and July 2003, 69% of patients from metropolitan and non-metropolitan regions were receiving antiretrovirals, of which approximately 90% of both groups were receiving triple plus therapy. During this period both metropolitan and non-metropolitan patients received treatment regimens including a NNRTI backbone with a PI and excluding a NNRTI (40% each) or alternatively an NNRTI backbone including a NNRTI, and excluding a PI (40% and 39% respectively).

There do not appear to be differences between patients recruited from metropolitan compared to non-metropolitan sites, in both uptake of antiretroviral therapy of indeed HIV disease stage. Further analyses assessing treatment responses and patient outcomes are ongoing.

ASSESSING REGIONAL DIFFERENCES IN TREATMENT UPTAKE AND HIV DISEASE PROGRESSION IN THE AUSTRALIAN HIV OBSERVATIONAL DATABASE

The Australian HIV Observational Database (AHOD) recruits patients from both high and low caseload sites to ensure broad representation of the HIV-infected population within Australia. We aim to assess whether there is any evidence of differences in treatment uptake or access to treatment between people seen at metropolitan clinics compared to those seen at non-metropolitan clinics in AHOD.

Analysis included all patients recruited to AHOD to the end of September 2003. Metropolitan and non-metropolitan region was determined by post-code of the clinic. Patients were categorised into metropolitan or non-metropolitan region based on the clinic they were recruited through. Comparisons were made of baseline patient characteristics, HIV disease stage and uptake of antiretroviral treatment.

By September 2003, 2311 patients had been recruited to AHOD from 28 sites. Of these, 648 (28%) patients were recruited from non-metropolitan clinics. Patient demographics were comparable to metropolitan and non-metropolitan sites were comparable. HIV disease stage at the time of entry into the cohort was broadly similar between the regional groups. However, a slightly greater proportion of patients from non-metropolitan sites had lower CD4 cell counts (<200 copies/ml) (17% vs 14%), and higher baseline viral loads (>10,000 copies/ml), at time of entry into the cohort (38% vs 24%).

HIV prevalence was 17.3% (1461/121). Mean age was 36.9 years (median 25 years), and 98% were men. HIV infection is common in Bangkok MSM. HIV prevention programs are urgently needed to prevent spread of HIV in this young and sexually active population. Development of user-friendly HIV voluntary counseling and testing, and access to care services are warranted.

P51 PREVALENCE AND RISK FACTORS FOR HIV INFECTION AMONG MEN WHO HAVE SEX WITH MEN IN BANGKOK

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HIV prevalence and associated risk behaviors among men who have sex with men (MSM) in Thailand are unknown. This information is crucial to inform and implement targeted preventive interventions for this population.
DATA SAFETY MONITORING BOARDS IN NCHECR CLINICAL TRIALS

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To ensure patient safety, virtually all clinical trials have regular monitoring of safety data. Many clinical trials also have interim inspection of efficacy data, so that if there is early evidence of overwhelming treatment superiority (either efficacy or safety), continued treatment of patients with the inferior treatment is minimised. These decisions regarding continued trial conduct are increasingly being made by independent Data Safety Monitoring Boards (DSMBs). In this paper we will discuss how DSMBs have been implemented in NCHECR clinical trials, and also the merits of DSMBs in some circumstances.

In NCHECR clinical trials, DSMB members are chosen so that they are independent of both the trial, and also from NCHECR. Members are chosen from a range of disciplines, as dictated by the trial, including HIV clinicians, clinicians from other specialties, behavioural researchers, biostatisticians, and representatives of the affected community. Of the DSMB members, one is elected as chair, and given the responsibility of chairing meetings. To avoid any possibility of external pressure, membership of NCHECR DSMBs have been kept confidential from the trial clinicians and patients. Although timing of DSMB meetings will have been specified in the protocol, detailed terms of references, including data summaries to be reviewed, formal efficacy stopping rules and format of meetings, are discussed and agreed with the DSMB.

Data summaries for DSMB meetings are generated by the trial statistician, usually in a semi-blinded format, and are kept strictly confidential from all NCHECR and external personnel involved in the conduct of the trial other than the statistician. DSMB meetings have been attended by the trial statistician in an ex officio capacity, with clinical project leaders available for questioning if points of clarification arise. Recommendations of the DSMB are made in writing to the trial Principal Investigators.

Although there is a clear role for DSMBs in long-term clinical trials, their role in short-term investigator lead studies, and particularly safety studies, is less clear. The work involved in organising and running DSMB meetings, both for NCHECR and the DSMB members themselves, can be quite substantial, and frequency and timing of meetings needs careful consideration.
This paper examines factors associated with the therapeutic use of marijuana in the *Positive* Health longitudinal cohort study of PLWHA from NSW and VIC. This paper focuses on a subgroup of participants (n=408) who completed interviews between February 2002 and August 2003.

Participants were asked their opinion on the effectiveness of medicinal marijuana, whether they used marijuana therapeutically, followed by questions regarding recreational use of marijuana. Participants were separated into two groups based on whether they reported "no use" (including recreational-only use) or "some use" of marijuana for therapeutic purposes.

Multivariate logistic regression analyses were used to determine which variables significantly contribute towards the use of marijuana for therapeutic purposes.

Most participants thought that marijuana was highly or moderately effective for reducing stress (74.8%), weight gain (59.8%), pain reduction (59.1%) and nausea (53.2%).

Of all respondents, 26.5% reported using marijuana for therapeutic purposes. Of those who report some therapeutic use (n=108), 89.8% report that they also use marijuana for recreational purposes. Of those who report no therapeutic use of marijuana (n=300), 45.3% report using marijuana recreationally. At a bivariate level, therapeutic users of marijuana appeared to be sicker, more depressed and reported more problems with appetite and mood than those who did not report using marijuana therapeutically. As a multivariate level, logistic regression analyses showed that therapeutic use of marijuana was significantly associated with a lower income, more reported symptoms, greater use of other alternative therapies, not being on anti-retroviral therapy, and a larger number of friends who are also HIV-positive. Length of diagnosis was not significant.

These results suggest that therapeutic use of marijuana in PLWHA is not simply related experiencing symptoms such as nausea or sleep disruption. Marijuana, when used as therapy, appears to be associated with a range of factors including the social context of some PLWHA, illness or therapy, appears to be associated with a range of factors as nausea or sleep disruption. Marijuana, when used as therapy, appears to be associated with a range of factors as nausea or sleep disruption. Marijuana, when used as therapy, appears to be associated with a range of factors as nausea or sleep disruption. Marijuana, when used as therapy, appears to be associated with a range of factors as nausea or sleep disruption.
P61 THE SOCIAL MARKETING APPROACH IN PAPUA NEW GUINEA

Movenia I

A two-streamed social marketing model was developed for Papua New Guinea to address the lack of knowledge and awareness of HIV/AIDS and increase risk perception and efficacy in a vast growing epidemic that has been impacted by a diverse cultural background, the existence of a vast range of risky practices in a mainly rural population.

The three campaigns since 2001 have been research-based and have been evaluated with the post-campaign evaluations contributing to the formative research of the next campaign.

While the social marketing campaign has been conducted largely through the mass media, it has included the development of small media with materials to support the campaign and to meet demands to knowledge and services created by the campaigns.

Four waves of evaluation have been conducted involving a total of 8000 respondents in the four regions of Papua New Guinea.

The impact evaluations have shown an increase in awareness and knowledge and some increase in behavioural intention.

The increase in distribution of condoms and HIC materials since 2001 reflect an increase in demand. As a result of the social marketing campaign, the Karamap brand of condom which has been developed and promoted has been established as a condom for Papua New Guineans.

Evaluations and research have identified the need to develop a Stigma Reduction Campaign, to scale-up condom promotion and community strategies for behaviour change.

P62 PREVENTION AND CARE EDUCATION FOR TOWNSHIP YOUTH IN PRETORIA SOUTH AFRICA: THE YOUTH SKILLS DEVELOPMENT PROGRAM

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The Youth Skills Development Programme, funded by Ireland Aid, developed a successful community outreach project for reaching young vulnerable men in the wider community setting. The outreach work has targeted youth groups and structures but has also extended to male and female sex workers as well as young gay men. It has developed an integrated programme which concentrates how young men and women in Pretoria understand: sexual behaviour and practices; the influence of culture; community; economic status; their knowledge and understanding of sexuality; and their need to make a personal investment in their future.

The YSD programme uses the methodology developed in the UNDP-funded Youth to Youth project with one of the university choirs. In this training young men were given extensive training which allowed them to develop skills in their understanding of HIV and AIDS, its transmission and impact on the communities from which they are drawn. It also allowed them to recognise and understand their sexual behaviour and social patterning, and their perceptions of risk and responsibility. They were trained as peer educators and counsellors and some as trainers themselves.

The training improved participants’ ability to access health and social development services, to interact constructively with these services and to operate within other community programmes and in inter-generational projects. The method used successful and appropriate, especially where participants were already in established shared interest groups with a community of interest in and shared engagement in the training. It has developed ways in which young men and women, especially those who are marginalized, are fully brought into the establishment and creation of community based structures that deal with their personal health and well being and which address the issues of care.

Continuing work is needed with young men, marginalised youth and so called ‘hard to reach’ youth on sexual behaviour, sexual mapping, sexuality and access to services.
A NOVEL NUCLEAR IMPORT PATHWAY FOR HIV-1 VPR PROTEIN?

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In contrast to other retroviruses, the HIV-1 lentivirus can infect non-dividing cells via newly transcribed cDNA being transported into the nucleus through the intact nuclear envelope as a large DNA/protein complex, the pre-integration complex (PIC). The HIV-1 Vpr protein is believed to play a vital role in this process, but it is unclear whether Vpr interacts with the conventional cellular nuclear import factors, the importins (imps), or mediates nuclear entry through direct interaction with the nucleoporins (nups), that make up the nuclear pore complex, the pathway for all transport into and out of the nucleus.

This study set out to determine the cellular localisation properties of Vpr, focusing on interactions between Vpr and imps or nups. Mammalian cell transfection experiments using GFP- and DsRed2-Vpr fusion protein constructs indicated that both the N- and C-termini of Vpr possess nuclear targeting properties. An in vivo nuclear transport system using bacterially expressed GFP-Vpr fusion proteins, indicated that the N-terminus of Vpr is required for nuclear targeting, with the C-terminus having reduced import activity. Co-transfection experiments between GFP-Vpr and the infectious HIV-1 NL4.3wt virus showed an increase in nuclear targeting properties of Vpr, focussing on interactions between Vpr and the conventional cellular nuclear import factors, the importins (imps), or mediates nuclear entry through direct interaction with the nucleoporins (nups), that make up the nuclear pore complex, the pathway for all transport into and out of the nucleus.

This study determined the contribution of Vpr to nuclear translocation, and as a mechanism of nuclear import, Vpr may have therapeutic applications.

A NOVEL NUCLEAR IMPORT PATHWAY FOR HIV-1 VPR PROTEIN? Chemen K1, Kumar R1, Purins A1, Mundy L2, Ferguson W1, Shoh D1, Burrell CP1, Li P1
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The establishment of reservoirs of latently infected cells is thought to contribute to the persistence of HIV-1 infection in the host. Studies so far have mainly focused on the long-lived reservoir of HIV-infected resting CD4+ T cells, however a discrete population of HIV-infected Double Negative (DN) T cells has been shown to exist and may also play a role in HIV-1 persistence. DN T cells are CD3 positive, either TCRγδ or TCRβ positive but lack both the CD4 and CD8 cell surface markers. We have developed a novel, magnetic column-based cell fractionation protocol for isolating >99% pure DN T cells. CD4+, CD8+ and DN T cells were purified from a cohort of 21 HIV-1 infected patients undergoing highly active antiretroviral therapy (HAART). Each fraction was analysed for levels of total (gag)-PCR and integrated (modified nested alu-PCR) HIV-1 DNA. A correlation was observed between HIV-1 DNA in the DN T cell fraction and the patients’ response to therapy (determined by plasma viral load [VL]).

Using a micrococulture technique, we saw an initial release of virus (assayed by p24 ELISA) from DN T cells of a patient with high VL. Analysis of nef sequence data suggested that the HIV-1 present in CD4+ and DN T cells originated from a common infecting strain.

Contrary to the published literature, we have demonstrated the presence of HIV-1 DNA in DN T cells only in patients that are experiencing HAART failure. Our results therefore suggest a role for DN T cells in HIV-1 persistence in patients not responding to HAART. We believe that understanding the distribution of persistent HIV-1 is critical for the development of comprehensive therapies and the informed management of patient drug regimens.

This work was supported by an Australian Commonwealth AIDS Research Grant.

PROTEOMIC ANALYSIS OF DC-SIGN ON DENDRITIC CELLS IDENTIFIES TETRAMERS REQUIRED FOR LIGAND BINDING BUT NO ASSOCIATION WITH CD4

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DC-SIGN (dendritic cell specific intracellular adhesion molecule 3 grabbing non-integrin) or CD209 is a type II transmembrane protein and one of several C-type lectin receptors expressed by dendritic cell subsets which bind to high mannose glycoproteins promoting their endocytosis and potential degradation. DC-SIGN also mediates attachment of HIV to dendritic cells and binding to this receptor can subsequently lead to endocytosis or enhancement of CD4+/CCR5-dependent infection. The latter was proposed to be facilitated by an interaction between DC-SIGN and CD4. Endocytosis of HIV virions does not necessarily lead to their complete degradation. A proportion of the virions remain infective and can be later presented to T cells mediating their infection in trans. Previously, the extracellular domain of recombinant DC-SIGN has been shown to assemble as tetramers and in the current study we use a short-range covalent cross-linker and show that DC-SIGN exists as tetramers on the surface of immature monocyte-derived dendritic cells. There was no evidence of direct binding between DC-SIGN and CD4 either by cross-linking or by fluorescence resonance energy transfer measurements suggesting that there is no constitutive association of the majority of these proteins in the membrane. Importantly we also show that the tetrameric complexes, in contrast to DC-SIGN monomers, bind with high affinity to high-mannose glycoproteins such as mannose or HIV gp120 suggesting that such an assembly is required for high-affinity binding of glycoproteins to DC-SIGN providing the first direct evidence that DC-SIGN tetramers are essential for high-affinity interactions with pathogens like HIV.
BASIC SCIENCE POSTERS

P67
METHODOLOGICAL APPROACH TO ANALYSING DENDRITIC CELL UPTAKE OF VACCINA, AN IMPORTANT CANDIDATE HUMAN VACCINE VECTOR

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The delivery of viral antigens in a recombinant viral vector is a promising approach to successful vaccination against HIV, particularly in a prime-boost format. Professional antigen presenting cells, especially dendritic cells (DCs) play a key role in controlling the magnitude, quality and memory of the immune response elicited by such vaccines. This study-in-progress is designed to investigate the binding, entry and processing of the potential HIV vaccine vector, vaccinia virus (VV), into human monocytoid-derived DCs. The cellular receptors for VV binding are yet to be elucidated but we speculate that C-type lectin receptors (CLR)s are important for initial binding of the virus to DCs, as is the case for HIV in a growing number of other viruses. A technique called spincouloration, originally developed for HIV infection of CEM-SS T-cells, has been adapted to infect DCs with VV. This technique has overcome poor binding and infection rates of VV in DCs, enabling binding to be studied. A number of assays have subsequently been developed to analyse VV binding to DCs. A GFP-labeled VV was used to develop a real-time PCR assay, detecting the GFP gene within the viral genome. This assay allows for quantification of the number of copies of VV present in a sample. Together with real-time PCR quantification of the number of DCs present, by amplification of the albumin gene, the ability of the virus to bind under different culture conditions can be assessed. Secondly, a flow cytometry assay detecting GFP has been developed for quantifying the number of cells that have bound VV. VV binding to DCs has also been qualitatively analysed by confocal microscopy using virus-specific monoclonal antibodies.

These methods are being used to investigate VV binding to DCs in the presence of CLR blockers, as CLR’s are likely to be important for initial binding and uptake by these cells. Further understanding of the receptors involved may lead to enhanced uptake and processing of VV vaccine vectors in DCs, currently recognised as a major hurdle in improving their efficacy.

P68
DISCOVERY OF A REVERSION OF A 100 AMINO ACID TRUNCATION OF THE GP41 CYTOPLASMIC TAIL AND IDENTIFICATION OF MATRIX MUTATIONS IN HIV-1 RFGP34

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The 150 amino acid (aa) cytoplasmic tail (CT) of the HIV-1 gp120 protein (gp120) is highly conserved in both length and sequence amongst HIV-1 isolates. We have previously reported a 100 aa truncation of the CT of the laboratory strain RF (designated RFgp34). Compared with RFwt (which has a full-length CT), RFgp34 shows reduced and delayed replication kinetics, and giant syncytia. The matrix (MA) protein is thought to interact with the CT and previous studies have shown that mutations within regions of MA can compensate for large CT truncations.

RFgp34 viral stocks were cultured in Hut78 cells for 11 days. Through Western blotting of viral lysates taken from the day 11 culture we discovered that one RFgp34 viral lysate (designated RFgp34rev) contained a mixed population of gp41 and gp34. DNA was extracted from the RFgp34rev-infected Hut78 cells on day 11 and the gp41 region was sequenced. A mixed base population (A and G) at position 740 of gp41 was present resulting in a mix of W and stop codon at gp41 aa 247. No other changes corresponding to the RFwt sequence were found.

The MA region of RFwt, and RFgp34 isolates was sequenced. Two mutations (E to K at aa 40 and F to I at aa 44) were discovered in MA which were unique to RFgp34. These mutations are in the second alpha-helix of MA, and were still present in RFgp34rev.

Here our data clearly showed that the mixed population of the RFgp34 isolates from day 11 (RFgp34rev) is the result of the TAG (stop codon) reverting to TGG (W) and not due to contamination from an RFwt culture. We have identified two unique MA mutations in our RFgp34 isolate that accompany the truncation of the gp41 CT.

P69
INVESTIGATION OF DENDRITIC CELL GENE EXPRESSION LEVELS IN RESPONSE TO HIGH TITRE HIV AND HIV ENVELOPE GLYCOPROTEIN

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Dendritic cells (DCs) are specialised antigen presenting cells that form a link between the innate and adaptive immune systems. Immature DCs are resident within epithelial tissues where they engulf microbial antigens via endocytosis then migrate to draining lymph nodes while differentiating into a mature phenotype, up-regulating MHCII. Here they present the antigen to and activate T-cells. Unlike T-cells, HIV replicates at low levels in immature DCs although epithelial DCs are probably the first cells of the immune system that HIV encounters after sexual transmission. The virus therefore uses these cells as a ‘Trojan horse’ to gain access to large numbers of T-cells where it establishes a productive infection. An understanding of how HIV interacts with and infects DCs is therefore of vital importance. Though the mechanisms of entry and the subsequent viral life cycle have been well studied in CD4 T-lymphocytes and macrophages, virus internalisation and replication in DCs is very poorly understood. The marked differences between these target cells are shown by the unique entry mechanisms for HIV into DCs.

We therefore used DNA microarray experiments in order to obtain a global picture of the gene expression profiles in Monocyte Derived Dendritic Cells (MDDCs) in response to HIV infection or exposure the HIV envelope glycoprotein. To this end MDDCs were either infected with high titre HIV (Bal strain) in parallel to uninfected Hut78 cells on day 11 and the gp41 region was sequenced. A mixed base population (A and G) at position 740 of gp41 was present resulting in a mix of W and stop codon at gp41 aa 247. No other changes corresponding to the RFwt sequence were found.

The MA region of RFwt, and RFgp34 isolates was sequenced. Two mutations (E to K at aa 40 and F to I at aa 44) were discovered in MA which were unique to RFgp34. These mutations are in the second alpha-helix of MA, and were still present in RFgp34rev.

Here our data clearly showed that the mixed population of the RFgp34 isolates from day 11 (RFgp34rev) is the result of the TAG (stop codon) reverting to TGG (W) and not due to contamination from an RFwt culture. We have identified two unique MA mutations in our RFgp34 isolate that accompany the truncation of the gp41 CT.

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EFFECT OF FLUORESCENTLY LABELLED FULL LENGTH HIV-1 VPR AND VPR FRAGMENTS ON VIRAL INCORPORATION AND INFECTIVITY

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Co-transfection of infectious viral constructs with fluorescently labelled Vpr has previously been used to produce fluorescently labelled virus particles which can be followed by confocal microscopy during infection of cells. However, so far no studies have been able to follow the subviral particles upon their transport into the nucleus. Here we have evaluated the suitability of different fluorescent labels of Vpr as well as the N-terminal and C-terminal fragments of Vpr for studying nuclear import of the HIV pre-integration complex.

Vpr was produced in 293 cells co-transfected with fluorescently labelled Vpr constructs (EGFP-Vpr1-96, GFP-Vpr1-96, GFP-Vpr1-0-96, and ΔNΔC-Vpr1-96) and either NL4-3wt or NL4-3 lacking Vpr (NL4-3ΔVpr) was examined for the incorporation of the fluorescently labelled Vpr constructs via Western blotting. Infectivity of fluorescently labelled virus was assessed using the MAGI assay in both dividing and γ-irradiated cells.

The full length Vpr constructs were incorporated into virions. However, the GFP-Vpr construct was proteolytically cleaved into GFP and Vpr. In contrast, the EGFP-Vpr construct appeared to be proteolytically cleaved from the C-terminus of Vpr. Interestingly, both the N- and C-terminal fluorescently labelled Vpr fragments were only present in virus co-transfected with NL4-3wt but not in virus co-transfected with NL4-3ΔVpr. Viruses containing fluorescently labelled Vpr were consistently less infectious than NL4-3wt and thus was more pronounced in γ-irradiated cells. Infectivity with fluorescently labelled Vpr containing virus was even lower than that of NL4-3 Vpr. Viruses containing fluorescently labelled Vpr with strongly decreased infectivity in γ-irradiated MAGI cells.

The results demonstrate that small differences in the constructs expressing GFP-Vpr and EGFP-Vpr such as the linker region between the two and Vpr affected proteolytic cleavage, virus incorporation of Vpr and infectivity. The fact that both N- and C-terminal Vpr fragments were incorporated into virus when full length wt Vpr was present suggests that the incorporation was facilitated via an interaction with Vpr rather than with p6. The data question the suitability of the GFP-Vpr and EGFP-Vpr constructs for the study of PIC nuclear import. Alternatives for labelling of Vpr will be discussed.
Many different viruses have been used to develop gene delivery systems. For many gene therapy strategies the target cells are essentially non-dividing. Therefore the ideal virus/vector must possess the ability to infect non-dividing cells and preferably also result in the long term, stable genetic modification of the target cell. Human Immunodeficiency Virus type 1 (HIV-1) naturally possesses such characteristics and accordingly we have used it as the basis of a gene transfer system. This gene delivery system comprises of a number of plasmids that separate the cis and trans functions of the virus. The cis functions are incorporated into a transfer vector construct, whilst the trans (protein coding) functions are distributed over a number of helper or packaging plasmids, to prevent their transfer to target cells. A general strategy to improve the efficiency and safety of the vector construct is to reduce the viral sequence to the minimum required to maintain the desired characteristics of the virus whilst removing any unwanted ones. In addition, it is clear that HIV-1 sequence content can be further reduced by substituting certain HIV-1 cis functions with similar elements from heterologous sources. For some elements, such as the polyadenylation signal, this approach has been used to improve RNA processing efficiency leading to improvements in vector function. Currently detailed analysis of splice site function and the efficiency leading to improvements in vector function. We conclude that there is no evidence for decreased FcγR expression in both monocytes and PBL within the time between blood collection and sample processing. It was found that FcγR expression in both monocytes and PBL remained stable across different time points.

To investigate the identity of these novel receptors, surface molecules on MDDCs were chemically cross linked to allow oligomer formation. Oligomeric DC-SIGN and MR were shown to bind mannan with higher affinity than their monomeric form. Cell lysates were then passed consecutively through columns containing anti-DC-SIGN, anti-MR and anti-Langerin conjugated beads to eliminate the known mannan binding CLRs. To detect CLRs which bind with lower affinity or are expressed at lower quantities on MDDCs the eluate was then passed through a column containing mannan conjugated beads. Purified CLRs were then separated on an SDS PAGE gel and Coomassie-stainable proteins were identified by mass spectrometry and database searches. Using this technique, we have identified calreticulin as a surface mannan binding CLR on MDDCs. Further investigations using gp120 conjugated beads will be required for the identification of novel surface gp120 binding CLRs.

The pathogenesis of HIV infection and susceptibility to opportunistic infections has been associated with poor type 1 cytokine production. IL-23 is a recently discovered cytokine formed from the p40 subunit of IL-12 binding to p19, a novel homologue of IL-12p35. IL-23 has very similar functions to IL-12, notably induction of interferon-γ (IFN-γ) production in T-cells. However, IL-23 enhances memory rather than naïve T-cell proliferation and activation. We have measured the mRNA of IL-23p19 and other type 1 cytokine pathway components in peripheral blood mononuclear cells (PBMCs) from HIV patients with long-term immune reconstitution on HAART.

Reduction of IL-23-dependent production of IFN-γ by memory T-cell may be a complication of severe immunodeficiency that is not corrected after suppression of HIV infection by HAART. This may explain the occurrence of opportunistic infections seen in a minority of patients with substantial CD4 T-cell recovery on HAART.

We developed an assay to measure FcγR protein expression in cellular fractions obtained from 10-20ml of whole blood. Preliminary experiments suggested that HIV-1-positive individuals had decreased expression of FcγR in both adherent cells (monocytes) and non-adherent peripheral blood lymphocytes (PBL; which consists of NK cells and other lymphocyte subsets). Further investigations showed that FcγR expression is unstable in whole blood and significantly reduced in both monocytes and PBL within 24 hour. We therefore conducted a pilot study comparing FcγR protein expression in whole blood samples from 5 HIV-1 seropositive (whose viral loads varied from undetectable to 70,400 copies per ml) and 5 HIV-1 seronegative individuals, carefully matching the time between blood collection and sample processing. In severely immunodeficient HIV patients who achieved increased CD4 T-cell counts on long-term HAART, we observed reduced spontaneous expression of IL-23p19 in adherent cells and IL-12Rβ2 in uninfected PBMC compared to healthy controls. IFN-γ was also decreased in purified CD4 and CD8 T-cells from patients. Spontaneous IL-12Rβ1 expression in uninfected PBMC was low in patients and controls. IL-23p19 mRNA was detected in a few patients and controls but IL-2 and IL-12p40 mRNA could not be detected in any unstimulated samples.

Reduced IL-23-dependent production of IFN-γ by memory T-cell may be a complication of severe immunodeficiency that is not corrected after suppression of HIV infection by HAART. This may explain the occurrence of opportunistic infections seen in a minority of patients with substantial CD4 T-cell recovery on HAART.

We conclude that there is no evidence for decreased FcγR protein expression in peripheral blood mononuclear cells from HIV-1-positive individuals.
BASIC SCIENCE POSTERS

Cooper D A1,2,3, Carr A2,3

appearances of adipocytes and mitochondria.

by week 2 whilst there was no significant change in mtDNA

with no change in body composition or serum lipids by week

inhibitors cause decreased adipocyte mitochondrial

Ultrastructure. These data suggest that NRTIs affect

variation. Cryopreserved PBMC’s with reproducibly

Adipose tissue mtRNA expression, mtDNA copy number

of the ability to pre-treat and post-treatment

Independent of HIV-infection, exposure to AZT/3TC or 4AZTC decreases mtRNA expression in the absence of significant changes in mtDNA copy number or ultrastructure. These data suggest that NRTIs affect mtRNA expression in adipose tissue early after exposure by a mechanism other than through inhibition of DNA polymerase γ-mediated mitochondrial replication and suggest that the earliest changes in adipose tissue occur at the mtRNA level.

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Week 2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>COX1 mRNA</td>
<td>3.64±1.2</td>
<td>0.04±1</td>
</tr>
<tr>
<td>COX1 mRNA</td>
<td>3.50±1.2</td>
<td>2.75±1</td>
</tr>
<tr>
<td>Cyt c mRNA</td>
<td>3.86±1.2</td>
<td>0.18±1</td>
</tr>
<tr>
<td>mtDNA (ng/cell)</td>
<td>85±5</td>
<td>71±5</td>
</tr>
<tr>
<td>Fat cell count (Cells/hpf)</td>
<td>62±5</td>
<td>39±4</td>
</tr>
</tbody>
</table>

Table 1. Values are median [IQR]. hpf=high powered field.

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CRYPOTESTER OF PERIPHERAL BLOOD MONONUCLEAR CELLS (PBMC'S) USING A PROGRAMMABLE CONTROLLER RATE FREEZING UNIT HELPS PRESERVE LYMPHOCYTE IMMUNOPHENOTYPE AND FUNCTION

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Function T cell assays are usually performed real time, using freshly isolated PBMC’s. Real time assay set up is not always possible, and is limited by intr-ooperator or inter-laboratory variation. Cryopreserved PBMC’s with reproducibly preserved immunophenotype and functionality for use in batched assays would result in greater standardisation of results and reduce cost methodically. A major source of variability in cryopreservation of PBMC is the rate of cooling, which can be controlled by using a ‘MrFrosty’ (MrF) container system or a programmable controller rate freezer (CRF). Viability, yield, immunophenotypic and functionality of PBMC’s cryopreserved using the two freezing systems were compared.

Frothily isolated PBMC’s were stored in equal cell numbers using a NALGENE MrF or a PLANER ‘Kryo360-3.3’ CRF using a number of different protocols. After cryopreservation the PBMC’s were transferred to MrF N2 storage for a minimum of 7 days, thawed, and assessed for viability and yield using trypan blue exclusion dye. Immunophenotyping, lymphoproliferation and IFNγELISPOT assays were performed.

There was no significant difference between the two freezing systems or the programmes in terms of viability and yield (median viability for −70°C programme CRF: 89.4 and MrF: 87.4, for −180°C programme CRF: 94.3 and MrF: 94.7). There was no significant difference between the two freezing methods for the ELISPOT background (median SFC/mill CRF: 5. MrF: 5) or the mitogen induced response to SEB (median SFC/mill CRF: 4507, MrF: 4075). However, importantly PBMC’s that were cryopreserved using the CRF had a significantly higher antigen induced CD4+ response to CMV whole lysate (median SFC/mill CRF: 225, MrF: 88, Wilcoxon signed rank test P=0.04).

Preliminary lymphoproliferation results show a trend of better responses from cells cryopreserved using the CRF however further data will be obtained by processing an increased number of samples. These immunophenotypic results showed that the key markers CD38, HLA-DR, CD28, CD71, CD45RA, CD45RO and Ki-67 were retained during cryopreservation using the controlled rate freezer, further data for the MrF is also required.

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MOLECULAR AND BIOLOGICAL MECHANISMS IN HIV-1 INFECTION WITH A REPLICATION INCOMPETENT STRAIN IN A NON-PROGRESSIVE INDIVIDUAL


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Non-progressive HIV-1-infected therapy naïve individuals, who have been infected for 20+ years, may harbor clones to biopharmaceuticals and have the potential to explain underlying mechanisms of nonprogressive HIV disease. Viral evolutionary processes play a significant role in disease progression, and they can also serve a guiding tool to the discovery of natural anti-HIV agents from such rare individuals who comprise 0.8% of total HIV-infected population.

Several HIV-1-infected, therapy naïve non-progressing individuals, with below detectable levels of plasma viremia and high CD4+ and CD8+ T cell counts were studied for full-genome sequences over time to derive information of the influence of viral evolutionary processes on HIV disease progression. PCR and sequencing of full-genomes was carried out. In addition, various biological and immunological analyses were performed to derive information of host mechanisms.

Viral evolutionary rate was the single most important determinant of HIV disease progression. Sequencing analysis of a unique HIV-1 infected long-term non-progressor (LTNP) with undetectable viral load and uncharitable virus revealed no viral evolution over the past six years, suggestive of the absence of viral evolution of HIV-1 strains in vivo. Super-infusion of the study subject’s PBMC with various HIV-1 strains showed that each strain could replicate in his isolated CD4+ T cells, but this was without any visible cytopathic effect. This was in sharp contrast to healthy donor PBMC and CD4+ T cells. These data are highly unique suggesting that in some non-progressing HIV-infected individuals, there is postentry protection against cell killing as seen by transmission EM studies. Detailed immunological analyses indicate that several mechanisms, including a strong HIV-specific CD8+ T cell response, vigorous HIV24-specific helper T cell proliferative responses, and high-level IFN-γ gamma release by both CD4+ and CD8+ T cells, were associated with this feature and may have promoted this antiviral suppressive activity. Understanding the induction of these protective immune responses in other individuals could provide a major step forward in the design of effective immuno therapeutics or vaccines against HIV infection.
Solomon A1,2, Gorry P R3, Hoy J F1,2, Lewin S R1,2

THERAPY FAILING PROLONGED ANTIRETROVIRAL QUASISPECIES DIVERSITY IN INDIVIDUALS

ANALYSIS OF HIV CO-RECEPTOR USE AND P79

There is great genetic diversity among circulating HIV-1 strains in sub-Saharan Africa. In Kenya, HIV-1 subtypes A and D are predominant and inter-subtype recombinants between these strains have been reported. HIV recombinants emerge in individuals who carry multiple virus strains. Recombination has been shown to create fitter viral strains and presents a challenge to the development of subtype specific vaccines. We have analyzed the HIV-1 gag and env regions, from the peripheral blood mononuclear cells (PBMC) of vertically transmitting mothers and their infants in Kisumu, Kenya, to examine viral genetic diversity and inter-subtype recombination in this area. PCR and population sequencing analysis of the gag and env genes was performed on 37 patients (16 mother-child pairs, 4 unpaired mothers and one unpaired infant). The program SimPlot was used to compare each sequence against background reference sequences for multiple subtypes to define subtype and identify recombinants. Cloning of PCR fragments was then performed using the pGEM-T vector system II, to verify the presence of recombinants and detect any potential dual infections. Phylogenetic analysis of inter-subtype relationships was performed using the neighbouring joining method. 17 patients (8 mother-child pairs, and paired one infant) were found to be infected with HIV-1 recombinants and 18 patients (7 paired and 4 unpaired) carried pure HIV-1 strains. In addition 2 patients showed strong evidence of having dual infections. The first dual infection, between a pure A and an A/D recombinant strain found in a paired mother and only a single strain (A/D recombinant) was detected in the paired baby. The second dual infection, between subtype A2 and A2/D2 recombinant, was found in an unpaired mother. All the strains identified belonged to or were recombinants of HIV-1 subtypes A1, A2 and D3. The recombinant strains were unique to each individual or mother-child pair, and show that the HIV epidemic in Kenya is extremely diverse. Such diversity in a small geographical region highlights the need for continual monitoring of the HIV epidemic, particularly in Africa where there are numerous subtypes present. Knowledge of currently circulating HIV-1 subtype and recombinants will be vital to the development of effective HIV vaccines, which may need to be continually improved to keep up with the ever increasing diversity of HIV strains.

SARS-CoV specific circulizable oligonucleotides were designed and synthesised. Upon hybridization to SARS RNA molecule, the two ends of the probe become juxtaposed and can be joined by DNA ligase. The circularized DNA probe then creates an effective template for exponential, or hyperbranching, rolling-circle amplification (RCA) reaction using two primers in isothermal conditions.

Using serially diluted artificial templates, single template can be detected in both 'liquid-phase' and 'solid-phase' RCA. Strong signal and lower background was observed in solid phase RCA and tests on culture-derived SARS isolates and SARS patient samples. 5 SARS RNA copies can be easily detected. Solid phase RCA offers an inexpensive and accurate alternative for SARS diagnosis with sensitivity comparable to current commercial RT-PCR assays. In addition to ultrasensitive detection with high specificity, the RCA method employs simple reaction conditions, very applicable for laboratories for SARS diagnosis in developing countries where scientific equipment is minimal. The problem of false-positive results, which continues to hinder PCR-based diagnostics is also avoided with RCA-based assays, as signal detection is generated directly from the circularized probe rather than amplification of the target. We expect that, with this rapid diagnostic method, prompt identification of this pathogen will facilitate control of the disease and provision of proper treatment of patients. RCA has immense future potential in detecting low copy HIV, which will be very useful in predicting disease progression and define therapy strategies for HIV patients.
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POTENTIAL ROLE OF ACTIVIN A IN HIV IMMUNE-COMPROMISED PATIENTS

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The growth factor, activin A, was originally isolated as a putative reproductive hormone, but it is now known to participate in many other non-reproductive cellular and tissue functions. One of these is in the setting of inflammatory processes and immune compromise. In experimental animal models, activin is released rapidly into the circulation following challenge with a common inflammatory insult, such as the bacterial cell wall protein, lipopolysaccharide (LPS) or endotoxin. Furthermore, recent studies by us have shown that in human septicemia, activin and follistatin are elevated in the bloodstream of septic patients. A role in viral infections is suggested by perturbation of serum activin levels in viral hepatitis patients, particularly in hepatitis B.

We have performed preliminary screening of HIV patients (n=41; mean %CD4=19.04; average VL=226918 copies/ml) for serum levels of activin and its binding protein, follistatin (mean physiological level = 0.15 ng/ml and 9.3 ng/ml respectively). While the mean levels of both activin and follistatin in HIV-infected individuals (activin = 0.14 ng/ml, follistatin = 8.1 ng/ml), was similar to that of HIV-negative individuals, several patients had moderate elevations in both proteins, suggestive of a role in immune status. We are currently investigating the kinetics of activin and follistatin in macaques infected with the SHIV chimeric virus; in patients who are in the initial phases of HIV-1 infection and those that have failed therapy and have progressed to AIDS.
AUTHOR'S INDEX