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
### Table of Contents

1. Welcome Letter .......................................................... 5
2. Reviewers ................................................................. 7
3. Program at a Glance ..................................................... 9
4. Invited Speakers ......................................................... 15
5. General Information .................................................... 19
6. Social Program .......................................................... 23
7. Location Map – Canberra City ........................................ 24
8. Exhibition Centre Floor Plans ........................................ 25
9. Exhibition Booth Listing ................................................ 27
10. Exhibition Hall Floor Plan ............................................ 30
11. Exhibitor Directory ..................................................... 31
12. Undergraduate and Junior Researcher Awardees 2004 ........... 37
13. Undergraduate and Junior Research Awards Program .......... 42
14. Undergraduate and Junior Research Awards Program Application Form 2005 .................................................. 43
15. Full Conference Program ............................................. 45
16. Oral Presentation Abstracts Thursday 2 September 2004 ....... 61
   • Symposium – AIDS .................................................. XX
   • Concurrent Basic Science Therapeutics ........................ XX
   • Concurrent Social Research Risk ................................ XX
   • Symposium – Epidemiology – PREP .............................. XX
   • Concurrent – Basic Science – Diagnostics and Prognostics XX
   • Concurrent – Trends – Change in Clinical Patterns .......... XX
   • Concurrent – Nursing and Allied Health ......................... XX
   • Symposium – Basic Science – Development of Vaccines XX
   • Concurrent – Clinical Medicine – Treatment .................. XX
   • Concurrent – Community Uptake ................................ XX
   • Concurrent – ART in Resource Poor Settings: Coming Ready or Not XX
17. Oral Presentation Abstracts Friday 3 September 2004 .......... 95
   • Medical Case Presentation Breakfast .......................... XX
   • Plenary 2 .......................................................... XX
   • Symposium – Clinical Medicine – HAART (Undetectable) XX
   • Concurrent – Epidemiology of New Infections ................. XX
   • Concurrent – Basic Science – HIV Pathogenesis .......... XX
   • Concurrent – Nursing ............................................ XX
   • Concurrent – Clinical Medicine – Metabolic Syndromes ... XX
   • Symposium – Basic Science – New Drug Strategies ........ XX
   • Symposium – International – Responding to HIV Policy and Implications in PNG XX
   • Concurrent – Issues in Primary Care .......................... XX
   • Symposium – Clinical Medicine – Treatment Issues ....... XX
   • Symposium – Epidemiology – Rises in New Infections XX
   • Concurrent – Basic Science – Molecular Biology .......... XX
   • Concurrent – Emerging Issues in Indigenous Sexual Health XX
   • HIV Futures 4 – State of The [Positive] Nation .......... XX
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.

Rhian Jones, ASHM

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

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

Rhian Jones, ASHM

16th ASHM Conference and find it a stimulating and
REVIEWERS

John Ballard . . . . . . . Australian National University
Marcus Bovle . . . . . . . People living with HIV/AIDS Austalian 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 Fairney . . Melbourne Sexual Health Centre
Rosemary Flrench . . . . Sydney Children’s Hospital
Rick Franklin . . . . . . . Auckland Sexual Health
Martyn French . . . . . . . Royal Perth Hospital
Rodger Garasia . . . . . . . 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 Heiland . . . Macfarlane Burnet Institute
Brenda Henry . . . . . . . Gold Coast Sexual Health Centre
Jenny Heslop . . . . . . . Mt North Coast Area Health Service
Jenny Hoy . . . . . . . The Alfred Hospital
Brian Hughes . . . . . . . Sexual Health and Infectious Diseases, Chris Dawson
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 McGuirk . . . Galiwye 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’Neil . . . . Wentworth Area Health Service
Cathy Pell . . . . . . . Sydney Sexual Health Centre
Patricia Price . . . . . . . University of Western Australia
John Quin . . . . . . . Liverpool Specialist Rooms
Vanessa Read . . . . . . . Prison Health Services Western Australia
Edward Reis . . . . . . . Australian Society for HIV Medicine
Gary Rogers . . . . . . . DJBrien Street Practice
Norm Roth . . . . . . . The Alfred Hospital
Darren Russell . . . . . . . Melbourne Sexual Health Centre
Joe Sadaseuz . . . . . . . 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 Centre
Rudyard Yap . . . . . . . Palmerston North Hospital
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, 1061 Mountain Highway, Boronia VIC 3155, Australia. www.gsk.com. ABN 73 004 148 065. ™Ziagen is a trade mark of the GlaxoSmithKline group of companies.

Wellmark GSK 10727

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.
## THURSDAY 2 SEPTEMBER 2004

<table>
<thead>
<tr>
<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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<td>Royal Theatre</td>
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<tr>
<td>8.40am - 9.00am</td>
<td>Welcome</td>
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<tr>
<td>9.00am - 9.20am</td>
<td>Justice Michael Kirby, Sydney Chambers of Justice</td>
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<td>The New Aids Equation</td>
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<tr>
<td>9.20am - 9.40am</td>
<td>Michael Kidd, President of the Royal Australian College of General Practitioners</td>
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<td>The Management of HIV in Australian General Practice</td>
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<td>9.40am - 10.00am</td>
<td>Ninkama Moiya, Director of the National AIDS Council (PNG)</td>
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<tr>
<td>10.00am - 10.15am</td>
<td>Continued Welcome</td>
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<tr>
<td>10.15am - 10.30am</td>
<td>Peak Body Representatives</td>
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<tr>
<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)</td>
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<td>- Meeting the Challenge: HIV, AIDS and Regional Security</td>
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<td>Bradman Theatrette Menzies Theatrette Nicholls Theatrette</td>
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<tr>
<td>12.30pm - 1.30pm</td>
<td>Lunch in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<tr>
<td>1.30pm - 1.30pm</td>
<td>ASHIAM Annual General Meeting (AGM) - Sutherland Theatreette</td>
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<tr>
<td>1.30pm - 1.50pm</td>
<td>Symposium - Epidemiology - PREP</td>
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<td>Concurrent - Basic Science - Prognostics</td>
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<td>Concurrent - Basic Science - Therapeutics</td>
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<td>Concurrent - Social Research - Risk</td>
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<td>Bradman Theatrette Menzies Theatrette Nicholls Theatrette</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>Concurrent - Clinical Medicine - Treatment</td>
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<td></td>
<td>Concurrent - Community Uptake Philip Medcalf Memorial Session</td>
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<td>Concurrent - ART in Resource Poor Settings: Coming Ready or Not</td>
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<td></td>
<td>Bradman Theatrette Menzies Theatrette Nicholls Theatrette</td>
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## FRIDAY 3 SEPTEMBER 2004

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<tr>
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<td>Registration</td>
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<tr>
<td>7.30am - 8.30am</td>
<td>Case Presentation Breakfast</td>
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<tr>
<td>9.00am - 10.30am</td>
<td>Plenary Session</td>
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<tr>
<td>9.00am - 9.30am</td>
<td>Brian Gazzard, Chairman of the British HIV Association</td>
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<tr>
<td>9.30am - 10.00am</td>
<td>Mary Crewe, Director of the Centre for Study of AIDS at the University of Pretoria, South Africa</td>
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<tr>
<td>10.00am - 10.30am</td>
<td>Frits van Griensven, Associate Director for Science of the HIV/AIDS Program of the Thailand MOPH - U.S. CDC Collaboration (TUC)</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 - Clinical Medicine - HIV Pathogenesis</td>
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<tr>
<td>11.00am - 12.30pm</td>
<td>Concurrent - Basic Science - HIV Pathogenesis</td>
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<tr>
<td>11.00am - 12.30pm</td>
<td>Concurrent - Nursing</td>
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<tr>
<td>11.00am - 12.30pm</td>
<td>Concurrent - Epidemiology of New Infections Margaret MacDonald Memorial Session</td>
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<td>11.00am - 12.30pm</td>
<td>Royal Theatre Bradman Theatre Menzies Theatre Nicholls Theatre</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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<td>1.30pm - 3.00pm</td>
<td>Symposium - Clinical Medicine - Metabolic Syndromes</td>
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<td>1.30pm - 3.00pm</td>
<td>Symposium - Basic Science - New Drug Strategies</td>
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<td>1.30pm - 3.00pm</td>
<td>Symposium - International - Responding to HIV: Policy &amp; Implications in PNG</td>
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<td>1.30pm - 3.00pm</td>
<td>Concurrent - Issues in Primary Care Peter Meese Memorial Session</td>
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<td>1.30pm - 3.00pm</td>
<td>Royal Theatre Bradman Theatre Menzies Theatre Nicholls Theatre</td>
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<td>Afternoon Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<td>3.30pm - 5.00pm</td>
<td>Symposium - Clinical Medicine - Treatment Issues</td>
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<td>3.30pm - 5.00pm</td>
<td>Symposium - Epidemiology - Risks in New Infections</td>
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<tr>
<td>3.30pm - 5.00pm</td>
<td>Concurrent - Basic Science - Molecular Biology</td>
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<tr>
<td>3.30pm - 5.00pm</td>
<td>Concurrent - Indigenous - Emerging Issues in Indigenous Sexual Health</td>
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<td>3.30pm - 5.00pm</td>
<td>Royal Theatre Bradman Theatre Menzies Theatre Nicholls Theatre</td>
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<tr>
<td>5.15pm - 6.00pm</td>
<td>HIV Futures 4: State of the (Positive) Nation - Royal Theatre</td>
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<td>5.15pm - 6.00pm</td>
<td>Briefing on ASHM’s International Policy and Programs - Nicholls Theatre</td>
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<tr>
<td>7.00pm</td>
<td>Conference Dinner - National Museum of Australia</td>
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## SATURDAY 4 SEPTEMBER 2004

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<tr>
<td>7.30am</td>
<td>Registration</td>
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<tr>
<td>9.00am - 10.30am</td>
<td>Plenary Session</td>
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<tr>
<td>9.00am - 9.30am</td>
<td>Susan Kippax, Director of the National Centre in HIV Social Research</td>
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<td>9.30am - 10.00am</td>
<td>Paul Sax, Clinical Director of the Division of Infectious Diseases and the HIV Program at Brigham and Women’s Hospital, Boston</td>
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<td>10.00am - 10.30am</td>
<td>Michael Malim, Professor and Head of the Department of Infectious Diseases at King’s College, London</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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<td>11.00am - 12.30pm</td>
<td>Concurrent - Epidemiology of STIs</td>
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<td>11.00am - 12.30pm</td>
<td>Concurrent - Models of Primary Care</td>
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<td>11.00am - 12.30pm</td>
<td>Symposium - International Policy Initiatives</td>
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<td>11.00am - 12.30pm</td>
<td>Symposium - ACON &amp; NSW Health (Symposium Sponsor) - Gay Men &amp; Condoms: The Relentless Pursuit of Rubberless Sex</td>
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<td>11.00am - 12.30pm</td>
<td>Royal Theatre Bradman Theatre Menzies Theatre Nicholls Theatre</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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<td>1.30pm - 3.00pm</td>
<td>Symposium - Clinical Medicine - Consultant the Experts</td>
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<td>1.30pm - 3.00pm</td>
<td>Concurrent - Community HIV Prevention and Peer Education</td>
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<td>Concurrent - Social Research - Multicultural</td>
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<td>1.30pm - 3.00pm</td>
<td>Symposium - Basic Science - HIV Immunology</td>
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<td>Royal Theatre Bradman Theatre Menzies Theatre Nicholls Theatre</td>
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<td>Afternoon Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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<td>3.30pm - 5.00pm</td>
<td>Closing Session</td>
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<tr>
<td>3.30pm - 5.00pm</td>
<td>Royal Theatre</td>
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<td>3.30pm - 5.00pm</td>
<td>Prizes</td>
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<td>3.30pm - 5.00pm</td>
<td>Hypothetical with Dr Norman Swan, Host The Health Report, ABC Radio National</td>
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<td>4.15pm - 4.55pm</td>
<td>Frank Bowden - Closing remarks</td>
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<td>4.55pm - 5.00pm</td>
<td>Levinia Crooks - 2005 ASHM Conference</td>
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1.2 16TH AUSTRALASIAN CONFERENCE 2–4 SEPTEMBER 2004 1.3 16TH AUSTRALASIAN CONFERENCE 2–4 SEPTEMBER 2004
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 8th 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 a member of the Cost Effectiveness of Preventing AIDS Complications Research Group (CEPAC).

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

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 – U.S. CDC Collaboration
HIV/AIDS Program
DDC Building 7, 4th Floor
Ministry Of Public Health, Soi 4
Nonthaburi, Thailand, 11000
fav1@cdc.gov
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

<table>
<thead>
<tr>
<th>RECIPIENT</th>
<th>ORGANISATION</th>
</tr>
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<tbody>
<tr>
<td>Dennis Altman</td>
<td>AIDS Society of Asia and the Pacific</td>
</tr>
<tr>
<td>Palane Ammaranond</td>
<td>University of NSW</td>
</tr>
<tr>
<td>Jane Anderson</td>
<td>St Luke's Nursing Service</td>
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<tr>
<td>Michelle Baker</td>
<td>Aaron Diamond AIDS Research Centre</td>
</tr>
<tr>
<td>Sonia Fernandez</td>
<td>Department of Clinical Immunology and Biochemical Genetics</td>
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<tr>
<td>Trevor Fowles</td>
<td>St Vincent's Community Health Service</td>
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<tr>
<td>Kristy Hingston</td>
<td>Royal Perth Hospital</td>
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<tr>
<td>Angela Kelly</td>
<td>Australian Research Centre in Sex, Health and Society</td>
</tr>
<tr>
<td>Kamal Kishore</td>
<td>Fiji School of Medicine</td>
</tr>
<tr>
<td>Silvia Lee</td>
<td>Royal Perth Hospital</td>
</tr>
<tr>
<td>Jennifer McDonald</td>
<td>Straight Arrows – Positive Edge Program</td>
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<tr>
<td>Karalyn McDonald</td>
<td>Australian Research Centre in Sex, Health and Society</td>
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<tr>
<td>Srđjan Mijajlović</td>
<td>University of New England</td>
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<tr>
<td>Kidest Nadew</td>
<td>Sydney Children's Hospital</td>
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<tr>
<td>Helen Orchard</td>
<td>South West Sydney Area Health Service</td>
</tr>
<tr>
<td>Jo Owens</td>
<td>St Luke's Nursing Service</td>
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<tr>
<td>Mark Page</td>
<td>Victorian Infectious Diseases Service</td>
</tr>
<tr>
<td>Vanessa Read</td>
<td>Prison Health Services - WA</td>
</tr>
<tr>
<td>Claire Ryan</td>
<td>Macfarlane Burnet Institute</td>
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<tr>
<td>Kevin Schamburg</td>
<td>AIDS Action Council of the ACT</td>
</tr>
<tr>
<td>Bernadette Shields</td>
<td>Department of Health &amp; Community - NT</td>
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<tr>
<td>Kate Thompson</td>
<td>Monash University</td>
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<tr>
<td>Mohammed Ubaidullah</td>
<td>Zir Venkateswarar University, India</td>
</tr>
<tr>
<td>Patrick Unemor</td>
<td>National Centre in HF/ Epidemiology and Clinical Research</td>
</tr>
<tr>
<td>Giulia Zanetti</td>
<td>National Centre in HF/ Epidemiology and Clinical Research</td>
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</tbody>
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23

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.
LOCATION MAP – CANBERRA CITY

THE NATIONAL CONVENTION CENTRE, CANBERRA FLOOR PLANS

GROUND FLOOR

FIRST FLOOR

FLOOR PLAN KEY
A = Bradman Theatrette
B = Menzies Theatrette
C = Nicholls Theatrette
D = Sutherland Theatrette
<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>BOOTH NUMBER</th>
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<tbody>
<tr>
<td>Abbott Australasia</td>
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<tr>
<td>Gilead Sciences Pty Ltd</td>
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<tr>
<td>National Centre in HIV Social Research</td>
<td>3</td>
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<td>Unitract</td>
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<tr>
<td>Four Seasons Condoms</td>
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<td>Bristol-Myers Squibb</td>
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<td>Roche Products</td>
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<td>Australian Government Department of Health and Ageing</td>
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<tr>
<td>Schering Plough</td>
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<tr>
<td>Australasian Society for HIV Medicine</td>
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<tr>
<td>GlaxoSmithKline</td>
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<tr>
<td>AusAID Photographic Display</td>
<td>16</td>
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<tr>
<td>Boehringer Ingelheim</td>
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<td>ACT Health</td>
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<td>Novartis Pharmaceuticals</td>
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<tr>
<td>Merck Sharp &amp; Dohme</td>
<td>20</td>
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<tr>
<td>AusAID</td>
<td>21</td>
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</tbody>
</table>
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.

Contact
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Office of the Chief Health Officer
ACT Health
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CANBERRA ACT 2601
Tel: +61 2 6205 1011
Fax: +61 2 6205 1884
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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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Fax: +61 8 8212 0396
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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 materials, including managing continuing 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.

Contact
Australian Society for HIV Medicine (ASHM)
LMB 5057
DARLINGHURST NSW 1300
Tel: +61 2 9368 2706
Fax: +61 2 9380 9528
Email: ashm@ashm.org.au
Web: www.ashm.org.au

Australian Government Department of Health and Ageing (Booth 8)
The Commonwealth Department of Health and Ageing is responsible for: implementing and monitoring the National Hepatitis C Strategy 1999 – 2004 and the National HIV/AIDS Strategy 1999 – 2004; facilitating policy formulation and secretariat support for national committees; administering funding to State and Territory governments and NGOs; developing and promoting national standards for best practice in health promotion, treatment and care for hepatitis C and HIV/AIDS; and commissioning research.

Contacts
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Fax: +61 2 6289 8096
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Mr David Dumbrell
Director
HIV/AIDS Section
Dept of Health and Ageing
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Fax: +61 2 6289 0170
Email: david.dumbrell@health.gov.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.

Contact
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Fax: +61 2 8875 8701
Email: klow@syd.boehringer-ingelheim.com

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 leading maker of innovative therapies for cardiovascular, metabolic and infectious diseases, central nervous system and dermatological disorders and cancer.

In Australia, Bristol-Myers Squibb markets VIEXEC® (didanosine) and ZERIT® (stavudine) for the treatment of patients with HIV/AIDS. Bristol-Myers Squibb’s new protease inhibitor, Reyataz® (atazanavir sulphate) is currently available through a special access program.

Contact
Mark Manuele
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Tel: +61 3 9321 4074
Fax: +61 3 9701 1526
Email: mark.maneule@bms.com

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 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
Daniel Jordan
Brand Manager
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Fax: +61 2 9475 6141
Mobile: 0425 282 856
Email: ats@condoms1.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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Gilead Sciences Pty Ltd
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OAKLEIGH VIC 3166
Tel: +61 3 9563 0170
Fax: +61 3 9563 0170
Email: kmcdaid@gilead.com

GlaxoSmithKline (Booth 11)
GlaxoSmithKline (GSK) Australia is one of the largest pharmaceutical and healthcare companies in the country employing more than 1500 Australians. It is Australia’s largest vaccine manufacturer and a leading supplier of medicines for asthma, bacterial and viral infections, depression, migraine, gastroenterological disease, epilepsy, smoking cessation and pain relief. With a strong commitment to research GSK invests more than $25 million in R&D each year, making it one of Australia’s top 20 R&D investors. Over 17 million Australians rely on at least one of GSK’s medicines, vaccines or consumer healthcare products each year enabling them to do more, feel better and live longer.

Contact
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HIV Brand Manager
GlaxoSmithKline Australia
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BORONIA VIC 3155
Tel: +61 3 9727 6950
Fax: +61 3 9720 2071
Email: francis.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 disease education, public-health infrastructure, prevention, care and treatment around the world.
- The Enhanced Care Initiative, active in Brazil, Senegal, South America, Thailand and Puerto Rico.

Contact
Mr Stephen Townsend
National HIV Manager
Merck Sharp & Dohme (Aust)
PO Box 79
GRANVILLE NSW 2142
Tel: 1800 023 135
Fax: +61 2 9795 9070
Email: stephen_townsend@merck.com

Australian Therapeutic Supplies Pty Ltd.
Condoms.com.au, including many examples of exotic sexual positions!
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://nchsr.arts.unsw.edu.au

Contact:
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Research Resource Manager
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Fax: +61 2 9385 6455
Email: m.frances@unsw.edu.au

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.

Contact:
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Tel: +61 2 9805 3555
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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® (environviral) for HIV infection, Pegasys® “RBV” (peginterferon alfa-2a + ribavirin) and Pegasys® “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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HIV Product Manager
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Fax: +61 2 9982 5269
Email: fleur.gill@roche.com

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 cardiovasculars, 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.

Contact:
Ronda Fethers
Senior Product Manager
Schering Plough Pty Limited
Specialty Healthcare
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Fax: ronda.fethers@spcorp.com

Unitrack (Booth 4)
Unitrack 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 Unitrack 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 needlestick injuries. Unitrack 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.

Contact:
Adrian Searle
General Manager - Sales & Marketing
Unitrack Ltd
Level 3, 35 Clarence St
SYDNEY NSW 2000 Australia
Ph: +61 2 8346 6522
Fax: +61 2 8346 6511
Email: adrian.searle@unitrack.com
Web: www.unitrack.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% mix 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 and protective behaviours, designed to measure knowledge, risk behaviours and prevalence of HIV and HCV.

Poster Presentation – Board number 71

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. Anson 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 74

Edwin Leenansyah

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 Fcγ receptor which does not require the γ-subunit for signalling. This supports the hypothesis that HIV-1-related inhibition of Fcγphagocytosis 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.

Poster 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.

Poster 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.

Applicants 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

AUSTRALASIAN SOCIETY FOR HIV MEDICINE INC.
UNDERGRADUATE AND JUNIOR RESEARCHER SUPPORT AWARDS IN HIV AND HEPATITIS APPLICATION FORM

Please attach a photocopy of your most recent academic transcript. Feel free to attach any extra notes or supporting documentation.

Name:

Postal address:

Phone number:

Email:

Course in which you are enrolled:

Department/faculty:

Institution:

Supervisor:

Supervisor contact details:

Please describe your area of research interest:

What do you hope to achieve?

What is your interest in HIV or viral hepatitis?

How could ASHM assist you?

Supervisor’s signature:

Date:

Applicant’s Signature:

Date:

Form deadline: COB 31 March 2005
Send to: ASHM Office, Locked Mail Bag 5057, DARLINGHURST NSW 1300
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<tr>
<th>Time</th>
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<tr>
<td>7.30am</td>
<td>Registration</td>
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<td>8.30am</td>
<td>Opening Ceremony</td>
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<td>Royal Theatre</td>
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<td>Chairs: Frank Bowden &amp; Clare Willington</td>
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<td>8.40am</td>
<td>Welcome to the Land</td>
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<td>8.50am</td>
<td>Liz Dax, ASHM President</td>
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<td>8.55am</td>
<td>The Hon. Tony Abbott MP, Federal Health Minister</td>
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<td>9.00am</td>
<td>Justice Michael Kirby, Sydney Chambers of Justice</td>
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<td>9.20am</td>
<td>Michael Kidd, President of the Royal Australian College of General Practitioners</td>
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<td>The Management of HIV in Australian General Practice</td>
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<td>9.40am</td>
<td>Ninkama Moiya, Director of the National AIDS Council (PNG)</td>
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<tr>
<td>10.00am</td>
<td>HIV/AIDS Epidemic in a Culturally Diverse Setting</td>
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<td>10.10am</td>
<td>Frank Bowden, Conference Representative &amp; Chair of the HIV/AIDS &amp; STI Subcommittee</td>
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<td>10.15am</td>
<td>The Hon. Alexander Downer MP, Minister for Foreign Affairs</td>
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<td>10.20am</td>
<td>Darren Russell, Australian Federation of AIDS Organizations (AFAO)</td>
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<td>10.25am</td>
<td>David Menadue, National Association of People Living with HIV/AIDS (NAPWA)</td>
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<td>Morning Tea in Exhibition &amp; Poster Area - Exhibition Hall</td>
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</table>
### Concurrent - Basic Science - Therapeutics

11.00am - 12.30pm

**Bradman Theatrette**

**Chairs:** Patricia Price & Suhana Pillar

- Lampard A - The Role of Invasive Immunity in HIV Infection
- Max L - Patterns of Sexual Risk Taking Over Time in Men (HMM) Cohort

### Concurrent - Social Research - Risk

11.00am - 12.30pm

**Bradman Theatrette**

**Chairs:** Marian Pitts & John Ballard

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

The panel will include:

- A representative from the Population Health Branch of the Commonwealth Department of Health and Ageing
- Dr Mak Kham, Asia and the Pacific AIDS Society of
- Dr John Ballard, President of
- Dr O’Keeffe, Commonwealth Health Branch of the Population
- A representative from LifeCare

### Concurrent - Basic Science - Therapeutics

11.30am - 12.45pm

**Nicholls Theatrette**

**Chair:** Patricia Price

- van den Brule D - Analysis of Peripheral and Lymph Node Monocytic Cells from HIV Infected Individuals with Unresolved HIV-1 Infection
- Worth H - A Dance of Death? Gay Men, Crystal Meth and Unsafe Sex

### Concurrent - Basic Science - Therapeutics

12.30pm - 1.45pm

**Bradman Theatrette**

**Chairs:** Andrew Gould & Stevie Clayton

- Knoll J - HIV Prevention Using Antiretroviral Agents: Current Status of Clinical Research
- Almendros C - Invasive in Nervous Tissues of Intracerebral Influenza Virus Patients with Acute Encephalitis

### Concurrent - Social Research - Risk

12.45pm - 2.00pm

**Nicholls Theatrette**

**Chairs:** Ashley Watson & Paul Goldwater

- Maung S - Immunological Changes in HIV Infected Individuals on HAART
- Post J - Immune Restoration Disease: Time for Review

### Concurrent - Basic Science - Therapeutics

1.30pm - 2.45pm

**Bradman Theatrette**

**Chairs:** Patricia Price & Suzanne Crew

- Price P - Alleles of the Gene Encoding Interleukin 1-a and a Decrease in the Gene Encoding Interleukin 1-a May Predict Control of Plasma Viral Load in HIV-1 Patients on HAART

### Concurrent - Basic Science - Therapeutics

2.00pm - 3.15pm

**Nicholls Theatrette**

**Chairs:** John Ballard

- Cummins D - Smoking Cessation Program and HIV Positive Clients
- Riley RG - Refresh 2003: An Evaluation of Macquarie Support for a Retreat for Carers and People Living with HIV/AIDS

### Concurrent - Social Research - Risk

2.45pm - 4.00pm

**Nicholls Theatrette**

**Chairs:** Marian Pitts & John Ballard

- Cummins D - Smoking Cessation Program and HIV Positive Clients
- Riley RG - Refresh 2003: An Evaluation of Macquarie Support for a Retreat for Carers and People Living with HIV/AIDS

### Concurrent - Basic Science - Therapeutics

3.15pm - 4.30pm

**Menzies Theatrette**

**Chairs:** Ashley Watson & Paul Goldwater

- Almendros C - Invasive in Nervous Tissues of Intracerebral Influenza Virus Patients with Acute Encephalitis

### Concurrent - Social Research - Risk

4.15pm - 5.30pm

**Menzies Theatrette**

**Chairs:** Andrew Gould & Stevie Clayton

- Worth H - A Dance of Death? Gay Men, Crystal Meth and Unsafe Sex
- Almendros C - Invasive in Nervous Tissues of Intracerebral Influenza Virus Patients with Acute Encephalitis
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<tr>
<th>Time</th>
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<td>2.00pm</td>
<td>Duffin R - PREP and Biological Prevention Consumer Perspectives</td>
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<td>2.09pm</td>
<td>Keane NW - HIV-1 Viral Load/Net CD404 or CD80 Viral Tropism</td>
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<td>Middleton T - Transmission of Antiretroviral Drug Resistant HIV Strains</td>
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<td>Gibbsc T - Depression and Neuropsychological Performance in Individuals</td>
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<td>Fawkes J - PREP in Cambodia</td>
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<td>French NW - Low CD4 T-Cells and Effective Antiretroviral Therapy</td>
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<td>Cyanage LA - Neuropsychological Profile of AIDS</td>
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<td>Head C - Evaluation of a Primary Care Based Nutrition Service for People</td>
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<td>Van Griensven F - Injection Drug Users</td>
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<td>Cheney - HIV-1 Persistence in Double Nucleoside T-Cells From Patients</td>
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<td>Manunot B - HIV-Infected Patients</td>
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<td>Questions and Discussion</td>
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<td>Wilson M - Incidence Immunoassay for Distinguishing Recent HIV-1 Infection</td>
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<td>Post J - To-Routinely Offer Testing for HIV Infection in all Cases of</td>
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<td>Thompson J - The VIIA</td>
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<td>Thrombin G - a Novel Measure of Cognitive Function that is Sensitive to</td>
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<td>Watson KM - An Examination of Trends and Risk Factors for Hospitalisation</td>
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<td>Munro D - HIV-Infected Patients Admitted to the Intensive Care Unit;</td>
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<td>Cordwell B - Silicat CD4-1 T-Cells Responses</td>
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<td>Parra D - HIV Vaccines: Safety Considerations and Neutralising Antibody</td>
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<td>Workerman C - An Open Label Study</td>
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<td>Zhou J - Rates of Short-Term Clinical Progression in the Treat Asia HIV</td>
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<td>Interleukin-2 (RIL-2) (SC) Recombinant</td>
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<td>Bulls M - Foundational Issues in VCT in a PMTCT Setting in Tanzania</td>
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<td>Ritt L - Determining HIV Drug Use in Patients</td>
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<td>Rautenste P - Trends in the Uptake and Use of Combination Antiretroviral</td>
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<td>Burke M - Environmental Impairments in Emerging Epidemics</td>
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<td>Retino A - Increasing Awareness of Cognitive Impairments in HIV+ Settings</td>
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<td>Zhou J - The Treat Asia HIV Observational Database</td>
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<td>Erika D - Challenges for Delivering Community Based HIV Treatments Programs</td>
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<td>Aye T - External Quality Assurance Schemes for Anti-HIV and Anti-HCV Testing</td>
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<td>Emery S - Safety and Preliminary Immunoassay of a B-Subtype DNA Prime/Booster</td>
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<td>Chen L - Tenofovir-Related Reproductive Risk Factors</td>
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<td>Winston A - The Normalised/Inhibitory Quotient (NQ) of Boosted Protase</td>
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<td>Duffin R - HIV Drug Side Effects - One Positive Voice</td>
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<td>Nicoll Theatrettee Chair: Bill Whitaker &amp; Kirsty Machon</td>
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<td>Sutherland Theatrettee Chair: Edward Reis &amp; Andrew Grallith</td>
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<td>2.45pm</td>
<td>Thomson S - New HIV and HCV Vaccine Candidates and Delivery Strategies</td>
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<td>Carey C - ESPRT (Evaluation of Substanous Preclinac) in a Randomised</td>
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<td>Velocyn M - Aligning Funding with Changing Service Needs</td>
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<td>Middleton T - Transmission of Antiretroviral Drug Resistant HIV Strains</td>
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<td>Rainwater P - Trends in the Uptake and Use of Combination Antiretroviral</td>
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<td>Daniel T - Challenges for Delivering Community Based HIV Treatments Programs</td>
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<td>Willem M - External Quality Assurance Schemes for Anti-HIV and Anti-HCV Testing</td>
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<td>Symposium - Clinical Medicine - HAART (Undetectable)</td>
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<td>Concurrent - Epidemiology of New Infections/Margaret MacDonal Memorial Session</td>
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**Plenary Session**
- **Symposium - Clinical Medicine - HAART (Undetectable)**
  - Chair: Liz D'Ono & David Cooper
- **Concurrent - Basic Science - HIV Pathogens**
- **Concurrent - Nursing**
- **Concurrent - Epidemiology of New Infections/Margaret MacDonal Memorial Session**

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**Symposium - Clinical Medicine - HAART (Undetectable)**
- Chair: Ashley Watson & Ian Wooley
- Bradman-Theatherette:
  - Cunningham A - HIV Capture and Transmission in Domestic Cats
  - McDonald A - Trends in Newly Acquired and Newly Diagnosed HIV Infection in Australia, 1994 - 2005
  - McDonald A - Clinical and Public Health Challenges of Newly Diagnosed HIV Infection

**Concurrent - Basic Science - HIV Pathogens**
- Chair: Steve Bradman
  - Sasson SC - Progressive Dysregulation of the GI-THY System in HIV-1 Infection
  - Gluck D - The Experience of Fatigue and Strategies for Self-Management among Community-Dwelling Persons Living with HIV

**Concurrent - Nursing**
- Chair: Ashley Watson
  - Russell D - Undetectable - But What are the Pills Doing to My Body?
  - Clarke JW - A New Concept of Restricted HIV-1 Infection of Astrocytes
  - Tank K - A Room with a View: The Pitfalls of Long Term Admission in a Palliative Care Unit

**Concurrent - Epidemiology of New Infections/Margaret MacDonal Memorial Session**
- Chair: Frits Van Griensven & Levinia Crooks
  - Paton D - A room with a view: The levels of the “Detected” EIA
  - Payton M - Clinical and Public Health Challenges of Newly Diagnosed HIV Infection
  - Ramacuzzotti T - A Comparison of the Western Blot Versus Detuned EIA Methods for Detection of Incident HIV Infection

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**Other Sessions**
- **Plenary Session**
  - Chair: Steve Bradman
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FRIDAY 3 SEPTEMBER 2004 FULL CONFERENCE PROGRAM

1.30pm - 3.00pm
Concurrent - Clinical Medicine - Infectious Disease
Royal Theatre
Chairs: Andrew Carr & Debbie Marriott
Bradanar Theatre
Chairs: Anthony Cunningham & Scott Thomson

Muscle Theatre
Chairs: John Milian & Sean Rimington

Nicholls Theatre
Chairs: Tuck Meng Soo & Clare Willingon

1.10pm - 1.45pm
Miguel A - Substantaneous Injection of Polyacrylic Acid (PLA) in Individuals with HIV Infection: Associated Facial Lipodystrophy Six-Month Outcome and Predictors of Response

1.10pm - 1.30pm
Mak J - The Virology - Associated Cholesterol of HIV-1: A Potential Target for Topical Microbicide Development

1.30pm - 1.50pm
McBride NIch & Downie E - Introduction of Antiretroviral Drugs in Papua New Guinea: The Pilot Program

1.50pm - 2.00pm

2.00pm - 2.15pm
Price B - Complex Patients: Evaluation of Care Manager Model (CCM)

2.15pm - 2.30pm
Law M - Observed and Predicted Rates of Myocardial Infarction Relevant to the Wahgi Community

2.30pm - 2.45pm
Ruse H - Impairment of Reverse Cholesterol Transport in HIV Infected Individuals

2.45pm - 3.00pm
Carter V - Effectiveness of a Dedicated Lipidostrophy Class in Reducing Hyperlipidaemia in HIV Infected Individuals

3.00pm - 3.15pm
Afternoon Tea in Exhibition & Poster Area - Exhibition Hall

3.30pm - 5.00pm
Concurrent - Clinical Medicine - Treatment Issues
Royal Theatre
Chairs: Mark Kelly & Jenny Hoy

Bradman Theatre
Chairs: Don Raser & Eweima Wright

Muscle Theatre
Chairs: Michael Mullen & Andy Poulton

Nicholls Theatre
Chairs: Edward Reis & Rosemary McGuckin

3.30pm - 3.45pm
Drummond F - The Management of HIV-1 Infection in the D:A:D Study

3.30pm - 3.45pm
Rawstrom P - Rises in New Infections: Social Research Findings

3.30pm - 3.55pm
Malin M - The HIV Accessory Protein Vif and the Suppression of an Innate Anti-Viral Defence Mechanism

3.30pm - 3.55pm
Shanlen M - Policy Implications of Emerging Priorities in Relation to Aboriginal and Torres Strait Islander Sexual Health Issues

3.45pm - 4.05pm
Debate: Continuous Therapy is Definitely the Only Way to Treat HIV – Isn’t It?

4.00pm - 4.15pm
Ryan L - Beyond the action plan: Building the Long Term Response to Increases in HIV Infections

4.00pm - 4.15pm
Hill MK - Investigating the Role of the Supercritical Fluid with HIV-1 Replication

4.05pm - 4.20pm
Saunders R - Living and Loving Across the Sandridge

4.34pm - 4.47pm
Grulich A - Recurrent Syphilis in Gay Men: Where To From Here?

4.34pm - 4.47pm
Bedforth T - Antigenicity and Methylpathways are Required for Processing of HIV 1 Tax Protein by the Viral Protease

4.50pm - 5.05pm
Thompson SC - Just Getting On with my Life Without Thinkin’ About It: Aboriginal Experiences of Living with HIV in Western Australia

4.50pm - 5.05pm
Kohos PG - The Territory Two-Step: Enhancing Detection of Latent MTB in HIV Clients

4.50pm - 5.05pm
Questions and Discussion

5.15pm - 6.15pm
HIV Futures 4: State of the (Positive) Nation - Royal Theatre

5.15pm - 6.15pm
Briefing on ASMs International Policy and Programs

Nicholls Theatre

7.00pm
Close Conference Dinner - National Museum of Australia
# Saturday 4 September 2004

## Plenary Session

**Royal Theatre**  
Chair: John Kaldor & Sharon Lewin

**9:00 am - 9:30 am**  
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**

**10:00 am - 10:30 am**  
Michael Muden, Professor and Head of the Department of Infectious Diseases at King’s College, London  
**Recent advances in HIV replication**

## Concurrent Sessions

### 11:00 am - 12:30 pm

**Royal Theatre**  
Chair: Frank Bowden & Anna McNulty

- Jin F - Prevalence and Risk Factors for Gonorrhoea and Chlamydia in the Health in Men (HIM) Cohort
- Lim M - Epidemiology of HIV and Gonorrhoea in Victoria, 1993 - 2003
- Mcguigan D - Managing Sexually Transmissible Infections in Gay Men
- McNicoll T - The HIV/AIDS Program in Canberra
- Reis E - Are Donor Dollars Really Helping National HIV Programs

**Bradman Theatrette**  
Chair: Clare Willington & Marilyn McMurchie

- Rogers G - HAART: when to start and what with
- Rogers G - The South Australian Primary Care Health Care Programme for People with HIV and People Who May Be At Risk
- Sook TM - The HIV/AIDS Program in Canberra
- Stein E - Are Donor Dollars Really Helping National HIV Programs

**Nicholls Theatrette**  
Chair: Adrian Lovney & Lisa Ryan

- Baxter D - The Treatments/Prevention Nexus - Where are we after Bangkok?
- Baxter D - The Treatments/Prevention Nexus - Exploring the Nexus in Unprotected Sex
- Baxter D - The Treatments/Prevention Nexus - Exploring the Nexus in Unprotected Sex
- Baxter D - The Treatments/Prevention Nexus - Exploring the Nexus in Unprotected Sex
- Baxter D - The Treatments/Prevention Nexus - Exploring the Nexus in Unprotected Sex

## Lunch in Exhibition & Poster Area - Exhibition Hall
### 16TH AUSTRALASIAN CONFERENCE
2–4 SEPTEMBER 2004

#### SATURDAY 4 SEPTEMBER 2004 FULL CONFERENCE PROGRAM

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.30pm - 1.00pm</td>
<td>Royal Theatre Chairs: Ashley Watson &amp; Jee Safari FAC Panel: Paul Sax, Jonathan Anderson &amp; Robert Filloyson</td>
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<tr>
<td>1.30pm - 1.45pm</td>
<td>Bradman Theatre Chairs: David Menadue &amp; Geoff Hume</td>
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<tr>
<td>1.30pm - 1.45pm</td>
<td>Balmany Theatre - Social Capital and the Phenomenology of Barebacking</td>
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<tr>
<td>1.30pm - 1.45pm</td>
<td>Ho HT - Cultural Characteristics and Vulnerability to Blood-Borne Viruses of Ethnic Vietnamese Injecting Drug Users</td>
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<td>1.30pm - 1.45pm</td>
<td>Matteda D - The Geography of the Gay Community 'Shelters' in Sydney</td>
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<tr>
<td>1.30pm - 1.45pm</td>
<td>Nguyen D - What Role Do Key Informants Play in Helping Us to Understand and Address Blood-Borne Viruses Prevalence and Risk Behaviours Among Ethnic Vietnamese Injecting Drug Users in Melbourne?</td>
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<tr>
<td>1.45pm - 2.00pm</td>
<td>Mallal S - HIV and HCV Adaptation to HLA Restricted Immune Responses</td>
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<td>1.45pm - 2.00pm</td>
<td>Richard Moore from the Carlton Clinic, Melbourne, VIC</td>
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<td>1.45pm - 2.00pm</td>
<td>Madeddu D - The Geography of the Gay Community 'Shelters' in Sydney</td>
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<tr>
<td>1.45pm - 2.00pm</td>
<td>Kemer H - Culture and Interdependence: Negotiating HIV Diagnosis and Disclosure Among People from Culturally and Linguistically Diverse Backgrounds</td>
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<tr>
<td>1.45pm - 2.00pm</td>
<td>Zaudem H - Proliferating Antigen-Specific CD8+ with a CRIS, Cytotoxic T Lymphocyte Phenotype During Primary HIV-1 Infection</td>
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<tr>
<td>2.00pm - 2.15pm</td>
<td>David Baker from 407 Doctors, Sydney, NSW</td>
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<tr>
<td>2.00pm - 2.15pm</td>
<td>Prestige G - Gay Community: Subcultures, Risks and Comfortableness</td>
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<td>2.00pm - 2.15pm</td>
<td>McGuigan D - Working with Gay Men whose Sexuality and Drug Use is Culturally Specific</td>
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<td>2.00pm - 2.15pm</td>
<td>Higgs P - HIV and Injection Drug Use: Is HAART a Reality?</td>
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<td>Vaanta Panshi from the Canberra Sexual Health Centre, Canberra, ACT</td>
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<td>2.30pm - 2.45pm</td>
<td>Scott S - New Applications of Peer Education in Young Gay Men's Sexual Health Promotion</td>
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<tr>
<td>2.30pm - 2.45pm</td>
<td>Petrovski N - Adherence and Diversity</td>
</tr>
<tr>
<td>2.30pm - 2.45pm</td>
<td>Keynan N - HIV/AIDS Multilingual Recorded Lines for People from Culturally Diverse Backgrounds</td>
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<tr>
<td>2.45pm - 3.00pm</td>
<td>Canavan P - Positive in Prevention</td>
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<td>2.45pm - 3.00pm</td>
<td>Alfred Canavan - Positive in Prevention</td>
</tr>
<tr>
<td>2.45pm - 3.00pm</td>
<td>Keynan N - HIV/AIDS Multilingual Recorded Lines for People from Culturally Diverse Backgrounds</td>
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<tr>
<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 - 3.30pm</td>
<td>Closing Session</td>
</tr>
<tr>
<td>3.30pm - 3.50pm</td>
<td>Royal Theatre Chairs: Frank Bowden &amp; Liz Dax</td>
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<tr>
<td>3.30pm - 3.50pm</td>
<td>Prizes</td>
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<tr>
<td>3.30pm - 4.55pm</td>
<td>Hypothetical with Dr Norman Swan, Host &quot;The Health Report&quot;, ABC Radio National</td>
</tr>
<tr>
<td>4.55pm - 5.05pm</td>
<td>Frank Bowden - Closing remarks</td>
</tr>
<tr>
<td>4.55pm - 5.05pm</td>
<td>Levinia Crooks - 2005 ASHM Conference</td>
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<tr>
<td>3.30pm - 5.00pm</td>
<td>Full Conference Program</td>
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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.
EARLY ANTIRETROVIRAL THERAPY (ART) AND TREATMENT INTERRUPTION IN HIV-1 INFECTION: THE IMPACT ON THE NEUTRALISING ANTIBODY RESPONSE, VIRUS EVOLUTION AND VIRUS CONTROL

Arnett A1,2,3, Verity E1,2, Wilson K1, Ho J-3,4, Jardine D, Geary P, Merlin K, Grey P, Kellher A, Smith D, McNee D1,2,4, and the Pulse Study Team

1Monash University, Clayton, VIC, Australia; 2National Referral 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 STI. Two ART resumption were undertaken, should VL exceed 5,000 copies/mL. Plasma and serum samples were taken at Baseline (BL), during HAART and upon interruption.

Sixteen subjects demonstrated neutralising ability at BL with titres between 1:42 to 1:157 against the CCR5-using Clade B reference isolate HIV-1(LAI). Thirteen of these had high coincident BL viral loads (>200,000 copies/mL). Based on our observation of early neutralising antibody responses, we are currently investigating the role of complement. Autologous virus was successfully isolated from BL serum in 15 of the 20 subjects by pelleting virus to remove excess antibodies and solubilizing 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 not detected in seven other 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 VIV-2 Genescan assay. Very little is currently known about the impact of ART interventions 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 CYANOVIN-N

Nicole M Z1, Wilkinson J, Boyd M R2, Cunningham A L1

1Centre for Virus Research, Westmeadow 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 Ctype 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.

Cyanovin-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 120 h. At specific time points (0-96 h) CD4+ T cells were added to the DC culture. Using real time PCR, HIV-1 was quantified in the DC cultures and CD4+ T cell co-cultures. The difference between these two results provided a measure of HIV-1 transfer from DCs to CD4+ T cells. Inhibition of HIV-1 infection in DCs was observed when HIV-1 was pretreated with CV-N at concentrations between 100 nM-1 uM. 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 of monocyte-derived 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 MYCOBACTERIA IN HIV-INFECTED INDIVIDUALS WITH UNRESOLVED TUBERCULOUS MYCOBACTERIA (NTM) DISEASE

Van Beekel D1, Munier M2, Zaunders J, Ip S,7, Satchell C1,2, Merlin K, C1,2, Piperais M, Ammarmon P4, Petri S, Kelleher A1

1National Centre in HIV Epidemiology and Clinical Research, Sydney, NSW, Australia; 2Centre for Immunology, St. Vincent’s Hospital, Sydney, NSW, Australia; 3Immunology 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 and/or deep 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. Systematic 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 cervical LN cells from ELISPOT and LPA were obtained. LN and PBMCs were stimulated with a dose-response curve to MTB and MAI using fresh PBMC (n=4) and LN cells (n=1). ICC was performed using 5 μg/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 0.1-0.9 μg/mL. Furthermore, while LPA 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 0.3-1.31%) and 0.8% (range 0.3-1.75%) responses, respectively. Mean IL-2 production to MTB and MAI was 0.56% (range 0.13-3.13%) 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 larger than to MAI. The predominantly exuberant immune responses to low antigen loads of mycobacteria may be contributing to the pathogenesis of NTM-IRD.
Transforming Growth Factor-
LANGERHANS-LIKE CELLS WITH COLONY STIMULATING FACTOR AND TUMOUR INTERLEUKIN-4, GRANULOCYTE MACROPHAGE-66

These preliminary results suggest that CD14+ monocytes of TGF-β and TNF-α induce some langerin expression when applied to MDLC, using the cytokines IL-4, GM-CSF, and TGF-β. Early results demonstrated the importance of both CLRs in DC-HIV interactions. To further study HIV-1 interactions with the Langherin receptor, a suitable in vitro model is required. Our aim was to produce a monocyte derived Langherin-like cell (MLDC), using IL-4, cytosine IL-4, GM-CSF, TGF-β and TNF-α. TGF-β has been shown to induce BGs which associates with internalised Langherin and therefore may increase the overall amount of Langherin expressed. IL-4 and GM-CSF have been shown to upregulate CD1a and downregulate CD14. TNF-α was used because of its ability to induce some langerin expression when applied to CD14+ progenitor cells. High purity CD14+ monocytes were isolated using flimuation, cultured for three days with cytokine combinations of GM-CSF, IL-4 and TGF-β and then cultured for a further three days in the presence of TNF-α. Cell surface phenotype was determined by flow cytometry, using a panel of monoclonal antibodies; CD1a, CD14, Langherin, E-cadherin, CCR6, DC-SIGN, MR and CD83. Early results demonstrated the importance of TGF-β and TNF-α for the upregulation of Langherin on the surface of the cells. Titration of these four cytokines in combination resulted in a cell with a mean langerin and CD1a surface expression of 26% (ranging from 14-50%). These preliminary results suggest that CD14+ monocytes may be manipulated into expressing CD1a and Langherin, a more representative model of in vivo tissue DCs.

**Concurrent Session – Basic Science – Therapeutics**

**Nucleoside Reverse Transcriptase Inhibitors Decrease Monocyte Mitochondrial Gene Expression, an Effect that Persists 6 Weeks After Discontinuation of the Drugs**

Mallon P, Wrigley C, Uemori P, Seddew R, Williams K, Merth K, Keiffer A, Cooper D, Carr A, National Centre in HIV Epidemiology and Clinical Research, UNSW, Sydney, NSW, Australia; **HIV Immunovirology Research Laboratory, St Vincent’s Hospital, Sydney, Sydney, Australia; Faculty of Medicine, University of California San Francisco, California, USA; **HIV Immunovirology and Infectious Diseases Centre, St Vincent’s Hospital, Sydney, Sydney, Australia; Clinical Trials Centre, St Vincent’s Hospital, Sydney, NSW, Australia

NRTI side effects include bone marrow suppression (anemia, increased mean corpuscular volume (MCV)) and myelosuppression and myelotoxity. Although NRTIs may inhibit adenosine DNA polymerase α, affecting mitochondrial (mt) replication, it is unclear if mtDNA deletion 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. Assessed 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 1. Values are median [IQR]. 'p' values: *<0.05 **<0.01 ***<0.0001**

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<th>Week 6</th>
<th>Week 12</th>
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<tr>
<td>Adipose COX1</td>
<td>1.4 [0.2]</td>
<td>0.58[1.7]</td>
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<tr>
<td>Monocyte COX1</td>
<td>1.1 [0.4]</td>
<td>0.59 [0.2]</td>
<td>0.57 [0.3]**</td>
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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, more 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 drug.

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.

**Patterns of Sexual Risk Taking Over Time in the Health in Men (HIM) Cohort**

Maas L, Van de Ven P, Crawford J, Prestage G, Grulich A, Kahler J, Kippin S, on behalf of the Australian Thai HIV Vaccine Consortium, National Centre in HIV Social Research, National 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 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 10 UAI-C episodes per person per six months. Such practice places HIV-negative men at a heightened risk for HIV infection.

**Summer Survival: Sexual Health Survey of Young People's Sexual Behaviours, Attitudes and Risks**

Malvez G, Campbell K, Inglott M, HIV/AIDS & Related Diseases Unit, South Eastern Sydney Area Health Service, Sydney, NSW, Australia; *Shire Wide Youth Services Inc, Sutherland, Sydney, NSW, Australia; *WAYS Youth Services Inc, Bondi, Sydney, NSW, Australia

The key aim of the research was to identify sexually transmitted infection risk factors among the general youth population to help inform and plan sexual health promotion initiatives targeting young people. During the summer of 2003/2004 a convenience sample of 455 people aged 16-25 years were surveyed throughout south east Sydney. The research was an innovative partnership between sexual health services, youth services, local councils and young peer-educators. Data collection using a self-administered survey was integrated in to the annual sexual health peer outreach projects called “Summer Survival”. The survey collected information about the social, behavioural and attitudinal aspects of young people’s lives in relation to sexual health.

Survey respondents included over 50 different cultural background groups, at least 18% had sexual feelings that were non-heterosexual, and 81% had experienced sexual intercourse. Key results identified low levels of respondents reporting they “always” use condoms during sexual intercourse; the concerning interplay between sex, not using condoms, alcohol/drugs and unwanted sex; the general willingness to access GPs for sexual health issues; the high significance of peers as a source of sexual health information; the importance of school sexuality education; the lack of access to parental support; and that half of the young people did not have a Medicare card.

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 parents 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 tuned 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 travelling 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 adventorous 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
Australasian 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.
There has been much discussion of late about the success or otherwise of prevention in the context of sexual transmission of HIV. Prevention is usually taken to mean condom use. However, there is significant evidence to show that monogamy and abstinence, as strategies for HIV prevention, are also under debate. While condoms are the most widely used prevention tool, other forms of prevention technologies include: microbicides, vaccines, and post exposure prophylaxis (PEP) and pre-exposure prophylaxis (PREP).

This paper briefly describes these six prevention strategies and evaluates each of them with reference to a number of criteria: safety, efficacy, accessibility and affordability, acceptability to the user and user’s sexual partner, and social and public health impact.

The HIV epidemic is driven by social, cultural and economic inequalities. While prevention of HIV is to a large degree within the control of individuals, unlike diseases such as polio and malaria, power imbalances of any sort limit people’s ability to protect themselves from HIV infection. Each of the six prevention strategies is evaluated in terms of the above criteria and with particular reference to power imbalances, such as those produced and shaped by gender inequalities. While prevention of HIV is to a large degree within the control of individuals, unlike diseases such as malaria, power imbalances of any sort limit people’s ability to protect themselves from HIV infection.

Abstinence and monogamy are ineffective as public health prevention strategies. Condoms currently afford the best prevention: they are safe, effective, acceptable and affordable, and are socially acceptable to most users and their partners, and are socially acceptable. The other three forms of prevention technologies are currently comparatively less successful than condoms. Although they may provide a source of prevention, their introduction needs to be monitored carefully so that they do not undermine the success of condom use. The introduction of other methods of prevention need to be incorporated with behavioural prevention.

HIV PREVENTION USING ANTIRETROVIRAL AGENTS: CURRENT STATUS OF CLINICAL RESEARCH

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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 vaccines and microbicides. Any prevention study needs to contemplate its impact on current 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

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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

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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 Scarlet 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, Scarlet 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 of kidney toxicity.

Whilst Scarlet 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.
INCREASE IN INFLAMMATORY CYTOKINE LEVELS IN ABCAB VIRAEMIA IN HIV-1 INFECTED PATIENTS ON HAART

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Increased levels of pro-inflammatory cytokines have been found in patients with HIV-1 infection, and these cytokines may participate in the pathogenesis of HIV-1 disease. Although the role of cytokines in HIV-1 disease is well described, it is not clear whether cytokine levels are increased in patients who have control of viraemia. The aim of this study is to determine whether increased levels of cytokines are associated with control of viraemia in patients treated with HAART.

In conclusion, we found increased sCD30 levels in all seven patients when they had detectable plasma HIV-RNA. sCD30 levels decreased with control of viral load and correlated inversely with CD4 T-cell numbers. LAG 3 levels were usually low when they had detectable plasma HIV-RNA. sCD30 levels were found increased in all seven patients whose control of viral replication was delayed after HAART.

HIV-1 VIRAL LOAD NOT CXCR4 OR CCR5 VIRAL TROPISM MAY DETERMINE THE IMMUNE RESPONSE IN HIV-1 INFECTED PATIENTS DURING HAART

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Highly Active antiretroviral therapy (HAART) increases CD4 T-cell counts, decreases HIV-1 viral load and increases responses to antigens in HIV patients who are extremely immunodeficient before treatment. However antigen specific responses do not improve in all patients. This may be affected by both viral and host factors. HAART decreases viral co-receptor usage and can change the cytokine environment. Here, we determined the viral tropism of seven HIV-1 infected patients and evaluated their immuno competence over five years using ELISA to measure soluble sCD103, lymphocyte activation gene-3 (LAG 3) and CD26 DPPIV enzyme activity and interferon gamma (IFN-γ) and interleukin-5 (IL-5) ELISPOT assays to assess antigen and mitogen induced responses.

X4 virus was isolated from two drug naive patients when they had <50 CD4 cells/μL and high plasma viral loads. Three 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.

We found increased sCD30 levels in all seven patients when they had detectable plasma HIV-RNA. sCD30 levels decreased with control of viral load and correlated inversely with CD4 T-cell numbers. LAG 3 levels were usually low (1.1 pg/mL) but increased when 67 patients who had detectable viral loads. High numbers of IL-5 producing cells were found in 6/7 patients during HAART. Numbers of IL-5 producing cells increased during HAART in the two treatment naive X4 patients during HAART, and in the two R5 patients who controlled their viral load, but responses were also seen in the two R5 patients failing treatment.

In conclusion, we found increased sCD30 and LAG3 levels in patients with delayed viral load suppression 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 be to clarify the immunological mechanisms involved in the development of abacavir HS.
INCIDENCE IMMUNOASSAY FOR DISTINGUISHING RECENTLY ESTABLISHED HIV-1 INFECTION IN THERAPY-NAIVE POPULATIONS

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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 spans 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.

CONCURRENT SESSION – CHANGE IN CLINICAL PATTERNS

IMMUNE RESTORATION DISEASE: TIME FOR REVIEW?

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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 6:1829) It has been recognized in association with a range of disorders including mycobacterial infections, cytomegalovirus, Pneumocystis jiroveci, PMI, Kaposi's 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) investigations 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.
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 class of drug was found in 3% of individuals. The most common mutations transmitted were thymidine analogue mutations (58%), M184V (10%), K103N (8%) 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 developing AIDS Dementia Complex (ADC) on HAART or whether the deficits remain identical to pre-HAART CDC.

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, education were recruited for the dual-therapy cohort and thirty controls for the HAART cohort. All participants were assessed with a standard neuropsychological examination assessing five cognitive domains. Comparisons between the groups 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 slowing. 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 ($r = -0.48, p < 0.03$).

In conclusion, the neuropsychological pattern of impairment does not demonstrate any worsening in the HAART cohort. However, similar to the non-demented HIV-infected individuals, learning, complex attention and psychomotor slowing are the cognitive domains that show less benefit from HAART. The unequal neurocognitive 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.

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 primarily non-in 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 (90% 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 4062 (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.

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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 immunode-fficiency, 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 for all hospitalised patients was 29, med-301,225 copies/ml. Forty nine per cent of patients were re-ceived 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, me-2–4 SEPTEMBER 2004

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 rep-resents 1.7% of all admissions during this period. Overall, 4 patients died in the ICU, 5 died during the hospital ad-mission and 23 (73%) 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 ad-missions were HIV-related and 92% were male with a mean age of 45 years. The mean CD4 count was 191 (survivors, 253 and non-survivors 79, $p < 0.05$) and the mean viral load 301,225 copies/ml. Forty nine per cent of patients were re-ceived 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, me-2–4 SEPTEMBER 2004

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 primarily non-in 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 (90% percentile of the State Average Length of Stay) in a 21-month period.

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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 of 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 Tuberc Lung Dis 1998; 2:367) 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 1999; 28:413) 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 dissemination. 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.
The aims of this study were to follow a cohort of HIV infected individuals for two years to: assess changes in neuropsychological function, explore the relationship between depression, HIV and cognitive performance; to examine the influence of Highly Active Antiretroviral Therapy (HAART) on depression and neurocognitive performance.

HIV seropositive 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 major mood disorder (DS). Depressive symptoms occurred in those participants who were found to be socially isolated and have poor general health. 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.

<table>
<thead>
<tr>
<th>Two-Year Follow-up of Individuals with and without Depressive Symptoms at Baseline</th>
<th>Baseline BDI &lt; 14 (n = 80)</th>
<th>Baseline BDI ≥ 14 (n = 49)</th>
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<tr>
<td>N</td>
<td>80</td>
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<tr>
<td>BDI score ≤ 14 (2003/04)</td>
<td>10 (12%)</td>
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<td>A CANTAB performance</td>
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<td>Spatial Attention &amp; Executive function</td>
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<td>Spatial planning test</td>
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<td>Grooved Pegboard (GPB)</td>
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<td>Grooved Pegboard (GPB) nondominant</td>
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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.

Nutrition services were utilised by a large proportion of participants. Satisfaction levels with the service provided were high and increased over time. Reasons for attendance varied between HIV positive and HIV negative people and included the fact that it was suggested that lifestyle factors such as income and symptoms of illness impacted significantly on participants’ perceptions of their ability to improve their nutritional status.

The findings indicate that the SCIT is a sensitive measure of cognitive impairment in HIV infection. Further, it showed that the SCIT is highly sensitive to CD4 T-cell status. These data suggest that the SCIT may prove to be a useful clinical tool in discriminating HIV+ individuals who are at risk of progressing to HIVD.
The Synthetic Vaccine Laboratory and Vaccine Immunology Laboratory have been developing a range of new HIV, HCV and TB vaccine candidates in collaboration with a number of researchers and institutions around Australia. Two main approaches have been used to develop the genetic sequences for the candidates; the whole gene approach that includes antigen vaccine (SAVINE) technology. Recent research has also involved the development of new delivery approaches that are variations of the prime boost approach originally developed in the group. The presentation will describe an overview of the vaccines under development by the lab, and present an overview of the future direction of vaccine development.

**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 replicon (SIN) based vectors. Constructs containing HIV-1 Env immunogens that may improve NAb responses were prepared from primary brain-derived HIV strains (UK195r5), high affinity CCR5 binding (15888), and glycoconjugate site mutants (ADA R/ S). These Env are highly susceptible to neutralisation and may intrinsically expose neutralising epitopes that are normally only exposed after CD4 binding. 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.
Salvage Therapy

Gazzard B

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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 CPCRA in earlier disease in which the outcome was significantly worse than in 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 cause 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 was 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 benefits 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 minimalistic 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 in fact 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 benefit 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 benefit of entailing 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, Capaverine and TMC125, 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.

ESPRIT (EVALUATION OF SUBCUTANEOUS PROLEUKIN® IN A RANDOMISED INTERNATIONAL VIRAL (CD4+) T-CELL RESPONSES TO SUBCUTANEOUS (SC) RECOMBINANT INTERLEUKIN-2 (RIL-2)

Carey C; Pett S L; Belchuk F; Courtney-Rodgers D; Grendell H; French M; Finlayson R; Emery S; Cooper DA for the ESPRIT Study Group.

NCHERC, Sydney, NSW, Australia; Department of Biostatistics, University of Minnesota, Minneapolis, USA; Dept Clinical Immunology, Royal Perth Hospital, Perth, Australia; Taylor Square Private Clinic, Sydney, NSW, Australia.

ESPRI T, is a phase III study evaluating the clinical impact of intermittent SC rIL-2 plus antiretroviral therapy (ART) vs ART alone in HIV-1 infected individuals with baseline CD4 ≥ 300 cells/µL. Induction consists of three rIL-2 dosing cycles (7.5 MIU x 2 (12 for 5 days every eight weeks)) in the first 6 months. Thereafter, additional cycles are given to achieve/sustain CD4 target i.e. doubling of baseline was 300-499 or ≥ 1000 cells/µL.

As part of an ongoing initiative to better understand CD4 responses to rIL-2, we assessed predictive factors for months 12 and 24 counts in selected populations of rIL-2 recipients.

1,437 of 2,090 patients randomised to rIL-2 had initiated ≥ 3 rIL-2 dosing cycles (average 7.3 cycles per patient) in year 1 and had month 12 data available. Mean age was 41 years, 19% were female, 25% had a history of AIDS-defining illness and median entry and nadir CD4 counts were 463 and 207 cells/µL respectively. Median ART-duration was 48 months and 50% had HIV RNA below the level of quantification (LLQ < 500 copies/mL). The median amount of rIL-2 received was 2234 MIU; 26% and 17% had missed a dose or dose reduced respectively.

Positive predictors of CD4 response were (200 cell increase) at month 12 were higher CD4 nadir (p = 0.001), baseline HIV RNA < LLQ (p = 0.02), larger cumulative dose of rIL-2 (p = 0.001), negative predictors were older age (p = 0.047) and longer duration of ART at baseline (p = 0.001).

Further exploration of rIL-2 cycling in year 2 was undertaken in rIL-2 recipients who were at CD4 target at month 12 and for whom month 24 CD4 data were available (n=335). 186 (56%) recipients remained at target at month 24, of these, 61% required no further IL-2, 32% required 1 and 7% required 2-4 additional rIL-2 cycles to sustain target. 149 (44%) were no longer at target at month 24, of these, 77% did not receive further rIL-2 in year 2.

In conclusion, the amount of rIL-2 received is a significant positive predictor of CD4 response. Moreover, relatively little additional rIL-2 is required to maintain CD4 target in those achieving target following the induction phase. Continued rIL-2 cycling guided by protocol-specified CD4 target should be encouraged.

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

Cordwell B1, Pett S L1, Belchuk F, Courtney-Rodgers D1, Grendell H1, French M1, Finlayson R1, Emery S1, Cooper DA1 for the SILCAAT study group.

National Centre in HIV Epidemiology and Clinical Research (NCHERC), Darlinghurst, NSW, Australia; Department of Biostatistics, University of Minnesota, Minneapolis, USA

SILCAAT is an open-label, randomised study comparing the effects of SC rIL-2 vs SC rIL-2 on HIV-disease progression (AD1) and death in HIV-1 infected individuals over 5-7 years. Participants have baseline CD4+ T-cells of 50-259 cells/µL and plasma HIV-RNA (VL) ≤ 1000 copies/mL on stable antiretroviral therapy (ART). Year 1 induction consists of 6 rIL-2 dosing cycles. Further rIL-2 is given to maintain/achieve the CD4+ goal i.e. an average of 150 cells/µL increase from baseline.

This analysis describes the predictors of CD4+ response after one year. Covariates including age, gender, ethnicity, nadir and baseline CD4+ count, prior ADI, VL and duration of ART at baseline, body-mass index (BMI) and rIL-2 received (number of cycles and total dose of rIL-2) were considered in a multiple regression analysis.

Baseline data for 987 subjects randomised to rIL-2 revealed the mean age was 42 years; 16% were female; 79% of white ethnicity; 34% had prior ADI and the median nadir and baseline CD4+ counts were 59 and 201 cells/µL respectively. VL was undetectable (LLQ < 500 copies/mL) in 86% and median duration of ART was 4.1 years (n=1982).

One year later, 6% (n=56), 11% (n=109), 20% (n=195) and 63% (n=627) of participants randomised to rIL-2 completed 0, 1, 2, 3-5 and ≥ 6 rIL-2 cycles respectively. Month 12 CD4+ data were available for 838 (85%); median CD4+ change from baseline was 128 cells/µL, 44% were ≥ 2 CD4+ goal.

Of those completing ≥ 6 (n=603) vs 6 < (n=235) rIL-2 dosing cycles in year 1, CD4+ decreased from baseline in 7% vs 17% respectively and increased by 0.99, 100-199, ≥ 200 cells/µL in 27%, 30%, 36% vs 41%, 26%, 16% respectively.

In a multiple regression analysis the positive predictors of achieving CD4+ goal at month 12 were higher baseline CD4+ (p=0.01), baseline VL < LLQ (p=0.001) and number of rIL-2 dosing cycles received (p=0.001).

There is a diverse exposure to rIL-2 in year 1 on study. Investigators and patients are encouraged to continue cycling with rIL-2 to induce and sustain an average CD4+ increase of 150 cells/µL for the study’s duration.
AN OPEN LABEL STUDY TO DETERMINE THE EFFICAC Y AND SAFETY OF ENFUVIRIDE IN PATIENTS CHANGING THERAPY TO AN NRTI SPARING REGIMEN (ML6992)

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Adverse effects restrict long term HIV-1 therapy. This study explored the use of enfuviride and NRTI-sparing regimens in heavily pre-treated patients. 59 HIV-1 infected, triple class (NRTI, NNRTI, PI) experienced individuals with current or prior NRTI treatment limiting toxicity were enrolled in an open-label, multicentre, single-arm trial to receive enfuviride 90mg bd, sc for 48 weeks. Secondary endpoints included changes in CD4+ cell count, changes in NRTI toxicity signs and symptoms and percentage of patients on enfuviride at week 48. Data were analysed using intention to treat methodology. At entry the mean age of participants was 47 years, 97% were male, 58% were classified as CDC-C, mean duration of prior antiretroviral therapy (ART) was 9 years, with a mean exposure of 12 ARTs, mean CD4+ cell count was 242 (median 164) cells/mm³ and mean HIV load was 4.5 log copies/mL (5.95 patients had viral > 400), lipodystrophy was reported in 66% of patients (3959). At baseline 99% of patients were prescribed a mean of 3 ARTs in addition to enfuviride. 4 patients continued to take NRTIs. 19 patients recommended NRTIs during the study. At week 48 mean change from baseline in HIV plasma viral load was a decrease of 1.49 log 10 copies/mL (p<0.0001). 49% of patients had an HIV plasma viral load < 400 copies/mL (p<0.001). The mean increase in CD4+ cell count was 45 cells/mm³ (p<0.059). During the study total body lean and fat mass increased (range: 39% to 450%). Mean time to recovery of 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.

TENOFOVIR-RELATED NEPHROTOXICITY (TRN) - PREVALENCE AND RISK FACTORS

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Tenofovir is a novel anti-HIV nucleotide reverse transcriptase inhibitor. Closely related drugs such as adefovir and cidofovir have been associated with severe nephrotoxicity. Initial efficacy studies showed tenofovir to have a favourable safety profile. As its use became widespread, tenofovir-related renal complications have become more prevalent.

We report the prevalence of and risk factors for tenofovir-related nephrotoxicity (TRN) at Alfred Hospital Melbourne, Victoria.

From Jan 1 2001 to March 31 2004, 224 HIV-1 infected patients commenced tenofovir containing anti-retroviral therapy. Using a prospective clinical database and medical record review, we identified incident renal impairment, defined by a greater than 30% decrease in renal function (serum creatinine or measured creatinine clearance) compared with pre-treatment baseline, in the absence of intercurrent illness or other nephrotoxins and resolving with cessation of tenofovir.

Risk factors examined for TRN include demographics, HIV associated, treatment associated and intercurrent illnesses. The proportion of treatment limiting renal events, and outcome will be described. Preliminary results revealed 14 (6.5%) patients developed TRN during tenofovir therapy. 12 of these patients have AIDS (6.6%). 29% of TRN events were treatment limiting. Five (2.2%) patients demonstrated renal salt loss compatible with Fanconi Syndrome. 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.

THE NORMALISED INHIBITORY QUOTIENT (NIQ) OF BOOSTED PROTEASE INHIBITORS IS PREDICTIVE OF VIRAL LOAD RESPONSE OVER 48 WEEKS IN A COHORT OF HIGHLY-TREATED EXPERIENCED HIV-1 INFECTED INDIVIDUALS

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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 advanced 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.

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ALIGNING FUNDING WITH CHANGING SERVICE NEEDS

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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.

During 2003/04 NSW initiated two important steps to provide a basis for aligning the needs of PLWH 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, an 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 delivering 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.

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

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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 outcomes, 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<.005). Corroborating these findings, a significant decline in HAART was also observed amongst PH participants in NSW (78% in 1999 to 63% in 2003. Trend, p<.005) and in Victoria (82% in 1999 to 59% in 2003. Trend, p<.005). No decline in use was evidenced in Perth and Adelaide GCPS data, nor 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 PH ART in NSW (83% in 1999 to 69% in 2003. 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

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HIV treatment in Australia is well documented in the community. However, it requires ongoing education and training for healthcare providers, particularly in terms of the management of co-morbidities and the long-term consequences of HIV/AIDS. The paper will also outline the various collaborations and partnerships that enable NAPWA to deliver timely and reliable health information and training to its members.

How to inform positive people about treatments options and debates in useful and engaging mediums is a challenge. The paper will also outline the various collaborations and partnerships that enable NAPWA to deliver timely and reliable health information and training to its members.

HIV Drug Side Effects – One Positive Voice

Paulin B1 Australian 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. This paper will discuss the potential impacts of these side effects on the quality of life of people living with HIV/AIDS.

Simplifying Testing Strategies for the Diagnosis of HIV: Towards a Re-Evaluation

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The World Health Organisation (WHO) has indicated that the use of expensive confirmatory tests such as the western blot, should be employed in the sequential use of one to three less costly tests. The paper will present evidence for misuse of the WHO strategy and the prevalence of infection. In resource-poor countries, the strategies have been adopted by countries but often without understanding of the logic behind the use and never with the evaluation of their efficacy.

Rates of Short-term Clinical Progression in the TREAT Asia HIV Observational Database

Kumarasamy N1, Zhou J2 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; 2National 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. The 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.

1069 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, 7.5-13.6). In univariate analysis, rate of progression to AIDS and death was 8.0 per 100 person years among patients on antiretroviral treatment, compared with 13.3 per 100 person years among patients on antiretroviral treatment, compared with 18.23 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 haeoglobin 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.
INCORPORATING AWARENESS OF COGNITIVE IMPAIRMENTS IN EMERGING EPIDEMICS

In emerging epidemics, issues of cognitive impairment have received limited attention despite estimates that at least 2.16 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 misattributed 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 a range of people. Drawing on a model of habilitation for the PLWHA, once these impacts are identified, participants are assisted by workshop facilitators to develop care and support plans appropriate to the range of people involved.

The methodology of the workshop is interactive, working on a capacity building approach, requires participants to participate in the design of activities. This in turn helps to meet the needs of people involved.

In developing an approach to cognitive impairment that is acceptable for increasing awareness and habilitation, than on the inability to treat such conditions in these settings, this type of innovative workshop will continue to be important. The reason being that while the introduction of ART may allow for increasing awareness and habilitation, than on the inability to treat such conditions in these settings, this type of innovative workshop will continue to be important.

Incorporating a new model of habilitation for the PLWHA, once these impacts are identified, participants are assisted by workshop facilitators to develop care and support plans appropriate to the range of people involved.

The reason being that while the introduction of ART may allow for increasing awareness and habilitation, than on the inability to treat such conditions in these settings, this type of innovative workshop will continue to be important.
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.
POSTEROIR REVERSIBLE ENCEPHALOPATHY SYNDROME (PRES) IN AN HIV INFECTED PATIENT

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The Alfred Hospital, Melbourne, VIC, Australia

A 40-year-old male with known HIV/AIDS infection for nineteen years was admitted to hospital for management of chronic pain. His CD4 count was 312/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’s sarcoma, pernicious secondary to didanosine, depression, borderline personality disorder, traits, chronic pain and associated opiod 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 noncontrast CT scan demonstrated multifocal low attenuation in a subcortical distribution bilaterally. An MRI performed one day after the seizure revealed bilateral occipital and cerebral 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. The diagnosis of PRES demands clinical suspicion and MRI demonstrates a relatively symmetrical pattern of oedema, typically in the parieto-occipital subcortical white matter. 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 other case of PRES has been described in an HIV infected patient and was thought to be secondary to indinavir-induced hypertension. This report is the first description of PRES in an HIV infected patient with no clear aetiology.

AN UNUSUAL CASE OF CRYoglobulin-negative Vasculitis in a Patient co-infected with HIV and Hepatitis C (HCV)

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A 57 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 leucocytoclastic 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 weaning course of prednisolone.

Four months later the patient represented 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.

Plenary 2
GUIDELINES FOR ROUTINE CLINICAL CARE

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Over the last few years guidelines for clinical care have come closer together across most of the developed world in terms of both when to start treatment and the optimum agents to use for therapy. I will explore some of the research in this area and give personal views about optimum treatment. The when to start question appear to me to be relatively settled. The advantages of starting treatment relatively late with a CD4 count of around 250 include reduction in toxicity, a longer period when the patient is likely to be highly adherent and major reductions in cost. The disadvantages include an increased incidence of tumours with later treatment and an increased incidence of viral infections such as chest disease including tuberculosis.

With regard to lymphoma and Kaposis’s sarcoma it appears that these become commoner when the nadir CD4 count has fallen below 250 and, therefore, earlier treatment is unlikely to have a major impact on these diseases. Virulent chest infections are largely treatable and are unlikely to be a major reason to shift to earlier treatment in the developed world. Clearly the view about earlier versus later treatment may shift as drugs which are easier to adhere to and with less toxicity are developed.

There is a consensus now in most guidelines that combinations of two nucleosides and a non nucleoside reverse transcriptase inhibitor are the drugs of first choice, because of increased forgiveness of these regimes, good pharmacokinetics to allow once a day dosing and more convenient dosing. The choice of nucleoside analogue backbone to alleviate toxicity. Several trials are in progress to assess the value of a nucleoside analogue sparing regime to alleviate toxicity. Enthusiasm for this approach is tempered by the toxicities of a combination of NNRTIs and PI and the fact that some of the newer nucleoside analogues may not have the same toxicities as more well established drugs. The two reasons for combination regimes are the additive potency and the complexity of the genetic barrier that is created for the virus to overcome. It may be that some agents are so potent and require such a complex set of mutational patterns to produce resistance that single agent therapy could be used. Exploratory studies are underway for both Kaletra monotherapy and Ritonavir/Saquinar monotherapy. Such regimes may have a class sparing effect and would certainly be associated with considerable cost savings.

Another further controversial issue is whether or not individuals failing initial therapy should be immediately switched to a different regime to ensure virological non- detectability or whether more attention should be paid to keeping the CD4 count elevated. This question may be partly answered by the SMART study which is recruiting in both Australia and the UK in which a policy of CD4 count driven structured treatment interruptions is being compared with continuing virological control.
UNDETECTABLE: BUT HOW LONG WILL IT LAST?

Sax P

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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.

UNDERSTANDINGS FROM THE EPICENTRE OF THE PANDEMIC

Crewe M

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What can the rest of the world learn from the African epidemic? What is the leadership role that the African experience can offer for the unfolding epidemics in SE Asia, China and India? What is the likely scenario for African countries as they understand and manage maturing epidemics?

This paper will address the complexities of the HIV and AIDS epidemics in sub Saharan Africa in general and South Africa in particular. It will investigate how the international and regional responses have shaped the epidemic and the responses to it. It will critique the current perceptions that the epidemic will cause the destruction of the continent and look at what the forces are that are shaping this perception.

Through new categories of explanation, such as taking ‘hopelessness’ seriously and looking at the ‘optimism of the will’, the paper will present a new way of looking at the epidemic, what we have learned from this experience and how a transformed response could be developed.

A great deal has been learned about the epidemic and about living in high prevalence countries – these lessons are ones that need to be taken seriously for the next wave of HIV, as well as for the development of strategic responses for countries that have been so dramatically affected.
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<sub>vir</sub> 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 (MDDC) were pre-treated _in vitro_ with Bafilomycin A, pulsed with high titre HIV-1<sub>NL4-3</sub> or HIV-1<sub>Bal</sub> and activated CD4+ T cells added at specific time points. HIV-1 was quantitated in the DC and DC-T cell co-cultures, using real time PCR. Here we use our HIV-1 viral transfer assay to show that whilst both R5 and X4 strains are internalised by the MDDC and presented to CD4+ T cells in _trans_, only the R5 virus is able to exit the compartment and infect the MDDC. 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. We aim to follow this up with a wider range of virus strains, including clinical isolates and visualise the process using confocal microscopy.

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 sterilising immunity to infection. We have analysed the results of a DNA vaccine trial in macaques to investigate the virus-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 cells 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 sterilising 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.

**A NEW CONCEPT OF RESTRICTED HIV-1 INFECTION OF ASTROCYTES**

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HIV-1 infection astrogliosis in vivo and in vitro is restricted. Despite this, astrocyte infection is involved in neurological disease and is a possible source of viral persistence. Hence, characterisation of HIV-1 infection of astrocytes at the molecular level is essential. Several stages of HIV-1 replication restriction have been identified, including HIV-1 strain dependency, receptor specific viral entry, and intracellular trafficking of pre- and post-translational and transcriptional levels. Co-culture with permissive cells ‘rescues’ infectious HIV-1 from restricted astrocyte infection. Knowledge of the mode of HIV-1 entry into astrocytes is just beginning to emerge, and the early viral replication events of reverse transcription and integration have not been described previously. The present study demonstrates vesicular uptake of HIV-1 by astrocytes. Cell associated proviral DNA, attributed to input virus inoculum, was detected, however *de novo* reverse transcription and integration was not. Surprisingly very low amounts of infectious virus were sporadically released into the cell culture medium over a 13 day period. This data, taken together with previous models of astrocyte infection, supports the notion that multiple pathways of HIV-1 infection occur in the brain microenvironment. One pathway in astrocytes gives rise to low, sporadic/inducible virus production. An additional pathway which may exist involves viral uptake and transmission without the virus actually replicating. It will be important to understand the relative impact of each of these infection modes to HIV-1 neurological disease and viral persistence.

**PROGRESSIVE DISORDER OF THE IL-7R SYSTEM IN HIV-1 INFECTION**

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Interleukin-7 (IL-7) is essential for T-cell homeostasis. Plasma IL-7 levels are elevated in HIV-1 infection, inversely correlated to total and naive CD4+ T-cell counts, and predict immune reconstitution. The IL-7 receptor (IL-7R) consists of CD127 dimerised to the common ychain (CD123). 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 HIV-1 infection were studied at baseline and following 10 months of ART. PBMC isolated from healthy volunteers were cultured with rIL-7 (0-10ng/ml) for 7 days. Protein synthesis was inhibited using cyclohexamide (9μM). 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.

PH patients displayed a trend towards elevated baseline IL-7 levels that normalised 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+ and CD127+ populations and positively correlated to CD4+127- populations over-expressed cell-cycle protein Ki-67 in PHI and CHI. Ki-67 over-expression was restricted to memory CD4+ T-cells except in CHI 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 vitro, IL-7 down-regulates CD127 in a dose-dependent, post-transcriptional mechanism. Dysregulation of the IL-7R system may impact on the quality of immune reconstitution.

**ANTIBODY RESPONSES IN HIV-1 LTNP/PLTS: UNEXPECTED RESPONSES TO VIRAL ANTIGENS**

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For HIV-1 infected individuals there is an initial acute infection followed by a chronic long-term infection, leading to AIDS. There are some individuals that do not progress to AIDS, maintaining low viral loads. This group are considered long term non-progressors or survivors (LTNP/LTST). Lack of disease progression can be due to mutations in genes encoded by the virus, or the host, primarily nef gene deletions and CCR5 co-receptor mutations (CCR5-A32), respectively.

We have developed an EIA 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 seroconversion 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/PLTs 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 IgG3 antibodies and to determine if some LTNP/PLTs have an altered antibody response to viral antigens. Detection of antibody responses was by western blotting and ELISA.

IgG responses to multiple HIV-1 antigens, including gp120 and gp121. Overall immune responses to the viral antigens were broader and consistently stronger with LTNP/PLTs in comparison to progressor and AIDS patients. Responses were much 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 gp41 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 sengenconverters possibly because of the retention of functional helper T cells in LTNP/PLTS enabling the prolonged IgG, resulting in intense total IgG response and IgG responses to multiple HIV-1 antigens, including gp41 and gp120.

**SYSTEM IN HIV-1 INFECTION**

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Interleukin-7 (IL-7) is essential for T-cell homeostasis. Interleukin-7 receptor (IL-7R) consists of IL-7Rα and IL-7R β-chain (β7) and is restricted to memory CD4+ T-cells except in CHI following ART. There was decreased CD127 and increased CD132 in a dose-dependent manner. CD127 down-regulation was reversible after removal of IL-7 and relied on de novo protein synthesis. In vitro, IL-7 down-regulates CD127 in a dose-dependent, post-transcriptional mechanism. Dysregulation of the IL-7R system may impact on the quality of immune reconstitution.

**UNEXPECTED RESPONSES TO VIRAL ANTIGENS BY IgG**

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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 sterilising immunity to infection. We have analysed the results of a DNA vaccine trial in macaques to investigate the virus-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 cells 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 sterilising 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 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 those 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.

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

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

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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).

THE QUEENSLAND HIV NURSING PRACTICE COURSE: RESPONDING TO HIV NURSING EDUCATION IN 2004

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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. 96% 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, 88% 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 34.7% 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.
TERM ADMISSION IN A PALLIATIVE CARE UNIT

Sacred Heart Palliative Care Service, St Vincent's Hospital, Sydney, NSW, Australia

The provision of palliative care for PLHWA has undergone many changes since the beginning of the epidemic. While the overall number of clients has decreased dramatically over the years, the care needs of those still requiring support have remained complex.

One such complexity is the provision of extended care for clients too frail for independent living. While community services can provide intensive support for short to medium term situations, these clients sometimes require 24-hour care and supervision for many months or even years.

There are a number of supported housing options available to PLHWA however, there are clients whose needs do not correlate with what is available. These clients are often admitted to palliative care units. While these are excellent for supportive and comprehensive care, they are not without their limitations. The psychological impact of spending and extended period of time in a unit whose core business is caring for the dying can not be underestimated.

On a background of an ever tightening HIV funding belt, the aim of this case presentation is to highlight the complexities of meeting holistic care needs in a sometimes less than appropriate environment and to generate discussion on possible solutions.

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 positive 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 2,023 in 1994 to 757 in 1998 (p<0.0001) and then increased from 717 in 1999 to 841 in 2003 (p=0.0001). Diagnoses of newly acquired HIV infection increased from 911 in 1994 – 1998 to 1,396 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).

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 (r < 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 (r = 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.
The study of HIV infected women in Victoria at four major HIV treatment centres. The three aims of the study were: 1) describe the current sociodemographic and behavioural characteristics of women recently notified with HIV infection in Victoria, 2) identify barriers to access and utilisation of support and treatment services and 3) use the information gained to inform intervention strategies.

The Victorian HIV registry was used to identify women who reported heterosexual contact as their only risk for HIV infection. Trained interviewers conducted face to face interviews which included questions about HIV risk factors, use of HIV services, supports, medical care, effects of HIV on life, sexual relationships, pregnancy, childbirth and breastfeeding.

Eighty nine women were notified with HIV infection between 1 January 1999 and 31 December 2003, of whom 18 were known to have died or to no longer reside in Victoria. The study will recruit 20 women, enrolment is ongoing and will be completed in August 2004. This paper will present the study findings. Conclusions from this study will be informative for the new multicultural HIV service in Victoria. Recommendations for improvements in services and supports for HIV-infected women in Victoria will be made.

The pattern of HIV transmission in Australia has been monitored through reports of newly diagnosed HIV infection including diagnosed cases of newly acquired infection. However, diagnosis of newly acquired HIV infection requires repeated testing of individuals, and hence provides a lower bound for HIV transmission. We have made use of a detuned HIV antibody testing strategy to identify early HIV infection in a single specimen and have compared the detuned test result with testing and clinical history available through national HIV/AIDS surveillance.

Cases of HIV infection newly diagnosed at St Vincent’s Hospital, Sydney, were tested with a detuned assay. Cases with a detuned result were matched to cases notified to the National HIV/AIDS Registry, to retrieve the date of first HIV diagnosis and the previous testing and clinical history. The detuned test result was compared with the evidence for newly acquired HIV infection.

A total of 1,125 cases of HIV infection with a detuned test result were matched to the National HIV/AIDS Registry. A total of 442 cases had detuned test results (39.3%) and 333 cases (30.6%) had testing or clinical evidence of HIV acquisition within 12 months of HIV diagnosis. Among 163 cases with evidence of HIV acquisition within 30 days of the detuned test, 142 (87.7%) had early infection. Of 26 cases with a prior testing history only within 30 days of the detuned test, 25 had evidence of early infection, including 12 cases with virologic evidence of newly acquired infection. Of 109 cases with an HIV seroconversion illness only, 92 had detuned evidence of early infection and 25 of 26 (96.1%) cases with an illness and a prior testing history had early infection. Of 640 cases without evidence of newly acquired HIV infection and without an AIDS diagnosis, 56 (8.5%) had detuned evidence of early infection. Detuned evidence of early infection was detected in 24 of 130 (18.5%) cases with AIDS.

The detuned testing strategy validates estimates of HIV transmission among cases with a short interval between the last negative test and the first HIV diagnosis. The detuned test also falsely identified early HIV infection among cases of established infection, indicating that further work is needed to improve the accuracy of diagnoses of early infection based on assays.

Evaluation of a detuned antibody testing strategy for detecting incident HIV infection

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The first indication of an increasing trend in HIV notifications in Victoria was when diagnoses jumped from 140 in 1999 to 197 in 2000. Determining the proportion of recently acquired infections provides valuable demographic information to better inform prevention strategies. In Victoria incident cases are identified on the basis of a past negative or indeterminate HIV test and/or a seroconversion illness within 12 months of HIV diagnosis. This method has limitations; it is reliant on individuals serially testing for HIV and a relatively non specific definition for “seroconversion illness”. We examined the correlation between incident HIV infection identified through surveillance and recent infections identified through a “detuned EIA” laboratory method.

Sera from all new HIV notifications In Victoria between 1999 and 2000 were tested using the Organon Teknika “detuned” EIA with cases classified as recent (within 170 days) or established. Incident cases were identified using the standard surveillance definition outlined previously.

Of 317 specimens, 97 (31%) incident infections were detected using surveillance and 114 (36%) identified using the “detuned” assay and 66 were classified as incident cases by both methods. Of the 97 incident cases defined by surveillance, the “detuned” assay classified 31 (32%) as established infections, with 26 of these 31 having a history of a negative/indeterminate test or seroconversion illness 170 days prior to HIV diagnosis. Of the 114 cases identified as recent infections by the “detuned” assay, 48 cases were classified as non incident cases by surveillance and 13 of the these 48 were likely to have been erroneously classified by the “detuned” assay as 11 cases presented with AIDS and two cases with CD4 counts <200 at the time of HIV diagnoses. The two methods combined were able to classify an overall 42% of specimens as incident cases (37% in 1999 and 45% in 2000), 36% more than the 31% detected through surveillance alone.

As new diagnoses of HIV in Victoria have markedly since 1999, from 140 to 225 in 2003, we believe the utilization of a “detuned” assay or similar test in combination with surveillance could be a timely and important tool to guide public health action by providing more accurate information about those who have recently acquired HIV and maximize the opportunity to interrupt ongoing viral transmission through partner notifications strategies.

Improving HIV surveillance in Victoria, the role of the “detuned” EIA

The Macfarlane Burnet Institute for Medical Research and Public Health, Prahran, VIC, Australia; Victorian Infectious Diseases Reference Laboratory, North Melbourne, VIC, Australia

NPEP against HIV remains a controversial HIV prevention strategy that has been implemented in relatively few countries worldwide. Australia is one of few nations that has adopted guidelines and implementation programs. The NPEP observational study was conducted between 1998 and 2004 to monitor the implementation of this preventive therapy.

People who presented to registered anti-retroviral prescribers, reported a recent non-occupational exposure to HIV and were eligible for PEP according to the national guidelines were recruited into the study. Data was collected at the time of prescription, at four-weeks and six-months following the exposure.

By May 2004, over 1500 participants had been enrolled. Data were analysed on those enrolled by December 2003. There were 1370 participants enrolled and 96.6% (1324) received PEP. Participants were predominantly men (1289, 94.5%) with a median age of 32.5 years. The median time from exposure to receipt of PEP was 23.2 hours. As the study progressed, more participants commenced PEP within 72 hours of exposure (previously 60%), the majority of prescriptions (1175, 85.8%) were after male homosexual exposure. The source person was known to be HIV positive in 32.6% (450) of cases. The proportion of study participants with a known HIV positive source significantly declined over the study period (p<0.001). The majority of PEP prescriptions (58.1%) were for three or more ARV drugs. An increase in PEP prescriptions containing two drugs was observed over the study period, increasing from 23.8% in 1999 to 52.2% in 2003 (p<0.0001).

Six participants were found to be HIV positive at baseline. 68.5% (869) of participants returned at four weeks or more for repeat HIV testing. The median length of follow up was 88 days. No HIV infections were reported. Most reported at least two side effects, nearly all mild or moderate. Prescription of three or more ARV drugs was associated with a greater incidence of side effects at any severity level (p<0.0001).

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A COMPARISON OF THE WESTERN BLOT VERSUS DETUNED EIA METHODS FOR DETECTION OF INCIDENT HIV INFECTION
*National Centre in HIV Epidemiology and Clinical Research/University of NSW, Sydney, NSW, Australia, **CPI/University of NSW, Sydney, Australia, Massachusetts General Hospital/Harvard, Boston, USA, †University of California San Francisco, San Francisco, USA

We propose a new model 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 ART 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 were scored as positive, indeterminate, or negative (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 B because of conflicting evidence regarding length of infection. Using a cut-off of 0.3 bands positive on WB as the predictor, and classifying specimen dates as either < 0.9 or >180 days post-infection, logistic regression found the model to have from 50-70% sensitivity, but consistently 100% specificity in cohort A and B, gp160, gp120, p16, p55, p35, gp41, p34, p24, and p12 for cohorts A and B, gp160, gp120, gp55, gp125, gp31, p24, and p16 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 the individual bands scores.

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ROSILITAZONE IN ADULTS WITH HIV
LIPOPROTEIN A 84 WEEK FOLLOW-UP (ROSEY EXTENSION)

Rogers G1, Carey D2, Carr A3, Workman C4, Baker D5, Martin A6, Waad H7, Law M8, Emery S9, Cooper D10, ROSEY study group
1Care and Prevention General Practice, Adelaide, SA, Australia; 2National Centre in HIV Epidemiology and Clinical Research, Sydney, Australia; 3Copenhagen HIV Programme (CHIP),Hvidovre University Hospital, Copenhagen, Denmark; 4Department of Primary Care and Population Sciences, Royal Free and University College, London, UK

Table 1: Mean levels of lecithin cholesterol acyl transferase (LCAT), phospholipid transfer protein (PLTP), cholesterol ester transfer protein (CETP) and high density lipoprotein (HDL) in 33 HIV positive subjects.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>untreated (n=20)</th>
<th>treated (n=27)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAT (nmol/l/hr)</td>
<td>24.3 ± 7.9</td>
<td>30.3 ± 11.9</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PLTP (nmol/l/hr)</td>
<td>3.5 ± 0.2</td>
<td>3.5 ± 1.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>CETP (nmol/l/hr)</td>
<td>7.3 ± 2.0</td>
<td>7.5 ± 2.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HDL-C (mmol/l)</td>
<td>1.4 ± 0.8</td>
<td>1.6 ± 0.2</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

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

* Indicates a statistically significant difference (p<0.05) when compared with control.
THE VIRION-ASSOCIATED CHOLESTEROL OF HIV-1: A POTENTIAL TARGET FOR TOPICAL MICROBICIDE DEVELOPMENT.

Malcolm D.1
Department of Biochemistry & Molecular Biology, Monash University, Clayton, VIC, Australia.

While condom is an effective barrier to prevent HIV transmission, the economical and the cultural constraints for women in developing countries often prevent them to negotiate condom use with their partners. Consequently, a prevention strategy that can be administrated by women is vital for the prevention of HIV transmission in these settings. HIV-1 particles are enriched with cholesterol. Lipid rafts are enriched in cholesterol and sphingomyelin and are isolated on the basis of insolubility in detergents, such as Brij 98 and Triton X-100. We and others have found that Brij 98-insoluble rafts can be found in HIV-1 and virus-like particles, respectively, but the significance of this cholesterol enrichment or the presence of lipid rafts in HIV-1 is unknown. Using methyl-β-cyclodextrin (CD) to remove cholesterol from HIV-1 envelope, the infectivity of cholesterol deficient HIV-1 particles were impaired compared with the wild type untreated control. To directly assess the functional requirement of virus-associated rafts and various features of cholesterol on HIV-1 replication, we have replaced virus cholesterol with exogenous cholesterol analogues that have demonstrated either raft-promoting or -inhibiting capacity in model membranes. We have observed that 1) CD in combination with a raft-disrupting sterol analogue further inhibits viral infectivity, 2) CD in combination with excess sterols acts to suppress HIV-1 infection and 3) sterols with high affinity for the HIV particle may lower the amount of lipid rafts in HIV-1.

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 (gpl41 and gpl20) and are able to interfere with the HIV binding has had some success with the fusion inhibitors T-20 and T-1249. The interaction of gpl20 with CD4 and a coreceptor (usually CCR5 and 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 to these cells. Conclusively, many authors have shown that dendritic cells express a wide diversity of CLRs on genital tract DCs: Langerin on LCs, CLEC-2 on interstitial DCs and all of the above DCs are among the first cells infected by HIV following mucosal exposure. CLRs are a large family of 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 initial HIV uptake, infection, transport to lymphoid tissue where they stimulate the adaptive immune system and the production of cytokines. 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.

THE VIRION-ASSOCIATED CHOLESTEROL OF HIV-1: A POTENTIAL TARGET FOR TOPICAL MICROBICIDE DEVELOPMENT.

Wilkinson J.2
Centre for Virus Research, Westmead Millennium Institute, Sydney, NSW, Australia.

Globally, more than 40 million people are currently infected with HIV-1, with the majority of infections present or initiated at mucosal surfaces. Vaginal, intravenous, rectal, oral and mother-to-child routes of transmission all involve mucosal exposure. Post-infection, HIV quickly establishes a reservoir in the lymphatic tissue in the 2-3 weeks following mucosal transmission resulting in virus production and tissue pathology. As a result of this rapid, persistent infection the development of effective microbicides and vaccines, which will target the very early stages of the virus-host interactions are likely to be the most effective at preventing or limiting HIV infection and dissemination. The development of such microbicides for topical use may represent a more viable alternative to condom use in many HIV infected regions of the world especially by empowering women.

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 (gpl41 and gpl20) and are able to interfere with the HIV binding has had some success with the fusion inhibitors T-20 and T-1249. The interaction of gpl20 with CD4 and a coreceptor (usually CCR5 and 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 to these cells. Conclusively, many authors have shown that dendritic cells express a wide diversity of CLRs on genital tract DCs: Langerin on LCs, CLEC-2 on interstitial DCs and all of the above 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.

INHIBITION OF HIV ENTRY INTO DENDRITIC CELLS: A NEW STRATEGY FOR MICROBICIDE DEVELOPMENT.

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1Molecular Interactions Group, Burnet Institute, Melbourne, VIC, Australia; 2Centre for Virus Research, Westmead Millennium Institute, Sydney, NSW, Australia.

The human immunodeficiency virus type 1 (HIV) reverse transcriptase (RT) is an asymmetric dimer formed by the association of p66 and p51 polypeptides. Previous studies have demonstrated that nonnucleoside reverse transcriptase inhibitors (NNRTIs) can enhance RT heterodimerization and p66 and p51 homodimerization. Since p66 is part of the Gag-Pol polyprotein precursor we investigated whether NNRTIs can affect the late stages of virus replication. 293T cells were transfected with full-length clones of HIV-1 (NL4-3). Cell lysates and sucrose cushion purified virus from transfected cells were lysed and subjected to Western blot analysis. The effect of drugs on viral particle release was determined by metabolic labelling of viral proteins. Cells transfected with wild-type NL4-3 and treated with efavirenz (EFV), a potent enhancer of RT dimerization, showed more efficient cleavage of p66 to p51 and altered levels of Gag-Pol processing intermediates compared to untreated cells. In contrast, cells treated with zidovudine and NNRTIs that are either weak (nevirapine, NVP) or do not enhance RT dimerization (delavirdine) displayed Gag and Gag-Pol processing patterns similar to untreated cells. In contrast, EFV did not alter the pattern of protein expression in viral particles indicating that the effect of EFV was intracellular. Examination of viral particle release from EFV treated cells revealed a concentration dependent decrease compared to untreated and NVP treated cells. Significantly, decreases in intracellular p24 levels and cellular protein synthesis were not observed at the drug concentrations tested. EFV failed to decrease viral particle release of an HIV protease (PK) active site mutant. Furthermore, EFV treated cells transfected with NL4.3 containing the K101N mutation, which confers EFV resistance, failed to decrease viral particle release. These data demonstrate that EFV increases intracellular Gag-Pol processing and decreases viral particle release, presumably by promoting activation of the HIV PR at drug concentrations observed in patients. This effect was shown to be dependent on a functional PR and appears to be mediated by the drug binding to p66 in the context of Gag-Pol. These data demonstrate for the first time a novel mechanism of inhibition of HIV replication by EFV, in addition to its inhibitory effect on RT activity.
**INTRODUCTION OF ANTIRETROVIRAL DRUGS IN PAPUA NEW GUINEA: THE PILOT PROGRAM**

McBride W J H, Daoni E, Millan J

The HIV epidemic in Papua New Guinea (PNG) has reached alarming proportions and there may be as many as 50,000 infected individuals in the country. The response has been, until recently, directed at the prevention of infection through community awareness. Meanwhile HIV/AIDS has become the second most common cause of death.

HIV is a treatable disease, but the availability of treatment has been limited by cost. Recent price reductions brought about by generic competition has made antiretroviral drugs more affordable. A concerted international campaign to introduce treatment for HIV in resource-poor settings has become the second most common cause of death.

Developing countries must face greater challenges. Lack of resources, cultural resistance to broad education programs, and 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, has an active multisectoral HIV program in PNG. This organization has been involved with some of the infrastructure support the program, but not the purchase of medication.

Papua New Guinea has national treatment guidelines. In February 2004, a Short Course in HIV Medicine and Antiretroviral Prescribing was held in Madang. A pilot program for the provision of antiretroviral drugs commenced in Port Moresby in February 2004 and had enrolled over 40 patients by the end of May. The provision of antiretroviral drugs occurs in an environment where laboratory support is highly constrained and even the treatment of common opportunistic infections is not always possible. Implementation and progress of the program will be described.

**IMPLEMENTING THE PAPUA NEW GUINEA HIV/AIDS MANAGEMENT AND PREVENTION ACT 2003**

Hoffe G, Gonapa B, Fletcher K

Centre for Public Health Law, La Trobe University, Melbourne, VIC, Australia; National 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 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 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, Sharp 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.

The evaluations of the project from the PNG delegates 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 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 education initiatives in PNG, and with future community development collaborations.

**ASSOCIATION AND AIDS MANAGEMENT AND PREVENTION ACT**

Rock F, Canavan P, Biddle B, Watson P

International Portfolio Co-Convener, National Association of People Living with HIV/AIDS (NAPWA); HIV Living Policy Officer, National Association of People Living with HIV/AIDS (NAPWA); Project Officer/Outreach, AIDS Treatment Project Australia (ATPA); Executive Officer, National Association of People Living with HIV/AIDS (NAPWA)

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**RELEVANT TO THE WAHGI SOCIETY, WESTERN HIGHLANDS PROVINCE, PNG**

Mode J

University of Papua New Guinea, Port Moresby, Papua New Guinea

Sexual freedom is an aspect of the religious affairs of the Wahgi society. Western Highlands Province, Papua New Guinea. Sexual behaviour is concealed knowledge that is sanctioned through ritual. Use of sexually explicit words is culturally unacceptable and even the act of sexual intercourse is labelled as 'doing bad things', which is linked to the wider conceptions of order, balance, moral goodness and contravention of acceptable standards. If sex takes centre stage in the Wahgi social affair, should it not be that the entire culture is labelled as 'bad?' Some cultures in PNG promote sexual freedom, multiple marriages and ritualised homosexuality. These cultures, including the Wahgi, can be categorised as HIV/AIDS high risk, just as much as epidemiologically diagnosed groups such as gays and sex workers.

Efforts to change individual sex behaviour alone without partnership between content owners (producers of social messages) and the target groups (an assumption that it is a single cultural entity) undermines the fact that there are hundreds of ways of speaking, behaving and practicing sex in PNG. For the Wahgi what is at stake is not an individual being coerced to forfeit multiple wives, adultery and promiscuous affairs, but the entire beliefs and cultural values on reproduction, growth, expansion and continuity.

This paper discusses how the Wahgi people attempt to sanitise culturally irrelevant HIV/AIDS messages and create, own and deliver these to themselves in culturally and linguistically acceptable forms. It argues that the models of social messages need to be rooted in the community and in linguistically acceptable forms. It argues that the models of social messages need to be rooted in the community and in linguistically acceptable forms. It argues that the models of social messages need to be rooted in the community and in linguistically acceptable forms.
STRENGTHENING THE RELATIONSHIP BETWEEN HEALTH PROMOTION AND GENERAL PRACTICE
Ryan L1

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 patients 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 work 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.

The model comprised an identification of a key contact person, the development of a process for the key team members to come together and discuss and review patients and the utilisation of a tool to be used by patient and community as well as hospital care providers as a means of communication of agreed care plan.

Evaluation of the project was based on participant outcome (weight, surrogate markers HIV treatment adherence, unplanned admissions, social functioning (stable housing), patient and hospital as well as community provider satisfaction; comparing 6 months prior to with 6 month post intervention.

The pilot project, from November 2002 to December 2003, provided care management for 9 consenting individuals. Compared to pre-intervention period the mean number of unplanned admissions over 6 months reduced from 6.4 before to 3 after the CCM; average days in hospital bed from 47.1 to 24 days, failed outpatient assessments reduced from 3.9 to 2.6. Plasma HIV RNA reduced from 4 to 2.3 logs and CD4 increased from 289 to 482 cells/ul. Patient satisfaction and staff satisfaction was perceived adequate.

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. The study aimed to recruit a broad spectrum of patients, 19 males (86.4%) & 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 participant & 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.

The introduction of highly active anti-retroviral therapy for people living with HIV has resulted in an increased life expectancy, yet subgroups of individuals have difficulty accessing these improved outcomes. A number of co-morbidities, (mental illness, cognitive impairment; behavioural and personality disorders; drug and alcohol issues; intellectual disability; physical disabilities and complex psychosocial issues (eg. homelessness, poverty, social isolation, at risk sexual behaviour)) contribute to poorer outcomes.

This project aimed to develop a model of care for people with HIV and complex care needs who utilise multiple service providers and present in crisis on multiple occasions to a tertiary treatment service. The model comprised identification of a key contact person, the development of a process for the key team members to come together and discuss and review patients and the utilisation of a tool to be used by patient and community as well as hospital care providers as a means of communication of agreed care plan.

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COMPLEX PATIENTS: EVALUATION OF CARE MANAGER MODEL(CCM)
Price P1, Pennu N1, Costello K1, Morrelli A1, Cairns J1, Mitch A1
1Alfred Hospital, Melbourne, VIC, Australia

The introduction of highly active anti-retroviral therapy for people living with HIV has resulted in an increased life expectancy, yet subgroups of individuals have difficulty accessing these improved outcomes. A number of co-morbidities, (mental illness, cognitive impairment; behavioural and personality disorders; drug and alcohol issues; intellectual disability; physical disabilities and complex psychosocial issues (eg. homelessness, poverty, social isolation, at risk sexual behaviour)) contribute to poorer outcomes.

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MENTAL HEALTH IN PRIMARY CARE

Phillips E S1, Andersson-Noorgard K1
1H2M Service, St Vincent’s Hospital, Sydney, NSW, Australia

The HIV, Hepatitis C and Mental health problems are complex and often seen in primary care in 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 people with complex mental health problems.

THERAPEUTIC CONVERSATIONS IN HIV/AIDS CARE

Curran G1
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.

CONCURRENT SESSION OR SYMPOSIA – CLINICAL MEDICINE – TREATMENT ISSUES

The SMART Strategies for Management of Anti-Retroviral Therapy (SMART) Study – Adherence to Strategy

Drummond F1, Neuhaus J F1 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 was 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 a CD4 count > 250.

The protocol sets out standards for monitoring 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>
<thead>
<tr>
<th>Sydney Region</th>
<th>Other Sites</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N randomised</td>
<td>44</td>
<td>853</td>
</tr>
<tr>
<td>N stopping ART for &gt; 4 weeks</td>
<td>1</td>
<td>98</td>
</tr>
<tr>
<td>N stopping ART by 12 months</td>
<td>1</td>
<td>74</td>
</tr>
<tr>
<td>Estimated % stopping ART by 12 months and 95% CI</td>
<td>0.1 (0.0, 0.4)</td>
<td>12.0 (9.4, 13.6)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Sydney Region</th>
<th>Other Sites</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N randomised</td>
<td>55</td>
<td>859</td>
</tr>
<tr>
<td>N initiated</td>
<td>13</td>
<td>526</td>
</tr>
<tr>
<td>N initiated for non-protocol reasons</td>
<td>4</td>
<td>48</td>
</tr>
<tr>
<td>Estimated % of non-protocol initiations at 12 months and 95% CI</td>
<td>14.1 (9.6, 20.6)</td>
<td>9.0 (6.9, 11.1)</td>
</tr>
</tbody>
</table>

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 F1, Hoy J1, Kelly M1, Machon K1
1National Centre in HIV Epidemiology & Clinical Research, Sydney, NSW, Australia; 2Alfred Hospital, Melbourne, VIC, Australia; AIDS Medical Unit, Brisbane, QLD, Australia; 3National Association of People Living With HIV/AIDS, Sydney, NSW, 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 mandats 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 definitly the only way to treat HIV”.

16TH AUSTRALASIAN CONFERENCE 2-4 SEPTEMBER 2004

ASHM 2004 canberra

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RISES IN NEW HIV INFECTIONS – GAY MEN'S EDUCATION RESPONDS

Westralf-Eggebert M1
Co-Chair, ANET Education Policy Group, AFAO
This paper reports on the main strategies used so far in translaminating 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 HIV prevention. The 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.

RISES IN NEW INFECTIONS: SOCIAL RESEARCH FINDINGS

Russoroge P
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 casual partners; strategic positioning with serodiscordant regular partners and casual partners; negotiated safety relationships which are compromised (i.e. involving UAI with casual partners); HIV testing; use of HAART; proportion of people using HAART who report undetectable 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?

Grulich A1, Jin F1, Prestage G1, Van de Ven P1, Mao L1, Keppel F, Pull C1*, Donovan B1*, Kaldor J1 on behalf of the Australian-Thai HIV Vaccine Consortium

1National Centre in HIV Epidemiology & Clinical Research, UNSW, NSW, Australia
1National Centre in HIV Epidemiology & Clinical Research, UNSW, NSW, Australia
1National Centre in HIV Social Research, UNSW, NSW, Australia
1Taylor Square Private Clinic, NSW, Australia
1Sydney Sexual Health Centre, Sydney Hospital, NSW, Australia
1School 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
2. A descriptive study in men with newly diagnosed early syphilis at three medical practices in inner-eastern Sydney during 2003

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 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 2.59-45.41). 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 TREATMENTS 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.

Concurrent Session – Basic Science – Molecular Biology

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 virus particles are produced that no longer contain APOBEC3G and are, 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 vitro. 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/APOBEC3G function should be investigated as a potential therapeutic approach.
INVESTIGATING THE ROLE OF THE SPACER PePTIDE P1 IN HIV-1 REPLICATION

Bellamy McIntyre A, Mak J M, Hill MJ K

1The Macfarlane Burnet Institute for Medical Research and Public Health, Melbourne, VIC, Australia; 2Department of 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 polypeptides 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 NC-P1 (NC-P1-P0-P0). 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, double P1 proline mutants 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, complementing BH10 P1 mutants with functional Nef and Vpr does not rescue the phenotype. The majority of residues in P1 are highly conserved, with the exception of the residues 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

Apolloni A, Bodetti T, Harrich D

Queensland Institute of Medical Research, Royal Brisbane Hospital, Brisbane QLD, Australia

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 it is viral 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 extracted 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

Carr P, Davis A, Cullen C, Burrell C J, Li P

Infectious Diseases Laboratories, Institute of Medical and Veterinary Science, Adelaide, SA, Australia; School of Molecular & Biomedical Science, The University of Adelaide, Adelaide, SA, Australia

The actions of HIV Vif as an essential factor that negates APOBEC3G mediated host-anti-viral defences 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-cotransfected with infected donor cells (HDB). Cell lysates were taken at 0, 2 and 6 h post infection and subjected to sucrose gradient fractionation and fractions analysed 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 (IP) 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 role of Vif in target cells.

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

Rasamitsa C, Ramsay A, Medvedzky J, Woltering D, Themmes S, Ramiah F

Vaccine Immunology Group, Division of Immunology and Genetics, John Curtin School of Medical Research, The Australian National University, ACT, Australia; 1Gene Therapy Program, LSU/Tulane Gene Therapy Consortium, LSU Health Sciences Centre, New Orleans, LA, USA

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 by recombiant 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/ intramuscular HIV/FPV/HIV/VV prime boosting generated the best mucosal and systemic immune responses in mice and high avidity CD4+ 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-FPV 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

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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

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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

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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 acceptable. 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.

Implications for prevention, education, treatment compliance and health service provision will be discussed.
THE TERRITORY TWO STEP – ENHANCING DETECTION OF LATENT MTB IN HIV CLIENTS

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1Centre for Disease Control, AIDS/STI Program, Clinic 34, Darwin, NT, Australia; 2Centre 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 coinfection 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 5/35 (14%) 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.

HIV Futures 4 Workshop

HIV FUTURES 4: STATE OF THE [POSITIVE] NATION

Grierson J1, Thorpe R1, Pitts M1

1ARCSHS, Latrobe University, Melbourne, VIC, Australia

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.
ORAL PRESENTATION ABSTRACTS
SATURDAY 4 SEPTEMBER 2004
MEDICALISATION OF PREVENTION

Kippax S
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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 PE
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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 recent findings concerning two aspects of the dynamic interactions benefi t 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 recent fi ndings 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.

GONORRHOEA AND CHLAMYDIA IN THE prevenCEnce AND RISK FACTORS FOR GONORRHOEAvONE AND CHLAMYDIA IN THE HEALTHand MEN (HIV) COHORT

Participants were offered annual sexual health screening. Nucleic acid amplifi cation testing for urethral, pharyngeal and anal gonorrhoea and chlamydia (BDProbeTec) was performed from March 2003. Throat swabs were taken by the study nurse, and urine samples and anal swabs were self-collected by participants.

By the end of 2003, 1,620 participants had been tested. Overall, 86 men returned a positive gonorrhoea test (8.5%); 3 (0.3%) men tested positive in the urine, 73 (7.2%) in the pharynx and 12 (1.2%) in the anus. For chlamydia, 60 (6.0%) men tested positive at any site; in the urine in 9 (0.9%), pharynx in 14 (1.4%) and anus in 43 (4.3%). Younger men were at higher risk of gonorrhoea (p<0.001). For those aged under 25, 17.5% tested positive at any site, compared to 2.0% for those aged above 55. In univariate analysis, gonorrhoea was also signifi cantly associated with number of casual partners, and the use of ecstasy, LSD or other party drugs in the past six months. After controlling for confounders, age (p trend<0.001) and number of casual sex partners (p=0.009) remained signifi cant. No signifi cant association with age was seen with chlamydia. In univariate analysis, detection of chlamydia was associated with number of sex partners, number of casual partners, unprotected anal intercourse (UAI) with casual partners and receptive UAI in the past six months. In multivariate logistic regression, reporting any receptive UAI (OR=3.04, 95% CI 1.62-5.71) and reporting UAI with casual partners (OR=1.95, 95% CI 1.13-3.35) remained signifi cant.

The prevalence of both gonorrhoea and chlamydia is high among HIV negative gay men in Sydney, with substantial differences in the epidemiology of the two conditions. The fi ndings in this community-based sample strongly support the need for screening homosexually active men for sexually transmissible infections.
**THE HIV/HSV NEXUS**

Russell D1

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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 risk of acquiring HIV infection. Having HSV2 antibodies recognised as a potent factor in the transmission and acquisition of HIV.

**MANAGING SEXUALLY TRANSMISSIBLE INFECTIONS IN GAY MEN**

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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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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

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H. House Medical Practice, Sydney, NSW, Australia

H. 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, psychotherapists, 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 H. House Medical Practice views necessary in patient care.

THE HIV/AIDS PROGRAM IN CANBERRA

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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 GP900 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

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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”, 27% “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=0.01], 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 measure]. 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.
Symposium – International Policy Initiatives

BEST POLICIES; WORST EPIDEMIC

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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.

IMPACTS OF REGIONAL AND BILATERAL TRADE AGREEMENTS ON ACCESS TO MEDICINES

Dinh K
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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 through 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.

HIV HYPOCHONDRIA: A WORKSHOP TOWARDS A COMPASSIONATE APPROACH

Hayes St, Keany J1, Milner R1,3
1Manly Sexual Health Clinic, Sydney, ACT, Australia; 2Canberra Sexual Health Centre, ACT Division of General Practice HIV Program, ACT, Australia; 3Geelong 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

Rein F: 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 initiatives 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 a unified and coordinated national HIV/AIDS program? What are the ways in which donor agencies can channel their support to achieve this goal? Evidence indicates that 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 these 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

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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 transmitted 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 condom use in the context of such factors 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 desirable but necessary in the era of HIV/AIDS. Participants articulated a variety of attitudes toward condoms including: 'disease control', 'it 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 each other, on 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 non-use amongst 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.
THE GEOGRAPHY OF THE GAY COMMUNITY 'GHETTO' IN SYDNEY

Maddocks D1, Prestage G1, Grinsen J1, Smith A1, Richters J1, Allan B1, Greulich A1
1National Centre in HIV Epidemiology and Clinical Research, UNSW, NSW, Australia; 2Australian Research Centre in Sex Health and Society, La Trobe University, VIC, Australia; 3National Centre in HIV Social Research, UNSW, NSW, Australia; 4AIDS Council of NSW, NSW, Australia

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. The paper will further discuss the importance 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.

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 5.5% in 2010 to 30% in 2015; and
- having sexual experiences exclusively with men varied from 4.2% in 2011 to 10% in 2010; and
- only ever having feelings of sexual attraction towards men varied from 3.3% in 2016 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.

GAY COMMUNITY SUBCULTURES, RISK AND 'COMFORTABLENESS'

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This paper will report on how gay men's perceptions of risk in the context of their differential paths of engagement with gay community life. Reference will be made to data from the Sydney Gay Community Periodic Surveys.

Gay men engage in gay community life in a variety of ways. These different paths can represent very different ways of living and being 'gay,' sometimes intersecting with each other and sometimes not. In 2003-2004, some men reported using various types of venues or methods (bars, dance parties, sex venues, baths, gyms, internet) to meet sex partners, while others used only some of these: 27.5% used only gay social venues such as bars or dance parties, and 5.0% only used sex venues. Few very men reported using all types of methods or venues, but 21.2% indicated they used none of them. HIV prevalence and risk behaviour data vary across different samples. Men recruited at gay bars were less likely to be HIV positive (p<.001) or to engage in unprotected anal intercourse (p<.001) than men recruited at sex venues, but they are likely to have more gay friends (p<.001). Can subtle differences in how gay men engage with gay community subcultures, and the differences in their experiences of HIV prevalence and risk behaviour tell us anything about how they make calculations of risk and where they place HIV in their lives?

Gay men experience different levels of connectedness and notions of 'community' depending on the particular ways they interact with other gay men. Awareness of higher prevalence of HIV among their peers may not be as important as the degree to which they feel 'connected to' and, therefore, able to trust those peers. Their decisions about risk behaviour may reflect their own risk calculations and the extent to which they feel confident of their own capacity to handle it.
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 environment will also be discussed. Influencing social networks to be more supportive of young men living with HIV and to more naturally engage with HIV prevention will also be discussed.

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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 it 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 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.
CULTURE AND INTERDEPENDENCE: NEGOTIATING HIV DIAGNOSIS AND DISCLOSURE AMONG PEOPLE FROM CULTURALLY AND LINGUISTICALLY DIVERSE BACKGROUNDS

Körner H1, Petrohilos M2, Madeddu D1
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.

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.

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?

Higgs P
The Burntett Institute, Melbourne, Victoria, Australia

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.

This paper describes the difficulties 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

Petrohilos M1, Eisenberg M1, Katacoro F2
1Multicultural HIV/AIDS and Hepatitis C Service, Sydney, NSW, Australia; 2Multicultural 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, Ming Wen L1, Paljor S1
1Multicultural HIV/AIDS and Hepatitis C Service, Sydney, 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.
RESTRICTED IMMUNE RESPONSES

HIV AND HEPATITIS C ADAPTATION TO HLA-Restricted Immune Responses

Matlief S 1,2
1Centre for Clinical Immunology and Biomedical Statistics, Royal Perth Hospital, Perth, WA, Australia
2Centre for Immunology, St Vincent’s Hospital, Sydney, NSW, 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-1 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 innate 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 “polyvalent” 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.

PROLIFERATING ANTIGEN-SPECIFIC CD4+
WITH A CCR5 CYTOTOXIC T LYMPHOCYTE
PHENOTYPE DURING PRIMARY HIV-1 INFECTION

Zaunders J 1, Munier M 1, Ip S 1, Grey P 1, Smith D E 1, Kuttmann D 1, Walker B D 1, Kaldor J 1, Cooper D A 1, Kelleher A D 1 on behalf of the Phaedra Study Team
1Centre for Immunology, St Vincent’s Hospital, Sydney, NSW, Australia
2National Centre in HIV Epidemiology and Clinical Research, UNSW, Sydney, NSW, Australia
3Partners AIDS Research Center, Massachusetts General Hospital, Boston, MA, USA

Antigen-specific CD4+ T lymphocytes are believed to be generated during acute primary HIV-1 infection (PHI), but are lost early in the course of infection, unless treatment is initiated. We have recently found, in a long-term non-progresor; that HIV-specific CD4+ T cells expressed CCR5, and were also cytotoxic T lymphocytes (CTL). Therefore, we investigated whether such cells could be detected during PHI.

Fresh peripheral blood samples were obtained from subjects enrolled in the Phaedra observational study of PHI. Immunophenotyping of whole blood CD4+ T cells for CCR5, activation antigens (CD38, HLA-DR), markers of CTL (TIA-1, Granzyme B, Perforin), proliferation (Ki-67 and cell survival (Bcl-2)) were analysed by flow cytometry. Antigen-specific CD4+ T cells were identified by intracellular cytokine assay following incubation with HIV Gag or Nef peptide pools, or with CMV lyse.

In samples from 16 subjects with PHI, there was a significant elevation in the proportion of CD4+ T cells which were CCR5+CD38+Bcl-2+, TIA-1+, Granzyme B+, Perforin+CD38+, CD57+, CD161+, and CCR5+CD38+Bcl-2+ T cells were also elevated in PHI compared with controls (4.6 vs 0.1%, p<0.001). Approximately one quarter of the Ki-67+CD4+ T cells were CCR5+CD38+Bcl-2+. Also, the proportion of CD4+ T cells which were CCR5+CD38+Bcl-2+, TIA-1+, Granzyme B+ was increased during PHI compared with controls (15.2 vs 6.2%, p<0.01).

In 2 subjects with very early PHI (negative for HIV Western Blot at presentation), 0.3% of CD4+ T cells, respectively, produced IFN-γ in response to HIV Gag. These antigen-specific CD4+ T cells were predominantly CD38+Bcl-2+, TIA-1+, CD57+, IL-7R- and CD57- negative, consistent with a phenotype of newly derived, activated, proliferating CTL effectors. These cells expressed CD40 ligand, and a subset also expressed IL-2, suggesting helper function. In the same subjects, CMV-specific CD4+ T cells exhibited a resting, non-proliferating, long-term memory phenotype. However, in another 2 subjects with later presentation (3 and 6 bands on Western Blot, respectively), antigen-specific CD4+ T cells could not be detected.

These results suggest that during PHI, the early anti-viral response includes activated CCR5+CD4+ T cells with a CTL and helper phenotype, but are probably highly susceptible to cytopathic infection with HIV-1.

T CELL DECLINE AND IMMUNE RESTORATION IN HIV DISEASE

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The human immune system responds to T-cell loss, by increasing T-cell production either via peripheral expansion or through de novo T-cell production by the thymus. During HIV disease, thymic dysfunction and thymic involution occur as well as enhanced activation, proliferation and death of T cells in the periphery, all of which contribute to progressive T-cell decline in un-treated HIV infection. T-cell receptor excision circles (TREC) and more recently CD31 expression on naive T-cells have been proposed as markers of new thymic emigrants. Antiretroviral therapy (ART) is associated with an increase in TREC concentration and a reduction in T-cell proliferation, activation and apoptosis. However, T-cell activation rarely returns to levels seen in HIV-uninfected individuals. In fact, the level of T-cell activation in individuals on ART is a strong predictor of subsequent CD4 T-cell reconstitution. Individuals treated with ART who remain virologic with drug-resistant HIV often experience a durable increase in CD4 T-cell counts. This sustained immunologic benefit occurs even after controlling for the level of viroemia and is associated with decreased levels of immune activation, increased HIV-specific T-cell responses and reduced proliferation in CD4+ T-cells. In individuals with drug-resistant virus, who fail ART immunologically, HIV regains replicative fitness. Proposed mechanisms for the restoration of viral fitness include compensatory mutations in gag or protease and/or a change from an R5 to a X4 virus. Potential future approaches to novel immunotherapeutics for the treatment of HIV disease may include agents that enhance thymus output, reduce immune activation or reduce viral replication capacity.
POSTER LISTINGS
### POSTER LISTINGS

#### Clinical Medicine Posters

<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Getting to the Bottom of Anal Itch - A Cautionary Tail</td>
<td>Chan D</td>
</tr>
<tr>
<td>2</td>
<td>Baseline Resistance To Tenofovir (Tfv) And Atanazanir (Atv) In A HIV Clinic Population</td>
<td>Chew C B</td>
</tr>
<tr>
<td>3</td>
<td>Comparison of the Frequency of HIV-1 Drug Resistance Mutations in Treated and Untreated Patients from Various Countries</td>
<td>Chew C B</td>
</tr>
<tr>
<td>4</td>
<td>Validity of a New Computerised Battery for the Assessment of Neurocognitive Functions in Advanced HIV-Infection and Aids Dementia Complex</td>
<td>Cysique L</td>
</tr>
<tr>
<td>5</td>
<td>Meaningful Data - The Challenge for All Clinicians</td>
<td>Furner V</td>
</tr>
<tr>
<td>6</td>
<td>The Phaedra Cohort Update: Baseline Characteristics and Treatment Uptake in Primary HIV Infection</td>
<td>Grey P</td>
</tr>
<tr>
<td>7</td>
<td>Atazanavir Special Access Scheme: Interim Summary of Available Data</td>
<td>Hoy J</td>
</tr>
<tr>
<td>8</td>
<td>HS-CRP is Elevated in HIV Positive Patients with a Trend to Increased Levels in Patients in the Twelve Months Prior to Coronary Events</td>
<td>Mijch A</td>
</tr>
<tr>
<td>9</td>
<td>An Analysis of the Time Taken for Clinical Trial Data to be Submitted to Central Data Management</td>
<td>Munro R</td>
</tr>
<tr>
<td>10</td>
<td>Two Cases of Non Perinatal Transmission of Paediatric HIV in the Australian Setting</td>
<td>Norris C</td>
</tr>
<tr>
<td>11</td>
<td>Para/Post-Kala-Azar Dermal Leishmaniasis (PKDL) in an HIV-Infected Individual with Visceral Leishmaniasis (VL)</td>
<td>Pett S</td>
</tr>
<tr>
<td>12</td>
<td>Cushing’s Syndrome and Secondary Adrenal Suppression in HIV-1-Infected Patients with the “HIV-Lipodystrophy Phenotype” receiving inhaled Fluticasone with Ritonavir-Boosted Protease Inhibitors (PI)</td>
<td>Pett S</td>
</tr>
<tr>
<td>13</td>
<td>A Laboratory’s Experience in the use of the Combined Antigen/Antibody Assay for the Detection of Seroconversion to HIV</td>
<td>Randall K</td>
</tr>
<tr>
<td>14</td>
<td>Therapeutic Drug Monitoring (TDM) of Atazanavir</td>
<td>Ray J</td>
</tr>
<tr>
<td>15</td>
<td>Therapeutic Drug Monitoring of Atazanavir Identifies Low Exposure to the Drug in Some Patients</td>
<td>Ray J</td>
</tr>
<tr>
<td>16</td>
<td>Hepatic Histoplasma Capsulatum Causing Fever of Unknown Origin in a Woman with Advanced HIV Infection</td>
<td>Raymond N</td>
</tr>
<tr>
<td>17</td>
<td>A Singlecentre Six-Month Clinical Experience of Atazanavir in a Special Access Scheme (SAS) in Australia</td>
<td>Sarangapany J</td>
</tr>
<tr>
<td>18</td>
<td>The Use of a Triple Nucleoside-Nucleotide Regimen for Non-Occupational HIV Post Exposure Prophylaxis</td>
<td>Winston A</td>
</tr>
<tr>
<td>19</td>
<td>Management of the HIV-Positive Pregnant Patient: Use of Tenofovir</td>
<td>Yap R</td>
</tr>
</tbody>
</table>
### Community Program Posters

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bourne A</td>
<td>Living Well with HIV</td>
<td>32</td>
</tr>
<tr>
<td>Gallagher S</td>
<td>Lobbying for Legislative Equality in Order to Establish and Maintain an Environment for Supportive Public Policy in HIV in NSW</td>
<td>33</td>
</tr>
<tr>
<td>Lewin S</td>
<td>A Sensitive, Quantitative Real-Time PCR Assay to Detect Lamivudine Resistance-Associated Mutations in Hepatitis B Virus (HBV)</td>
<td>34</td>
</tr>
<tr>
<td>Prestage G</td>
<td>Making, Keeping and Breaking Agreements with Regular Partners Among Gay Men: The Health in Men Study</td>
<td>35</td>
</tr>
<tr>
<td>Ritt I</td>
<td>Housing People Living with HIV: Sustaining Tenancies in Community Housing and Linking People with Multiple Support Services</td>
<td>36</td>
</tr>
<tr>
<td>Strum A</td>
<td>Deca Durabolin: Establishing Equitable Access for Treating HIV Complications</td>
<td>37</td>
</tr>
<tr>
<td>Thangsing C</td>
<td>Changing Lives, Bringing Hope: Pathway Project India</td>
<td>38</td>
</tr>
</tbody>
</table>

### Education Posters

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock J</td>
<td>The NAPWA International Portfolio</td>
<td>40</td>
</tr>
<tr>
<td>Russell E</td>
<td>HIV &amp; Wellness: A Queensland Response</td>
<td>41</td>
</tr>
</tbody>
</table>

### Epidemiology Posters

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best E</td>
<td>Changing Face of Paediatric HIV Infection: Retrospective 20 Year Review from a Major Australian Paediatric HIV Unit (1983-2003)</td>
<td>42</td>
</tr>
<tr>
<td>Furner V</td>
<td>Sex in the City - Chapter Two</td>
<td>43</td>
</tr>
<tr>
<td>Herat A</td>
<td>Presentation and Outcome of Anal Carcinoma Among HIV Infected and HIV Non-Infected Individuals</td>
<td>44</td>
</tr>
<tr>
<td>Herat A</td>
<td>Anal Squamous Intraepithelial Lesions – Diagnosis and Differential Diagnosis</td>
<td>45</td>
</tr>
<tr>
<td>Jin F</td>
<td>Incidence and Risk Factors for HIV Seroconversion in the Health in Men (HIM) Cohort</td>
<td>46</td>
</tr>
<tr>
<td>Learmont J</td>
<td>Long Term Non Progression in Surviving Sydney Blood Bank Recipients After &gt; 20 Years of Infections with a Mutant HIV-1 Strain</td>
<td>47</td>
</tr>
<tr>
<td>Middleton M</td>
<td>Frequency of HLA Types in the Australian Long Term Non-Progressor Cohort</td>
<td>48</td>
</tr>
</tbody>
</table>
### Basic Science Posters

<table>
<thead>
<tr>
<th>Poster Title</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caly L</td>
<td>A Novel Nuclear Import Pathway for HIV-1 VPR Protein?</td>
</tr>
<tr>
<td>Cheney K</td>
<td>HIV-1 Persistence in Double Negative T Cells from Patients Not Responding to Antiretroviral Therapy</td>
</tr>
<tr>
<td>Coolen C</td>
<td>Measurement of HIV Integrated Viral Load in Clinical Samples</td>
</tr>
<tr>
<td>Cunningham A</td>
<td>Proteomic Analysis of DC-Sign on Dendritic Cells Detects Tetramers Required for Ligand Binding but No Association with CD4</td>
</tr>
<tr>
<td>Dunstan K</td>
<td>Methodological Approach to Analysing Dendritic Cell Uptake of Vaccinia, an Important Candidate HIV Vaccine Vector</td>
</tr>
<tr>
<td>Edmonds J</td>
<td>Discovery of a Reversion of a 100 Amino Acid Truncation of the Gp41 Cytoplasmic Tail and Identification of Matrix Mutations in HIV-1 RFGP 34</td>
</tr>
<tr>
<td>Harman A</td>
<td>Investigation of Dendritic Cell Gene Expression Levels in Response to High Titre HIV and HIV Envelope Glycoprotein</td>
</tr>
<tr>
<td>Hitchen E</td>
<td>Effect of Fluorescently Labelled Full Length HIV-1 VPR and VPR Fragments on Viral Incorporation and Infectivity</td>
</tr>
<tr>
<td>Koldej R</td>
<td>Optimisation of a Human Immunodeficiency Virus Type-1 Derived Gene Transfer Vector</td>
</tr>
<tr>
<td>Lai J</td>
<td>Identification of a Novel C-Type Lectin Receptor Other Than Mannose Receptor, DC-Sign or Langerin Which Bind to Gp120 on the Surface of Monocyte Derived Dendritic Cells</td>
</tr>
<tr>
<td>Lee S</td>
<td>Interleukin-23 and Interferon-Gamma Deficiency in Severely Immunodeficient HIV Patients who have Achieved A Long-Term Increase In CD4 T-Cell Counts on HAART</td>
</tr>
<tr>
<td>Leansjah E</td>
<td>Analysis Of FCR-Gamma Content in Monocytes and Peripheral Blood Lymphocytes from HIV-Positive Blood</td>
</tr>
<tr>
<td>Mallon P</td>
<td>Nucleoside Reverse Transcriptase Inhibitors Cause Decreased Adipocyte Mitochondrial (Mt) Mrna Transcription in the Absence of Changes in Mtdna Copy Number or Cell Morphology</td>
</tr>
<tr>
<td>Merlin K</td>
<td>Cryopreservation of Peripheral Blood Mononuclear Cells (PBMCs): Using a Programmable Controlled Rate Freezing Unit Helps Preserve Lymphocyte Immunophenotype and Function</td>
</tr>
<tr>
<td>Saksena N</td>
<td>Molecular and Biological Mechanisms in HIV-1 Infection with a Replication Incompetent Strain in a Non-Progressive Individual</td>
</tr>
<tr>
<td>Sivakumaran H</td>
<td>Analysis of Tat Genes Recovered From Long-Term Non-Progressers Infected With HIV-1</td>
</tr>
<tr>
<td>Solomon A</td>
<td>Analysis of HIV Co-Receptor Use and Quasispecies Diversity in Individuals Failing Prolonged Antiretroviral Therapy</td>
</tr>
<tr>
<td>Steain M</td>
<td>Analysis of Genetic Diversity in Kenyan Mothers and Infants</td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Wang B</td>
<td>Rolling Circle Amplification (RCA) for Ultrasensitive Viral Genome Detection</td>
</tr>
<tr>
<td>Wright E</td>
<td>Dendritic Cells and the Human Brain</td>
</tr>
<tr>
<td>Xhilaga M</td>
<td>Potential Role of Activin in HIV Immune-Compromised Patients</td>
</tr>
</tbody>
</table>
CAUTIONARY TAIL

GETTING TO THE BOTTOM OF ANAL ITCH – A CAUTIONARY TAIL

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Anal cancer is relatively rare in the general population. However, epidemiological data suggest that it is more common in individuals infected with HIV, particularly men who have sex with men. Unfortunately anal cancer frequently presents at an advanced stage, as the early phase of the condition is usually without symptoms. Anal intraepithelial neoplasia (AIN) is postulated to be a precursor of anal cancer, and there have been calls to promote cytological 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 perianal skin for 12 months. Physical examination revealed lichenified perianal skin. Histological assessment of a biopsy from this area revealed the characteristic histological changes of an atypical condyloma – an unusual variant of human papilloma virus lesion, first 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” condylomatous 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. Subsequent anoscopy with biopsy of acetowhite areas in the anal region confirmed the presence of AIN 2.

This case demonstrated the so-called ‘field effect’ of human papilloma virus – a well-recognized 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 insignificant they may appear.

The ability of HIV-1 to evolve resistance to antiretroviral drugs leads to treatment failure. Some HIV infected individuals who have never received antiretroviral therapy also carry resistance mutations. A study was conducted to assess the prevalence of antiretroviral resistance mutations in treated and untreated HIV patients in a clinic environment at Westmead Hospital. The impact of current resistance mutations in these patients was studied for two newly introduced antiretroviral drugs, TFV and ATV. The study included 157 patients who had failed treatment and another 107 who were treatment naive. The PR and RT region were sequenced and results interpreted using the Stanford database. The primary TFV resistance mutations K65R or T69S were uncommon in our study (K65R/T69S 0.7%). In our clinic, 25% (38/157) of antiretroviral experienced patients had the M41L or L210W mutations plus 3 other TAMs, with half the patients also having the M184V mutation. None of the treatment naive patients had these combinations. The high proportion of M184V in patients with multiple TAMs may enhance TFV efficacy in this heavily pretreated population. With ATV, the signature mutation 150L was absent in this study. ATV resistance can also develop with the accumulation of 5 or more amino acid substitutions at codons 10I/V/F, 20R/M/I, 24I, 33I/L, 46I/L, 48V, 54V/L, 63P, 71V/T/I, 73C/S/T/A, 82A/F/S/T, 84V and 90M. Thirty-two percent (50/157) of antiretroviral drug experienced patients had 5 or more amino acid substitutions, but none of treatment naive patients.

In our clinic, 25% of the antiretroviral experienced patients may not get long-term benefit with TFV (although M184V may reverse this), and another 32% may have impaired ATV responses. The prevalence of resistance mutations in a particular region or country depends on local antiretroviral treatment practices; these data can be used to assess the value of new drugs introduced into clinical practice.
Naïve individual. Cross-resistance, the presence of different HIV-1 subtypes, primary and secondary resistance mutations in different countries, except for Canada (3.8%). More variation was observed with NRTI, with resistance to 1 or more NRTI ranging from 1% to 29% in Argentina to 28.9% in Warsaw. NNRTI resistance ranged from 0.2% to 4.9%. Warsaw had higher frequency of resistance mutations in M184V (17%), K103N (40%) and Puerto Rico -K103N (40%). In pretreated patients, the proportion of PI resistance among the various countries varied from 12% to 58%. The percentage of NNRTI resistance mutations ranged from 4 to 77%. Westmead had a higher frequency of L74V (19%) and Y181C (18%) mutations. Brazil-Ts69DN (47%), Canada-M184V (50%), M184V (65%), D67N (43%) and L90M (40%). Spain-T215Y (51%), G190A/S (13.6%) and Puerto Rico -K103N (40%). Thailand had a lower frequency of PI resistance mutations - L90M (7%), I34V/L (6%), V52A (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 naïve individuals.

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<.000) and less accurate (p<.03) than controls. ADC patients demonstrated worse performance when compared to non-demented patients on most speed measures (p<.000) and the most demanding accuracy (p<.03) measures. Computerised measures were correlated with standard measures of complex attention and processing speed (r = 0.45 to 62). Computerised total reaction time (p<.003) and learning accuracy (p<.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 screen is sensitive to the neurocognitive deficits associated with HIV-infection. The use of this battery could help screening patients at risk for ADC.

The effective treatment of HIV and hepatitis C (HCV) in recent years has resulted in increased life expectancy and quality of life for HIV and HCV patients. However the number of patients who present to non-inpatient services with complex needs has grown enormously. South Eastern Sydney Area Health Service (SESAHS) is well recognized as being at the epicentre of the HIV/AIDS epidemic in Australia. However it was also recognized that there was a need for a completion in the collection and reporting of the HIV/AIDS, HCV and Sexual Health data arising from non-inpatient attendances to hospital based services in the area. In 2001 Working Groups of interested, representative multi-disciplinary clinicians, including HIV specialists and Allied Health, of the six high caseload hospital based services were established. The aim was to formulate a Minimum Dataset for HIV/AIDS, HCV and Sexual Health for the ambulatory care, outpatient and Community Health services in SESAHS. The initiative was supported, and the database funded, by the AIDS/Infectious Diseases Branch, NSW Health.

A uniform core set of definitions encompassing 22 broad categories of demographic, clinical and service utilisation was established. Patient profile data items include Sex, Age, Country of Birth, Aboriginality, Postcode, Source of Referral, Risk Category together with health outcome data relating to Diagnosis, Intervention, Treatment etc. In addition, the database also encompasses CD4, viral load and anti-retroviral graphical functions and preliminary Clinical Indicators in HIV and HCV care. The minimum dataset dictionary has been piloted area-wide and refined over the past two years at the end of 2003, culminated in the development of a computerized database for utilisation by all HIV, HCV and Sexual Health services across SESAHS. In February 2004 data extraction was commenced area-wide. Work is now underway to develop the database and to benchmark the database across these three important clinical areas.

Screening patients at risk for ADC is a serious obstacle to sustained suppression of HIV during long-term outcomes related to pathogenesis and treatment. In February 2004 data extraction was commenced area-wide. The database in these three important clinical areas.

Since recruitment into Phaeroa commenced in September 2002, 232 individuals have been enrolled to May 2004. Within the cohort 133 individuals have been newly diagnosed with acute or early infection and a further 99 were retrospectively recruited from other clinical studies in PHI. Of the newly diagnosed seroconverters 59% were identified with acute and 41% with early HIV infection. The cohort has enrolled approximately 50% of all newly infected individuals identified during this period, 30% of acute or early infection and a further 99 were retrospectively recruited from other clinical studies in PHI. Of the newly diagnosed seroconverters 59% were identified with acute and 41% with early HIV infection. The cohort has enrolled approximately 50% of all newly infected individuals identified during this period, 30% of acute or early infection, and 21% of notifications to VIDRL in Melbourne.

All study participants were male with a median age of 35 years and had been infected mainly via homosexual transmission (96%). Within the 133 newly diagnosed patients, concurrent infections at the time of HIV seroconversion were: syphilis 6 (4.5%), herpes simplex 3(2%), gonorrhoea 6 (4.5%), chlamydia 2 (1.5%) and HSV-2 4 (3%). The median viral load and CD4 T-cell count at baseline of this group was 204,000 copies/ml (range 50->750,000 copies/ml) and 504 cells/μl (range 168-1360 cells/μl), respectively. Ninety two participants were screened for HIV infection. Seventy six % of treated participants commenced on a regimen containing two nucleoside reverse transcriptase with a protease inhibitor. Thirty one patients received a combination two nucleoside reverse transcriptase with a protease inhibitor. Thirty one patients received a combination of two nucleoside reverse transcriptase with a protease inhibitor. Thirty one patients received a combination of two nucleoside reverse transcriptase with a protease inhibitor. Thirty one patients received a combination of two nucleoside reverse transcriptase with a protease inhibitor.
P7

ATAZANAVIR SPECIAL ACCESS SCHEME: INTERIM SUMMARY OF AVAILABLE DATA

Holt P1, Gibson K1 on behalf of the Atazanavir Special Access Scheme prescribers 1The Alfred Hospital, Melbourne, VIC, Australia; 2Bristol Myers Squibb, Melbourne, VIC, Australia

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 data. The average age of participants is 65.8% and/or severe, refractory hyperlipidaemia (31.4%) at entry into the scheme. 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%) with previous therapy. The average age of participants is 46.1 years (SD=10.5 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 at 18.3% at OT5. At baseline 8.3% of patients reported a bilirubin 20-30μmol/L, this increased to 40.4% at OT1 and 53.8% at OT5.

The most common Non Serious Adverse Events (NSAE) considered to be related to ATV by the treating doctor were gastrointestinal symptoms (n=43-2) and hyperbilirubinaemia (n=21). The most common reasons given for patients discontinuing treatment with ATV were adverse events (n=34) and patient withdrawal of consent (n=22). Fifteen Serious Adverse Events (SAE) considered certainly, probably or possibly related to ATV were reported, including 3 hyperbilirubinaemia and jaundice, 2 rash, 2 pancreatitis, 2 vascular occlusions (same patient) and 2 palpitations. Hyperbilirubinaemia seen with ATV has not been associated with hepatotoxicity.

P8

HS-CRP IS ELEVATED IN HIV POSITIVE PATIENTS WITH A TENDENCY TO INCREASED LEVELS IN PATIENTS IN THE TWELVE MONTHS PRIOR TO CORONARY EVENTS

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Cardiac events occurring in HIV infected individuals may be related to traditionally recognised risks, HIV treatments or other factors. A Case Control examination of HIV related factors was undertaken in those with and without defined symptomatic cardiac disease treated at the Alfred Hospital. Cases were defined as having a documented myocardial infarct, angiongram demonstrating vascular disease, a positive nuclear medicine scan or exercise test or clinical disease with or without ECG changes treated as angina. Controls were selected from those individuals with no CVD matched age (±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, antivirals, 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 an HIV negative population and postulated to be a direct player in the pathogenesis of coronary disease. Wheras 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=13.16) 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.

P9

AN ANALYSIS OF THE TIME TAKEN FOR CLINICAL TRIAL DATA TO BE SUBMITTED TO CENTRAL DATA MANAGEMENT

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Early review of data by central data management (CDM) enables sites to promptly clarify data queries and reduces time to completion of study. This study aimed to summarise the time taken for clinical trial data to be sent from investigator sites to CDM. Ongoing drug supply was dependant on CDM receiving data.

A review was undertaken of the first 48 weeks of data received by CDM for an open label, multicentre, phase III study. Data were faxed to the CDM following each patient visit. Records were reviewed to assess the time for the CDM to receive study related data. Data was summarised according to week of study visit and study site; Hospital or General Practice (GP). Significance was tested using a two-tailed T test.

There was a mean time of 16 days between a patient’s visit and CDM receiving the initial data relating to that visit from the site. There was a mean time of 29 days between a patient’s visit and the final piece of data for study visit. Over the 48 week duration of the study, the mean time for completed study data to be received by the CDM lengthened from a mean of 12 days at the patients screening visit to 22 days at week 48 (p=0.002). The mean number of days to submit their data to the CDM was 17 days for hospital sites and 34 days for GP sites (P=0.0001).

Fixing data to CDM provided an efficient mechanism for sites to transmit data. However transmission of data became slower over the duration of the study, possibly due to changing priorities. There was a significant difference between hospital and GP sites to submit data, this may be related to the large number of studies for which individual coordinators at GP sites are responsible. Timely receipt of data enables the CDM to assist the site in adhering to the protocol and may influence the completeness of the study data.

P10

TWO CASES OF NON PERINATAL TRANSMISSION OF PÄDAUTRIC HIV IN THE AUSTRALIAN CONTEXT

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Almost 600,000 children are believed to acquire Human Immunodeficiency Virus (HIV) worldwide annually. HIV is transmitted via blood, sexual exposure and vertically. Approximately 90% of infected children worldwide acquire HIV from mother to child during pregnancy, labour or breastfeeding. This is also the most common route of transmission in children in Australia in the era of blood donor screening and usually occurs when HIV status of the mother is unknown and vertical transmission reduction strategies such as the PACT/TO76 protocol are not implemented. If prevention strategies are implemented, the mother to child transmission rate drops to 1-2%.

Historically, blood transfusion was also a common route of transmission of HIV but has been almost eliminated since the introduction of routine testing of blood donations in the mid 1980s.

Case one is a teenage female who presented with Pneumocystis Carinii Pneumonia (PCP). There was a history of repeated sexual abuse. It emerged that the alleged perpetrator was a HIV infected male. This child has done well on HAART and quickly achieved undetectable viral load. In case two, the mode of acquisition is unknown. Both parents and both siblings of this teenage female are HIV negative. She received several immunisation injections in the mid 1980’s.

As a substudy 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 an HIV negative population and postulated to be a direct player in the pathogenesis of coronary disease. Wheras 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=13.16) 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.

The aim of this presentation is to draw attention to the issue of non-typical acquisition of HIV in the paediatric setting in Australia and overseas.

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PARAPORT-KALA-AZAR DERMAL LEISHMANIASIS (PKDL) IN AN HIV-INFECTED INDIVIDUAL WITH VISERAL LEISHMANIASIS (VL).

P11

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VL, caused by Leishmania spp., is a zoonotic infection widespread in Africa, Southern Europe, India and S. America. It is an emerging opportunistic pathogen in HIV-infection in areas where both are common. VL is characterised by cellular immune responses to the pathogen. Para- and post-Kala-azar dermal leishmaniasis (PKDL) presents with maculopapular/nodular lesions to the face, limbs, and trunk in those with a recent/mote history of treated VL and probably represents a form of immune restoration disease (IRD). PKDL is common with L. donovani and rare with L. infantum. Treatment depends largely on geographical location i.e. no therapy in areas where spontaneous remission is common (Sudan) or long periods of appropriate therapy (India). PKDL has been very rarely reported in HIV-infection.

To describe the clinical presentation of PKDL in a patient with chronic VL-HIV co-infection and the use of PCR for species identification.

Promastigotes were cultured from skin biopsies and PCR performed using primers specific for the repetitive sequence Leishmania infantum DNA and the SSU/RNA region of Leishmania. PCR-RFLP analysis was undertaken using primers targeting the repetitive sequence Leishmania infantum DNA with subsequent digestion of Hae III for speciation.

This HAART-treated HIV-VL co-infected individual, developed nodular lesions on the head and neck during induction/maintenance therapy for VL with liposomal amphotericin. The development of these skin lesions correlated with clinical and immunological improvement i.e. weight gain, defervescence of fever, significant decrease in spleen size and reduction of the CD4+ count from 170 to 374 cell/µL. Skin biopsies on separate occasions revealed amastigotes confirmed as L. infantum on PCR (n=2) and inflammatory changes only (n=3).

Rapid tests for Leishmania speciation are clinically relevant as different antimonials have different treatment-failure rates for L. infantum. The incidence of L. donovani-PKDL appears to be lower when liposomal amphotericin rather than sodium stibogluconate is used. However, even allowing for these treatment differences in L. infantum-PKDL and L. donovani-PKDL, the former is very uncommon. Several features of this individual’s presentation and Laboratory’s experience in the use of seroconversion to HIV.

In three of these patients HIV infection would not have been detected at the first sample with the previously used antibody-only assay. Our experience also indicates that for samples above the cut-off rate of 2.5 times the sensitivity threshold, the detection of E/C0 in the Abbott AxSYM Combo assay is less predictive of the final outcome of testing than with the HIV antibody only assay. In the seroconverting patient positive Western Blots may be associated with only slightly elevated S/CO values and detection of p24 antigen may be associated with either high or marginally elevated S/CO.

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**P15**

**THERAPEUTIC DRUG MONITORING OF ATAZANAVIR IDENTIFIES LOW EXPOSURE TO THE ADVANCED DRUG IN SOME PATIENTS**

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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 experienced patients were submitted for therapeutic drug monitoring. Atazanavir 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. (Innau Phase Corp. PA, USA). A number of patients (18%) had trough plasma ATV concentrations below the limit of detection (25 µg/L) of the assay and were 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 meal. The study standardised use of a standard saline meal. The solubility of ATV 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 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 empirical 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 indicated 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.

**P16**

**HEPATIC HISTOPLASMA CAPSULATUM CAUSING FEVER OF UNKNOWN ORIGIN IN A WOMAN WITH ADVANCED HIV INFECTION**

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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 empirical 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 indicated 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 SINGLECENTRE SIX MONTHLY CLINICAL EXPERIENCE OF ATAZANAVIR IN A SPECIAL ACCESS SCHEME (SAS) IN AUSTRALIA**

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Clinical trials have demonstrated atazanavir (AZV) to be potent, safe and well tolerated in both naive 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 database. 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 to once daily in 2 (7%). 6 (20%) discontinued AZV during the observation period. 1 due to virological failure, 2 due to toxicity to concomitant antiretrovirals, 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 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 baseline increased by 22.7umol/L (p = 0.001). Significant decreases in serum cholesterol [1.3mmol/L, p = 0.001] and triglyceride [1.3mmol/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**

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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 zidovudine-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: zidovudine-3TC (Combivir, group 1) and Combivir-nelfinavir (group 2) both 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 125 and 137 individuals in groups 1 and 2 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=0.008). Adverse events were generally less common with d4T-3TC-TDF regimen containing a protease inhibitor (PI). Due to the high incidence of intolerable side effects observed with PI based and zidovudine-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.

The number of individuals completing NPEP before and after this change.
P19
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.
NURSING AND ALLIED HEALTH POSTERS

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.

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 finding.

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.

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.

NURSING AND ALLIED HEALTH POSTERS

P21
BENEFICIAL EFFECTS OF INTERACTIONS BETWEEN ANTIRETROVIRAL AGENTS

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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.

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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.
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 those, 35 (61.4%) 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% mixed fed and 15% complemented 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 57.4% 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 57% were feeding contrary to policy recommendations.

In response to referrals which highlight the management difficulties encountered in the correctional setting for PLWHA. ADAHPT, a state-wide tertiary outreach service for people living with HIV/AIDS and complex needs has been working in partnership with Public Health Nurses from Corrections Health Services. The experience of ADAHPT working with HIV positive people identified as potential risks to the health of other inmates and the use of case management was seen as an ideal model for the community management of clients who are currently incarcerated but are facing imminent release from correctional settings into the community.

ADAHPT has been working closely with Public Health Nurses from Corrections Health Services clinics in prisons around NSW. Ideally, referrals are accepted whilst a PLWHA is still in the correctional setting and the plan is to establish a relationship with the client prior to their release, to smooth the transition between prison and independent living in the community. A management plan is devised with the intention to support the client to live independently in the community. This involves assessment, planning, linking, monitoring and review of the client's needs from the time of referral up to and beyond their release from custody.

In the initial assessment process of case management for clients, it has been alleged by inmates that they have placed other inmates at risk of transmission of HIV/AIDS. Such allegations have raised difficult dilemmas for both services in deciding how to best manage the real or perceived risks involved when inmates allegedly place one another at risk. By the use of a case study, we will describe how the assessment of the client for community follow up and case management revealed such a dilemma. The complexities of this situation and the pressure this has placed upon the partnership will also be described.
•  Action Plan of specific short-term HIV health responses to this increase by an interagency of government control in the late 1980s. This paper will outline the notifications in NSW since the epidemic was brought under control in the inner city of Sydney. This represented the largest increase in HIV notifications in NSW. This was predominantly concentrated from 2001-2002 there was a reported 15% increase in HIV notifications in NSW. This was predominantly concentrated in HIV Social Research, 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 in HIV Social Research, 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

The Action Plan included a comprehensive range of activities that: • communicated with gay men about the HIV increase and prevention issues (including a significant media campaign of the gay community, telephone information line, prevention activities targeting sex on premise venues, etc.,); • supported GPs and sexual health services to address HIV prevention; and • addressed sexually transmitted infections.

The evaluation components to be reported on will include: • analysis of the impact of the campaign activities; • process evaluation of the development and implementation of the Action Plan/Interagency; • evaluation of the Telephone Information Line; and • assessment of the impact of the broad HIV/STI prevention activities conducted during the period of the Action Plan.
COMMUNITY PROGRAM POSTERS

P31  LIVING WELL WITH HIV

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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 supported by health promotion principles works with the HIV affected community to develop personal skills and resources, strengthen community action, and build collaborative 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.

P32  LOBBYING FOR LEGISLATIVE EQUALITY IN ORDER TO ESTABLISH AND MAINTAIN AN ENVIRONMENT FOR SUPPORTIVE PUBLIC POLICY IN HIV IN NSW

Gallagher S

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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.

P33  A SENSITIVE, QUANTITATIVE REAL-TIME PCR ASSAY TO DETECT LAMIVUDINE RESISTANCE-ASSOCIATED MUTATIONS IN HEPATITIS B VIRUS


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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.

Determination 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.

P34  MAKING, KEEPING AND BREAKING AGREEMENTS WITH REGULAR PARTNERS AMONG GAY MEN: THE HEALTH IN MEN STUDY


National Centre in HIV Epidemiology & Clinical Research, Sydney, NSW, Australia; National Centre in HIV Social Research, Sydney, NSW, Australia; AIDS 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 (39.9%). For sex with other partners they mainly agreed to always use condoms (53.3%) 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.
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 is 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 outlined. Partnerships with other services and how they are developed, formalised and maintained are also described.

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 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.

The outcome thus far are: 830 PWHA's identified, 4899 counseling sessions, 1532 HIV testing, 9417 visits by PWHA, 15119 general clients visit 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 is key to revival of hope, family bonding, dignity* Good quality healthcare can be delivered by family members of PWHA* Respecting health needs of PWHA's at their doorsteps increases compliance* Care propels prevention.
P40 THE NAPWA INTERNATIONAL PORTFOLIO

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The National Association of People Living with HIV/AIDS (NAPWA) has been operating an International Portfolio since the early 1990s. Over the past five years, this activity has steadily increased, and the South-East Asian region has become more a focus for the work of the networks.

NAPWA is the recognised Australian representative body for the Asian Pacific Network of Positive People (APN+), and has had representatives involved in this network for more than a decade. More recently, 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, skill development, study tours, mentoring, twinning, and specific resource development projects.

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 NAPWAs consultation for needs analysis, program design and the implementation of these programs.

Relationships currently established include APN+, the Global network of Positive People (GPN+), Australian Red Cross, United Nations Development Program (UNDP), ASHM, and the Australian Foundation for Peoples of Asia and the Pacific (AFAP), Body Positive New Zealand, Pacific Islanders AIDS Foundation (PIAF), I OAT Hope network (IPNG), and the beginning of contacts in East Timor.

This presentation will also discuss the broader policy objectives 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.

HIV & WELLNESS: A QUEENSLAND RESPONSE

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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 health care.

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 difficult clients; management tips for recreational drug use; pharmacology of HIV antiretrovirals and recreational drugs; neurocognitive effects of HIV; and an examination of evidence based management principles.

This poster will examine the responses to the evaluation questionnaire. What will it do differently in my clinical practice, as a result of attending this workshop?


Best E 1, Palasanthiran P 1, Ziegler J B 1
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The Paediatric HIV Service at Sydney Children's Hospital, Randwick has managed affected children and families since the beginning of the HIV epidemic. This retrospective review describes the changing epidemiology of paediatric HIV in a major paediatric HIV centre in Australia. The aims of the review were to document the model(s) of paediatric HIV infection before and after the introduction of blood screening in 1985 (MTCT), to document clinical course of HIV infected children before and after the introduction of HAART (highly active anti-retroviral therapy), and finally to document the current clinical status of perinatally exposed non-HIV infected and HIV infected children.

120 charts of HIV exposed or infected children were reviewed. Of the 42 infected children, 21% were from sources other than perinatal transmission. The vast majority of these were infected before 1985. Of those perinatally infected, the majority (70%) were born before intervention strategies were available. For HIV infected children managed pre HAART, growth was slower and mortality higher, compared to children managed in the post HAART era.

The review demonstrates that since the introduction of blood product screening in Australia in 1985, MTCT now represents the major mode of HIV infection in children. Preventative intervention strategies introduced in 1994 have dramatically decreased MTCT. The rate of perinatally infected children thus correlates with maternal knowledge of diagnosis prior to delivery and argues in favour of a universal antenatal HIV screening strategy. For infected children, the introduction of HAART has improved the quality of life and slowed clinical progression of disease.

SEX IN THE CITY – CHAPTER TWO

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We have previously reported on a cluster of heterosexually acquired HIV infection in Sydney and now continue the story. In early January 1999 an 18-year old female presented to ASHC following an HIV diagnosis by a General Practitioner. Two male partners, both from Pattern II countries 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.

In early 2001 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 contact traced in the context of a police investigation, and one was identified as having HIV infection.

In summary we report the heterosexual transmission of HIV to six women in Sydney, over a five year period. A number of significant issues were highlighted as a result of the investigation of this cluster of women, which impact on patients and services. These issues will be fully discussed and include: determinants of patient infectivity; heterosexual transmission identification in a low prevalence setting; clinician public health responsibilities; patient reproductive health responsibility and factors determining compliance; clinical service policies and procedures; confidentiality issues; and contract tracing in the context of HIV.
Anal cancer is generally a rare malignancy. However, it is the 4th most common malignancy among the HIV infected, with a relative risk of 34 compared to the general population. Furthermore, anecdotal, and some epidemiological data, suggest that the incidence is increasing.

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 squamous cell cancer. Cases were identified from the pathology database of the hospital.

Of the 82 cases of anal cancers identified, the proportion known to be associated with HIV infection rose from 16% (1 of 6) in 1994 to 68% (5 of 7) in 2000. Compared to the uninfected, those with HIV infection presented at an earlier age, were more likely to have poorly differentiated histology, had more frequent recurrences and had a higher rate of treatment-related complications.

Current management strategies for anal cancer have been developed for the HIV negative community. Our data suggest that the evolving HIV epidemic may significantly change the frequency and modes of presentation of people with anal cancer. Furthermore, treatment regimes may need to be modified in view of the higher rates of recurrence.

Further research is required to confirm these findings, and to evaluate the possible role of preventative screening programs.

AP4
ANAL SQUAMOUS INTRAEPITHELIAL LESIONS – DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS
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Anal Squamous Intraepithelial Lesions (ASILs), are the suspected precursors of invasive anal carcinoma. Although anal carcinoma is a rare malignancy, anecdotal and epidemiological evidence suggests that its incidence is increasing, particularly among HIV infected homosexual/bisexual men. It is now the fourth common malignancy among the HIV infected. Using the analogy of CIN (Cervical Intraepithelial Neoplasia), it has been suggested that early diagnosis and treatment of ASIL may reduce the incidence of anal cancer.

Little is known about the epidemiology and clinical characteristics of ASIL. We therefore sought to investigate the characteristics of people presenting with ASIL. A retrospective analysis of medical files of 90 patients who had a histological diagnosis of ASIL was carried out. The demographic details, HIV status and CD4 counts, presenting symptoms, initial and histology diagnoses were recorded.

The study population consisted mainly of young HIV positive, homosexual/bisexual males. Only 37% were clinically diagnosed as likely to have ASIL prior to biopsy with a wide range of differential diagnoses initially being considered. In particular, anal warts were difficult to differentiate from ASIL from macroscopic appearance alone.

These results indicate that ASILs are often asymptomatic and are coincidentally found at biopsy. ASIL is therefore significantly under diagnosed. It is often diagnosed coincidentally at biopsy. The progression and regression rates of ASIL are currently poorly defined, and the clinical significance is unclear. However, our study suggests that a high index of suspicion should be maintained, especially in high risk patients, particularly those with anal warts.
Seventeen individuals were defined as sustained non-progressor and sustained viral control. Sustained non-progression and sustained viral control were defined in terms of the time-weighted area under the curve of viral load. Patients with sustained viral load below 4 log copies for 5 years were included in the analysis. There was no relationship between the diversity of a HLA class I allele and sustained non-progression. The association was found between possession of a HLA A32 allele and sustained non-progression suggesting that it may protect against HIV disease progression.
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 pressures, 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 leads 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 to the use of marijuana for therapeutic purposes.

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Of all respondents, 26.5% reported using marijuana for therapeutic purposes. Of those who report some therapeutic use (n=106), 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.

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The number of HIV/AIDS cases in Papua New Guinea (PNG) is on the rise and is becoming of increasing importance to mental health for a number of reasons. For those diagnosed with HIV/AIDS, there are problems of adjustment to a diagnosis of HIV and or AIDS with attached stigma, there is reactive depression and potential risk of suicide, personality disorder, shock and denial of the diagnosis, uncertainty of the prognosis and potential of adjustment to a diagnosis of HIV and or AIDS with themselves infected but are providing care for those living with HIV and/or AIDS. HIV infection also has direct alcohol among Papua New Guineans poses an increasing risk to HIV infection. HIV/AIDS also has the capacity to induce psychological symptoms in those who are not themselves infected but are providing care for those living with HIV and/or AIDS. HIV infection also has direct neurological consequences. This paper highlights the mental and emotional aspects of HIV/AIDS in PNG as this area is not currently addressed and emphasises the need for a social research in mental and psychological aspects of HIV/AIDS among people living with HIV/AIDS in PNG.

The impact evaluations have shown an increase in awareness and knowledge and some increase in behavioural intention. The increase in distribution of condoms and HIV materials since 2001 reflect an increase in the 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 behavioural change.

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 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 sexual partnering, 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.
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 (imp), 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 imp or nups. Mammalian cell transfection experiments using GFP- and DsRed2-Vpr fusion protein constructs indicated that both the N- and C-terminus 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 cytoplasmic Vpr localisation, presumably through interaction with other HIV-1 components.

A yeast 2-hybrid analysis identified two human nups, HcG1 and HcCAN as potential binding partners of the Vpr N-terminus, implying that Vpr can interact directly with nups without the requirement for impms. Antibody staining to Nup68, a member of the ICAN nup complex, but not nup62 fociated differently in the NPC, revealed colocalisation with HcCAN.

This study provides evidence for the existence of a novel nuclear import pathway for Vpr through direct binding and interaction with nups via its N-terminus. Preliminary experiments using the specific nuclear export inhibitor Leptomycin B implicated a nuclear export sequence within the Vpr C-terminus. Vpr subcellular localisation thus may be modulated by competing import and export pathways; since Vpr plays a key role in PIC nuclear import, the results here may have therapeutic applications.
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 monocyte-derived DCs. The cellular receptors for VV binding are yet to be elucidated but we speculate that C-type lectin receptors (CLR) are important for initial binding of the virus to DCs, as is the case for HIV.

A technique called spincollection, 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 GPP 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 cytometric 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.

Infectivity of fluorescently labelled virus was assessed using Western blotting. Virus produced in 293 cells co-transfected with fluorescently labelled Vpr constructs (EGFP-Vpr1-96, GFP-Vpr1-96, p6gag. The data question the suitability of the GFP-Vpr and Vpr constructs expressing GFP-Vpr and EGFP-Vpr such as infected with high titre HIV (Bal strain) in parallel to NL4.3wt or NL4.3 lacking Vpr (NL4.3∆Vpr) and either NL4.3wt or NL4.3-lacking Vpr (NL4.3∆Vpr) was examined for the incorporation of the fluorescently labelled Vpr constructs into virion using 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 GFP-Vpr construct appeared to be proteolytically cleaved from the C-termimmunity 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 NL4.3∆Vpr. Virus containing fluorescently labelled Vpr was consistently less infectious than NL4.3wt and this was more pronounced in γ-irradiated cells.

Infectivity with fluorescently labelled Vpr containing virus was even lower than that of NL4.3 Vpr. Virus containing fluorescently labelled fragment had 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 p6gag 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 p6gag. 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-cycling 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 back 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 dissemination of the virus throughout the host. The main C-type lectin receptors (CLRs) expressed on the surface of DCs are DC-SIGN (dendritic cell specific ICAM-3 grabbing non-integrin), the mannose receptor (MR) and langerin (Langerhans cells) but other receptors are also expressed. Previous studies have shown that CLRs on monocyte derived dendritic cells (MDDCs) and LCs bind viral gp120 preferentially compared to CD4 and its co-receptors CCR5/CXCR4. In particular, much focus has been placed on DC-SIGN as the primary CLR to bind gp120 on MDDCs. However, we have shown that there are multiple CLRs on different DC subsets that participate in binding gp120 by mannan inhibition studies. Inhibition of gp120 binding by mannan on immature dermal DCs implicates the possible involvement of one or more other viral attachment factors. Further evidence suggesting that multiple CLRs (and not langerin alone) are involved in gp120 binding on emigrant LCs was shown by a reduction of gp120 binding by 90% on these cells, despite the maintenance of langerin expression over a 24 hour period. The identity of these potential CLRs is yet to be elucidated.

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-DCSIGN, anti-MR and anti-Langerin conjugated beads to eliminate these 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 staining 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.

For some elements, such as the polyadenylation signal, trans functions are be required for the identification of novel surface gp120 binding CLRs. However, we have shown that there are multiple CLRs on different DC subsets that participate in binding gp120 by mannan inhibition studies. Inhibition of gp120 binding by mannan on immature dermal DCs implicates the possible involvement of one or more other viral attachment factors. Further evidence suggesting that multiple CLRs (and not langerin alone) are involved in gp120 binding on emigrant LCs was shown by a reduction of gp120 binding by 90% on these cells, despite the maintenance of langerin expression over a 24 hour period. The identity of these potential CLRs is yet to be elucidated.
**P76**

**NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS CAUSE DECREASED ADIPOCYTE MITOCHONDRIAL (MT) MRNA TRANSCRIPTION IN THE ABSENCE OF CHANGES IN MTDNA COPY NUMBER USING CELLS FROM HIV-INFECTED PATIENTS**

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Long-term NRTI therapy often leads to lipoatrophy. Although NRTIs may inhibit adipocyte DNA polymerase γ, affecting mitochondrial (mt) replication, it is unclear if mtDNA depletion is the primary defect in NRTI induced toxicity.

We examined mtRNA expression, mtDNA copy number and cell morphology in fat biopsies from 20 HIV-infected healthy adult subjects enrolled in a prospective, randomised trial of 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. RNA and DNA were extracted and mtRNA expression and mtDNA copy number measured by real-time RT-PCR. Results are expressed relative to β-actin expression for mtRNA and relative to a nuclear gene copy number (2/cell) for mtDNA.

Baseline level.

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Week 2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>COX1 mRNA</td>
<td>1.84±1.2</td>
<td>0.54±1.7</td>
</tr>
<tr>
<td>COX1 mRNA</td>
<td>0.7±1.2</td>
<td>1.4±1.9</td>
</tr>
<tr>
<td>Cyt c mtRNA</td>
<td>1.38±1.4</td>
<td>1.3±1.4</td>
</tr>
<tr>
<td>mtDNA (mg/cell)</td>
<td>83±31</td>
<td>71±32</td>
</tr>
<tr>
<td>Fat cell count (Cells/mm2)</td>
<td>62±25</td>
<td>50±34</td>
</tr>
</tbody>
</table>

Table: Values are median [IQR]. Tp=high/high-predicted field.

Independent of HIV-infection, exposure to AZT/3TC or d4T/3TC decreases mtDNA transcription 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 means 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.

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**P77**

**CROSPEERATION OF PERIPHERAL BLOOD MONONUCLEAR CELLS (PBMCs) USING A PROGRAMMABLE CONTROLLED RATE FREEZING UNIT HELPS PRESERVE LYMPHOCYTE IMMUNE PHENOTYPE AND FUNCTION**

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Non-progressive HIV-1-infected therapy naïve individuals, who have been infected for 20+ years, may harbor clues 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-infection of the study subject's PBMC with 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-progressive HIV-infected individuals, there is post-entry 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 HIV-p24-specific helper T cell proliferative responses, and high-level IFN-gamma release by both CD4 and CD8 T cells, were associated with 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 immunotherapeutics or vaccines against HIV infection.

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**P78**

**ANALYSIS OF TAT GENES RECOVERED FROM LONG-TERM NON-PROGRESSORS INFECTED WITH HIV-1**

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Both exon 1 and 2 of the tat coding region were analysed for functional attributes from the four epidemiologically-linked Canadian cohort, which consists of 3 individuals. These patients have been infected for 20+ years and are expected to have been exposed to two different strains of HIV-1. The two recipients developed AIDS. Full tat gene, comprising of exon 1 and 2, was amplified by RT-PCR from patient plasma samples, over time. Analysis of the primary amino acid sequence revealed that many of these tat genes contained amino acid sequences of mixed subtypes. This feature was not common in the first 20 amino acids, but other regions of Tat which contained higher frequencies of unusual amino acid substitutions including the core domain from aa 39-48, the basic domain from aa 49-57, and in carbonyl-terminal domain (aa 58-72). Here we report the activity of these Tat genes to induce HIV-1 gene expression in a tissue culture model using an HIV-1 LTR reporter plasmid.
The number of individuals infected with a dominant R5 quasiespecies (as determined by genotyping) prior to HAART was 10/11 as compared with 5/12 following HAART (median duration 50 months; range 27 - 208 months). In 3 individuals there was a switch from R5 to X4 viral variants during HAART. Using length polymorphisms in V1-V2 of the env gene was assessed using fluorescently labeled PCR products separated by size on an automated DNA sequencer and analysed by the GeneScan program. Diversity was scored based on the number of peaks and size relative to the maximum peak. X4 variants emerge in individuals receiving HAART. Reduced quasiespecies diversity was associated with immunodeficiency and failure. Confirmation of these findings is required using detailed cloning and sequencing of the C2-V3 region of env.

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 sequence 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 and distance 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 A/D recombinant, was 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 or D. The recently described X4 subtype recombinants 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.

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P83

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