

17TH ANNUAL CONFERENCE OF THE AUSTRALASIAN SOCIETY FOR HIV MEDICINE

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WELCOME LETTER

Dear ASHM members, friends and colleagues,

It is our great pleasure to welcome delegates to Hobart, Tasmania for the 17th Annual ASHM Conference.

The ASHM Conference is Australasia's premier conference in the HIV, hepatitis and related diseases sector. It brings together the range of disciplines involved in HIV and hepatitis management, including basic science, clinical medicine, community programs, education, epidemiology, Indigenous health, international and regional issues, nursing and allied health, policy, primary care, public health and prevention, and social research. Within the program the conference will cover HIV, viral hepatitis and sexual health issues.

The 2005 ASHM Conference is running back-to-back with the Australasian Sexual Health Conference. Wednesday 24 August will feature sessions from both the ASHM and the Sexual Health Conferences. This represents an

excellent opportunity for delegates to attend sessions for both conferences.

ASHM is holding the 1st Australian Consensus Conference on the use of antiretroviral agents in HIV-1 infected adults on the afternoon of Saturday 27 August 2005, after the 2005 ASHM Conference. Following the ASHM Conference and the presentations and discussion at the Consensus Conference, the Antiretroviral Guidelines Panel will synthesise the opinions of the Conference into appropriate Australian commentary. The commentary will then be included in the electronic document. It is the Panel's intention to update the commentary in line with updates in the USA source Guidelines, and to hold an annual Consensus Conference, adjacent the ASHM Conference, to endorse this method of providing Guidelines for the Australasian setting and to review and update the commentary. The Consensus Conference is being held adjacent

to the ASHM Conference to reduce costs, but more importantly it will allow Consensus Conference attendees to benefit from the presentations at the ASHM Conference. The ASHM Board also recognises the importance of providing a forum for debating contentious treatment strategies. Topics considered substantive and substantial by the Antiretroviral Guidelines Panel will be taken into consideration in planning subsequent ASHM Conference programs and extending invitations to international and local speakers.

The ASHM Conference always provides an opportunity for discussion, collaboration and networking. It is a time for our research centres, professional organisations, health care providers, consumer groups and government to meet, to learn and to plan for the future. We hope you enjoy the 17th Annual ASHM Conference and find it a stimulating and innovative meeting.

Associate Professor Elizabeth Dax

President, Australasian Director, National Society for HIV Medicine and Director, Epidemiology and National Serology **Reference Laboratory**

Professor David Cooper Centre for HIV

Clinical Research

Professor Anthony Cunningham Director, Australian Centre for HIV and

Hepatitis Virology

Research

Professor Susan

Kippax Director, National Centre for HIV Social Research

Professor Marian Pitts

Director, Australia **Research** Centre in Sex, Health and Society

The Conference Convenors Group -

Dr Erika Cox

Launceston General Hospital, Launceston, Australia

Dr Heidi Drummer MacFarlane Burnet Institute, Melbourne, Australia

Prof Sharon Lewin Alfred Hospital -Infectious Diseases Unit, Melbourne, Australia

Dr Alistair McGregor

Royal Hobart Hospital & Sexual Health Centre, Hobart, Australia

Dr Johnson Mak MacFarlane Burnet Institute, Melbourne, Australia

Mr Robert Mitchell Tasmanian Council on HIV, Hepatitis & Related Diseases, Hobart, Australia

Dr Alan Pithie

Christchurch Hospital - Infectious Diseases Unit, New Zealand

Dr Jeffrey Post Prince of Wales Hospital, Sydney, Australia

Dr Joe Sasadeusz Victorian Infectious Diseases Service, Melbourne, Australia

Dr David Shaw Royal Adelaide Hospital - Infectious Diseases Clinic, Adelaide, Australia

Mr James Ward

Aboriginal Health and Medical Research Council of NSW, Sydney, Australia

Dr Edwina Wright Alfred Hospital, Melbourne, Australia

Ms Levinia Crooks **Mrs Nadine Giatras Mr Edward Reis Mrs Nicole Robertson** Australasian Society for **HIV Medicine**



In clinical trials approximately 5% of subjects who received abacavir, a component of Kivexa tablets, developed a hypersensitivity reaction, which in rare cases has proved fatal. Kivexa tablets, or any other medicinal product containing abacavir (Trizivir and Ziagen), <u>MUST NEVER</u> be restarted following a hypersensitivity reaction. (see Precautions and Adverse Effects).

KIVEXA tablets – abacavir 600 mg (present as sulfate) and lamivudine 300 mg; Indication: HIV infection (in combination with other antiretrovirals) in adults and adolescents from 12 years of age. **Dose:** Adults and adolescents >12 years – one tablet once daily. **Contraindications:** Hypersensitivity; moderate and severe hepatic impairment. **Precautions:** Abacavir hypersensitivity reaction; lactic acidosis and severe hepatomegaly with steatosis; pregnancy (category B3); lactation; hereditary fructose intolerance, paediatric use. **Adverse events:** Hypersensitivity; GI upset; headache, malaise; fatigue; anorexia; fever; hyperlactataemia, arthralgia, muscle disorders. This is not a full list – refer to full PI. **Interactions:** Retinoids (theoretical), trimethoprim, zalcitabine – see full PI. Please review Product Information before prescribing. Full Disclosure Product Information is available from GlaxoSmithKline Australia Pty Ltd (ABN 47 100 162 481), 1061 Mountain Highway, Boronia, Vic 3155. Kivexa®, Trizivir® and Ziagen® are trade marks of the GlaxoSmithKline group of companies.

PBS Information: This product is not listed on the PBS.

See boxed warning regarding abacavir hypersensitivity



GlaxoSmithKline Australia Pty Ltd, 1061 Mountain Highway, Boronia VIC 3155, Australia. www.gsk.com.au ABN 47 100 162 481. Kivexa® is a trade mark of the GlaxoSmithKline group of companies. Wellmark GSK11030 PC050815

REVIEWERS

| Brent | Allan | .Victorian AIDS Council/Gay Men's Health Centre (VAC/GMHC) |
|-----------|------------|---|
| Colin | Batrouney | . Victorian AIDS Council / Gay Men's Health Centre |
| Marcus | Bogie | AIDS Action Council of the ACT |
| Mark | Boyd | . Flinders Medical Centre |
| Sally | Cameron | Australian Federation of AIDS Organisations |
| Marina | Carman | Australasian Society for HIV Medicine |
| Stevie | Clayton | AIDS Council of NSW |
| Chris | Clementson | Australian Federation of AIDS Organisations |
| Erika | Сох | Launceston General Hospital |
| Suzanne | Crowe | .Macfarlane Burnet Institute |
| Rosey | Cummings | .Melbourne Sexual Health Centre |
| Denise | Cummins | .Redfern Community Health Centre |
| Philip | Cunningham | .St Vincent's Hospital, Sydney |
| Elizabeth | Dax | National Serology Reference Laboratory |
| Heidi | Drummer | .Macfarlane Burnet Institute |
| Janelle | Fawkes | National Association for Sex Workers and Sex Worker Organisations |
| Rosemary | Ffrench | .Macfarlane Burnet Institute |
| Rick | Franklin | Auckland Sexual Health Centre |
| Martyn | French | .Royal Perth Hospital |
| Roger | Garsia | .Royal Prince Alfred Hospital |
| Marisa | Gilles | .Combined Universities Centre for Rural Health |
| Paul | Goldwater | .Women's and Children's Hospital |
| Carla | Gorton | Australasian Society for HIV Medicine |
| Rebecca | Guy | .Macfarlane Burnet Institute |
| Philip | Habel | Interchange General Practice |
| Jenny | Heslop | North Coast Area Health Service |
| Jennifer | Ноу | .Alfred Hospital |
| Brian | Hughes | .Clinic 34 |
| Anthony | Jaworowski | .Burnet Institute |
| Mark | Johnson | .Macfarlane Burnet Institute |
| John | Kaldor | .National Centre in HIV Epidemiology and Clinical Research |
| Phillip | Keen | Australian Federation of AIDS Organisations |
| Alison | Kesson | . The Children's Hospital at Westmead |
| Susan | Кіррах | National Centre in HIV Social Research |
| Carolyn | Lang | .Princess Alexandra Hospital |
| Sharon | Lewin | .Alfred Hospital |
| Johnson | Mak | .The Burnet Institute |
| Deborah | Marriott | .St Vincent's Hospital |
| Cipri | Martinez | .National Association of People Living with HIV/AIDS |

REVIEWERS

| Gabe | McCarthy National Association of People Living with HIV/AIDS |
|-----------|--|
| Alistair | McGregor |
| Maria | McMahon National Association for Sex Workers and Sex Worker Organisations |
| Dale | McPhee National Serology Reference Laboratory |
| Robert | Mitchell |
| Catherine | O'Connor |
| Elizabeth | O'Neil |
| Cathy | Pell |
| Alan | Pithie |
| Marian | Pitts |
| Jeffrey | Post |
| Patricia | Price |
| John | Quin South West Sydney Area Health Service |
| Vanessa | Read |
| Edward | Reis |
| Norm | Roth |
| John | Rule |
| Darren | Russell |
| Dermot | Ryan |
| Cindy | Shannon University of Queensland |
| David | Shaw |
| Tuck Meng | SooInterchange General Practice |
| Graeme | Stewart |
| Alan | Strum |
| David | Sutherland Nineways Specialist Clinic |
| Kelly | Tank |
| James | Ward Aboriginal Health and Medical Research Council of NSW |
| Ashley | Watson |
| Matthias | Wentzlaff-Eggebert AIDS Council of South Australia (ACSA) |
| lan | Woolley |
| Rudyard | Yap |
| John | Ziegler |



PROGRAM AT A GLANCE



WEDNESDAY 24 AUGUST 2005

| 7.30am | Registration | | | | |
|----------------------|--|---|---|--|--|
| | | | | | |
| 0.002m 10.202m | ASHM Opening Ceremony | Proffered Papers Session: Medical | | | |
| 9.004111 - 10.304111 | Concert Hall | | Ballroom North/Centre | | |
| 10.30am - 11.00am | Morning Tea in Exhibition & Poster A | rea - Federation Ballroom | | | |
| 11.00am - 12.30pm | Synergies with Sexual Health (HSV) - Conduit Plenary with Sexual Health Symposium - Basic Science - Immunology | | | | |
| | Concert Hall | | Ballroom North/Centre | | |
| 12.30pm - 1.30pm | Lunch in Exhibition & Poster Area - F | ederation Ballroom | | | |
| | · | | | | |
| 12.30pm - 1.30pm | Launch of the National Centre in HIV Epidemiology and Clinical Research Annual Surveillance Report of Viral Hepatitis/STIs and the National Centre in HIV Social Research Annual Report of Behaviour on HIV/ Hepatitis & STIs in Australia | | | | |
| | Sullivans Room | | | | |
| | | | | | |
| 1.30pm - 3.00pm | Joint Concurrent Session: Current Issues in Clinical Management | Concurrent Session - Basic Science - Immunity and Pathogenesis | Concurrent Session - Challenges to Prevention and Management: Programs and Policy | | |
| | Concert Hall | Ballroom North/Centre | Ballroom South | | |
| 3.00pm - 3.30pm | Afternoon Tea in Exhibition & Poster | Area - Federation Ballroom | | | |
| 3.30pm - 5.00pm | Concurrent Session - Social Research - Injecting and Hepatitis C | Concurrent Session - Clinical Basic Science | Sexual Health Conference Plenary: Sex and the Internet and Conference Closing | | |
| | Concert Hall | Ballroom South | Ballroom North/Centre | | |
| 5 00mm (00mm | Oral Poster Session - Clinical Medicine, Epidemiology, International and Nursing Streams | | | | |
| 5.00pm - 6.00pm | Federation Ballroom | | | | |
| E 00mm (00mm | Futures 4 Forum: Drilling into the Data | | | | |
| 5.00pm | Ballroom South | | | | |
| 7.00pm - 11.00pm | Joint Gala Conference Dinner at City Hall | | | | |

THURSDAY 25 AUGUST 2005

| 7.30am | Registration | | | | |
|--------------------|---|--|--|--|--|
| | | | | | |
| 0.000m 10.200m | Plenary - Collective Insight | s | | | |
| 9.00am - 10.30am | Concert Hall | | | | |
| 10.30am - 11.00am | Morning Tea in Exhibition & Poster Area - Federation Ballroom | | | | |
| 11.00am - 12.30pm | Debate - Clinical Medicine - All people with HIV Should Have Access to Transplantation | Symposium - Basic Science - Immunopathogenesis and New Challenges for Vaccines | Concurrent Session - Social Research - Sentinel | Symposium - AusAID - Feminisation of HIV | |
| | Concert Hall | Ballroom North | Ballroom Centre | Ballroom South | |
| 12.30pm - 1.30pm | Lunch in Exhibition & Poste | er Area - Federation Ballroom | L | | |
| | | | | | |
| 12 20nm - 1 20nm | 2.30pm - 1.30pm Sullivans Room | | | | |
| 12.300111-1.300111 | | | | | |
| | | | | | |
| 1.30pm - 3.00pm | Concurrent Session - Clinical Medicine - Complications of Therapy | Concurrent Session - Basic Science - Replication | Concurrent Session - Community - PLWHA in the Community - Phillip Medcalf Memorial Session | Concurrent Session - Policy - CALD Session | |
| | Concert Hall | Ballroom North | Ballroom Centre | Ballroom South | |
| 3.00pm - 3.30pm | Afternoon Tea in Exhibition & Poster Area - Federation Ballroom | | | | |
| | | | | | |
| 2 20nm 5 00nm | Oral Poster Session - Comm | unity and Public Health & Pr | evention Streams | | |
| 5.50pm - 5.00pm | Federation Ballroom | | | | |
| | | | | | |
| 3.30pm - 5.00pm | Concurrent Session - Clinical Medicine - Hepatitis | Concurrent Session - Epidemiology - Overview | Concurrent Session - International - Implementing Treatment | Concurrent Session - Issues in HIV Nursing and Allied Health | |
| | Concert Hall | Ballroom North | Ballroom Centre | Ballroom South | |
| 5.30nm - 7.00nm | Future Shock: A Hypothetical About HIV in Australia in Ten Years' Time | | | | |
| 5.50pm 7.00pm | Ballroom South | | | | |

FRIDAY 26 AUGUST 2005

| 7.30am | Registration | | | |
|-------------------|--|--|---|---|
| | | | | |
| 7.20 | Case Presentation Breakfast | | | |
| 7.30am - 9.00am | Ballroom South | | | |
| 0.00 | Plenary: Contemporary Cha | allenges | | |
| 9.00am - 10.30am | Concert Hall | | | |
| 10.30am - 11.00am | Morning Tea in Exhibition & Poster Area - Federation Ballroom | | | |
| 11.00am - 12.30pm | Symposium - International - Policy | Symposium - Clinical Medicine - Hep B: Development of Resistance/Combination Therapy | Symposium - Community - HIV Research Community Perspectives | Symposium - Basic Science - New Prospects for Antivirals |
| | Ballroom North | Ballroom Centre | Ballroom South | Sullivans Room |
| 12.30pm - 1.30pm | Lunch in Exhibition & Poster Area - Federation Ballroom | | | |
| 1.30pm - 3.00pm | Symposium/Open Forum - Clinical Medicine & Policy - HIV and Migration | Concurrent Session - Social Research - Workforce Qualitative | Concurrent Session - Clinical Medicine - Cardiovascular and Lipodystrophy | Concurrent Session - Basic Science - Six Degrees of Investigation |
| | Ballroom North | Ballroom Centre | Ballroom South | Sullivans Room |
| 3.00pm - 3.30pm | Afternoon Tea in Exhibition & Poster Area - Federation Ballroom | | | |
| 3.30pm - 5.00pm | Concurrent Session - Clinical Medicine - Advances in Therapy | Concurrent Session - Epidemiology - MSM - Margaret MacDonald Memorial Session | Concurrent Session - Current Issues in Primary Care - Peter Meese Memorial Session | Concurrent Session - International - PNG |
| | Ballroom North | Ballroom Centre | Ballroom South | Sullivans Room |
| 5.00pm - 6.30pm | Conference Reception in Exhibition & Poster Area - Exhibition Hall | | | |

SATURDAY 27 AUGUST 2005

| 7.30am | Registration | | | | |
|-------------------|--|--|---|--|--|
| | | | | | |
| 0.00pm 10.20pm | Plenary: Understanding HIV Pathogenesis and Treatment | | | | |
| 9.00am - 10.30am | Ballroom North/Centre | | | | |
| 10.30am - 11.00am | Morning Tea in Exhibition & Poster Area - Federation Ballroom | | | | |
| 11.00am - 12.15pm | Symposium- Clinical Medicine - Contentious & Emerging Issues - Ian Thompson Memorial Session | Symposium - ACON/NSW Health Session | Symposium - International - Testing Testing Is This Thing Working? | Symposium - Current Issues in Public Health and Prevention | |
| | Ballroom North/Centre | Ballroom South | Sullivans Room | Meehan's Private Dining Room | |
| 12 15nm 12 45nm | Closing ASHM Conference | | | | |
| 12.15pm - 12.45pm | Ballroom North/Centre | | | | |
| 12.45pm - 1.30pm | Lunch in Meehans Restaurant for registrants of the Consensus Conference | | | | |
| | Consensus Conference | | | | |
| 1 20 | Ballroom North/Centre | | | | |
| 1.30pm - 3.15pm | When to Commence Antiretroviral Therapy | | | | |
| | The Management of Primary HIV Infection | | | | |
| 3.15pm - 3.30pm | Afternoon Tea - Meehans Restaurant | | | | |
| | Consensus Conference Continued | | | | |
| 3.30pm - 5.30pm | Preferred First Line Regimens | | | | |
| | The Role of Resistance Testing | | | | |
| 5.30pm | End | | | | |





Dr Paul Bieniasz

Dr Paul Bieniasz received his PhD from Imperial College, University of London in 1996. Thereafter, he moved to Duke University, North Carolina, USA where he was a Howard Hughes post-doctoral fellow in the laboratory of Bryan Cullen. In 1999, he was recruited to the Aaron Diamond AIDS Research Center as a Staff Investigator and Assistant Professor at Rockefeller University. Promotion to Aaron Diamond Associate Professor followed in 2003, and in 2004 the Rockefeller University appointed him Head of the Laboratory of Retrovirology. Dr Bieniasz's past studies have included work on the molecular biology of HIV-1 entry and transcription. In recent years, however, his laboratory has focused on the mechanisms of retrovirus assembly, particularly the role of host cell factors in promoting enveloped virus particle release. A second area of interest is the mechanism by which host proteins cause resistance to retrovirus infection.

The Aaron Diamond AIDS Research Center 455 First Avenue NEW YORK NYC USA 10016

Professor John Coffin

John Coffin is American Cancer Society Research Professor and Distinguished Professor of Molecular Biology and Microbiology at Tufts University School of Medicine. He is also the Director of the HIV Drug Resistance Program at the National Cancer Institute in Frederick, Maryland. Before moving to Tufts, he trained in the laboratories of Howard Temin, University of Wisconsin, and Charles Weissmann, University of Zurich. He was one of the first to apply genomic analysis to understand the biology of retroviruses, including their genetic organisation, mechanism of replication, recombination and transduction. His work has also probed the theoretical basis of retrovirus-host association, including the use of inherited proviruses to understand the co-evolution of retroviruses and their hosts, and the evolution of HIV in infected individuals. He has been heavily engaged in public policy issues related to retroviral disease. He was elected to the National Academy of Sciences in 1999.

National Cancer Institute NCI-Frederick PO Box B Building 535 FREDERICK MD USA 21702-1201

Professor David Cooper

David Cooper is Scientia Professor of Medicine at the University of New South Wales, is Director of the National Centre in HIV Epidemiology and Clinical Research, Sydney, Australia. The National Centre is funded by the Australian Government Department of Health and Ageing, to conduct research into the HIV/AIDS epidemic in Australia with the ultimate aim of reducing the burden of the HIV/AIDS epidemic for the affected community.

In addition to the National Centre, Professor Cooper is Head of the Immunology/HIV/Infectious Diseases Clinical Service Unit at St Vincent's Hospital, Sydney, one of the largest inpatient and outpatient services for the treatment of HIV disease in Australia. He is co-Director of the St Vincent's Hospital Medical Research groups. Professor Cooper is an author on over 390 published scientific papers and is on the editorial boards of several international journals.

Internationally, Professor Cooper is recognised as a leading HIV clinician and clinical investigator. He is a past President of the International AIDS Society. He is a Director of HIVNAT, a clinical research and trials collaboration based at the Thai Red Cross AIDS Research Centre at the Chulalongkorn University Hospital in Bangkok, Thailand

Faculty of Medicine, UNSW St Vincent's Medical Centre Level 2, 376 Victoria Street SYDNEY, NSW 2010 AUSTRALIA

Associate Professor Bruno Cotter

Bruno R. Cotter, MD, is an Assistant Professor of Clinical Medicine in the Division of Cardiology at the University of California, San Diego (UCSD). He is presently an Attending Physician in the Cardiology Division and is mostly active in the echocardiography laboratory.

Over the past ten years, Dr Cotter has been involved in echocardiography research, most particularly in contrast echocardiography. He has been coinvestigator in many clinical studies involving contrast echocardiography.

He has also extensively published in peer-reviewed journals, including *Circulation* and *Journal of the American College of Cardiology* and has been invited to present his work at numerous national and international meetings. He is presently the principal investigator in a clinical trial involving cardiac MRI and regression of myocardial hypertrophy.

His main interest now is in the application of noninvasive methods, mostly ultrasound, to detect early

manifestations of coronary artery disease in HIVinfected subjects and has published a manuscript on endothelium dysfunction using ultrasound in HIVinfected patients.

He is a member of the AACTG (Adult AIDS Clinical Trials Group) committee on HIV and cardiovascular complications

University of California 200 West Arbor Drive SAN DIEGO USA 92103-8951

Professor Anthony Cunningham

Anthony Cunningham completed his undergraduate training MBBS, B.Med.Sci. in 1972, and then his doctoral thesis in infectious diseases in 1980.

From 1981 to 1983 he was an NHMRC Applied Health Sciences Fellow at the Division of Infectious Diseases, Stanford University, USA. In 1984 he was appointed Director of the Virology Department (State Reference Laboratory of Virology) of the Institute of Clinical Pathology and Medical Research and consultant physician in the Infectious Disease Unit at Westmead Hospital until his current appointment in June 1996.

His longstanding research interests focus on lifethreatening viral infectious diseases, especially basic biology, pathogenesis, epidemiology, diagnosis, vaccine prophylaxis and anti-viral treatment of HIV and herpesvirus infections. Most recently he is developing Herpes Simplex virus as a gene therapy vector for conveying anti-cancer and other genes into the central nervous system and microbicides to prevent the transmission of HIV.

He is now Director of the Westmead Millennium Institute and Research Centres at Westmead Hospital and Director of the Centre for Virus Research, Clinical Stream Director of Research, Sydney West Area Health Service, Professor of Research Medicine and Sub-Dean (Research) Western Clinical School, the University of Sydney and since 2003 Director of the Australian Centre for HIV and Hepatitis Virology Research (ACH2).

Centre for Virus Research PO Box 412 WESTMEAD NSW 2145 AUSTRALIA

Dr Daniel Douek

Daniel C. Douek is an Investigator at the Vaccine Research Center of the National Institutes of Health, and Chief of the Human Immunology Section. He studied medicine at the University of Oxford where he trained in the laboratory of Andrew McMichael. After qualifying, he practised internal medicine before doing a PhD in Immunology at the University of London. He continued his postdoctoral training in the USA with Richard Koup where he performed innovative studies on the role of the thymus in health and diseases such as HIV. Currently his work focuses on defining the many mechanisms by which HIV causes disease and analysing the dynamic interplay between the virus and the specific response it elicits.

National Institutes of Health Vaccine Research Center 40 Convent Drive BETHESDA MD USA 20892

Associate Professor Ed Gane

Since graduating from the University of Otago, Dr Ed Gane trained in Hepatology at the Institute of Liver Studies, Kings College School of Medicine, London, where he completed his thesis on the pathogenesis of hepatitis C.

On his return to New Zealand in 1996, he became Chief Hepatologist for the New Zealand Liver Transplant Unit and Auckland Hepatoma Clinic and Hepatitis clinics. He is the Clinical Advisor to the National Hepatitis B Screening Program and Principal Investigator for several clinical trials of antiviral therapies for HBV and HCV.

Associate Professor Gane is vice-president of the Asia Pacific Association for the Study of the Liver and member of the American Association for the Study of Liver Diseases, the Transplant Society of Australia and New Zealand and Gastroenterology Societies of New Zealand and Australia.

Associate Professor Gane has published over 50 first author papers, including in the *Lancet*, *New England Journal of Medicine*, *Gastroenterology* and *Hepatology*.

New Zealand Liver Transplant Unit Auckland Hospital AUCKLAND, NEW ZEALAND

Associate Professor Andrew Grulich

Andrew Grulich is a medical epidemiologist. He is Associate Professor and Head of the HIV Epidemiology and Prevention Program at the National Centre in HIV Epidemiology and Clinical Research at the University of New South Wales. He is a principal investigator on the HIM (Health in Men) cohort study of sexually transmissible infections in homosexual men. He chairs the New South Wales Health Department's HIV and STI Health Promotion Committee, sits on the Federal Government's HIV and Sexually Transmissible Infections Committee, and is a past president of the Australasian Society for HIV Medicine.

National Centre in HIV Epidemiology and Clinical Research Level 2, 376 Victoria Street SYDNEY, NSW 2010 AUSTRALIA

Associate Professor Jenny Hoy

Associate Professor Jennifer Hoy is an Infectious Diseases Physician, and Head of the Clinical Research Unit of the Infectious Diseases Department Alfred Hospital in Melbourne. She has been involved in clinical research and HIV primary care for the last 17 years and has witnessed the changes in management of HIV infection over that time. She has served as member and chair of several working groups of the National Centre for HIV Epidemiology and Clinical Research since 1991. and has also served on the National Executive of the Australasian Society in HIV Medicine for 10 years, including 2 years as President of the Society in 2000-2001. She was co-editor of the 4th ASHM Monograph on the Management of HIV in Australasia, and took a leading role in the Australian Antiretroviral Guidelines.

Alfred Hospital Commercial Road MELBOURNE VIC 3004 AUSTRALIA

Professor Anne Johnson

Professor Anne Johnson is Head of the Department of Primary Care and Population Sciences at University College London and Professor of Infectious Disease Epidemiology. Her major research interest is in the epidemiology and prevention of HIV, STIs and infectious diseases. From 1985 to 1999 she directed the Medical Research Council UK HIV Epidemiology Coordinating Centre. She was Principal Investigator on the British National Surveys of Sexual Attitudes and Lifestyles in 1990 and 2000. She is a former editor of *AIDS*. She is currently a member of the MRC Infection and Immunity Board, and Sexual Health and HIV Research Strategy Committee. She is a member of the Department of Health Specialist Advisory Committee on antimicrobial resistance; chair of the HPA HIV unlinked anonymous serosurveys steering group; and member of the International Society for Sexually Transmitted Disease Research Board.

University College London Department of Primary Care and Population Sciences Royal Free Campus Rowland Hill Street LONDON, UNITED KINGDOM NW3 2PF

Dr Michel Kazatchkine

After completing medical school at Necker-Enfants Malades in Paris, Michel Kazatchkine trained as a specialist in internal medicine and nephrology as a resident of the Paris University hospital system. At the same time, he studied immunology at the Institut Pasteur and became increasingly involved in the care and management of systemic and immune-based diseases. In 1976, Michel moved to London as a postdoctoral fellow at St Mary's Hospital before moving to Boston to study under Professor K. Frank Austen, in the Department of Immunology and Rheumatology, Brigham Hospital and Harvard Medical School.

Michel Kazatchkine set up one of the first clinics in Paris to care for LAV-positive patients. The clinic now has over 1,500 patients. He has authored and coauthored over 400 articles in peer-reviewed journals.

Michel Kazatchkine was appointed director of the French National Agency for AIDS (ANRS) in 1998. In the last six years, this has included some of the earliest trials to prevent mother-to-child transmission of HIV and the first clinical trials of new regimens of antiretroviral drugs in the developing world. Since 2004, he has been appointed Chair of the Scientific and Technical Advisory Group on HIV/AIDS to the World Health Organization in Geneva. Michel is also the Chair of the Technical Review Panel of the Global Fund and has been recently appointed as France's Ambassador for AIDS by President Chirac.

Departement D'Immunologie Clinique Ministry of Foreign Affairs 20 rue Monsieur PARIS, FRANCE, 75007

Professor Simon Mallal

Professor Simon Mallal is Director of the Centre for Clinical Immunology and Biomedical Statistics at Royal Perth Hospital and Murdoch University in Western Australia. He has managed patients in Perth with HIV disease since 1987 and also cares for patients with autoimmune and allergic disease and supervises the associated routine diagnostic immunology and molecular biology laboratory. He is a Clinical Immunologist trained in Internal Medicine and Pathology and completed a Post-Doctoral Fellowship in Infectious Diseases at Johns Hopkins Medical School.

He has had a long interest in the Major Histocompatibility Complex and genetic influences on clinical outcomes in HIV and other diseases. He has recently focussed on HIV and Hepatitis C adaptation to HLA-restricted immune responses and the implications of this for vaccine immunogen design. His group also study the genetics and pathogenesis of abacavir and nevirapine hypersensitivity in collaboration with investigators in Australia, Europe and North America. His group also study the long-term complications of anti-retroviral therapy with a particular focus on mitochondrial toxicity and subcutaneous fat wasting.

Royal Perth Hospital PERTH WA 6000 AUSTRALIA

Dr Cindy Patton

Cindy Patton holds the Canada Research Chair in Community Culture and Health at Simon Fraser University in British Columbia, and is a Senior Scholar of the Michael Smith Foundation for Health Research. She was an AIDS activist and community organiser throughout the 1980s, and subsequently worked as a researcher and scholar. Her publications include: Inventing AIDS (1990); Last Served? Gendering the HIV Pandemic (1994); Fatal Advice (1996); Queer Diasporas (w/Benigno Sanchez-Eppler 2000) and Globalizing AIDS (2002). She is currently directing a qualitative research lab with a focus on communitybased research. This research program includes analysis of neighbour systems in coping with HIV, with an emphasis on the role of housing and the particular problems of poor people. In addition, she is conducting a study of different understandings of HIV metabolic disorders, including analysis of treatment activists, poor women, and persons with access to HIV/lipids clinical specialists.

Simon Fraser University Department of Sociology and Anthropology Aq 5054 8888 University Drive BURNABY BC, Canada V5A 1S6

Dr Cindy Shannon

Cindy Shannon is the chair of the Indigenous Australians' Sexual Health Committee, a position she has held since 2001. She is currently carrying out the national consultations for the development of the second National Indigenous Australians' Sexual Health Strategy. This includes consideration of strategies to address emerging priorities such as injecting drug use and blood-borne viruses, trends in HIV transmission, and specific target groups in a policy context. Until recently, Cindy was the Head of the Centre for Indigenous Health at the University of Queensland. In this position, she was responsible for the development and implementation of Australia's first degree-level program in primary health care management that specifically targeted Aboriginal and Torres Strait Islander people in the selection process. She has a continuing affiliation with the University and holds an appointment of adjunct Associate Professor in Indigenous Health with the School of Population Health. In addition to the sexual health consultations, Cindy is currently working on a major project with the Queensland Aboriginal and Islander Health Forum, which will provide recommendations on the future delivery of maternal and child health services in Indigenous communitycontrolled health services in Queensland.

Shannon Consulting Services PO Box 335 CARINA QLD 4152 AUSTRALIA

Dr Francesca Torriani

Francesca J. Torriani, MD, is an Associate Professor of Clinical Medicine in the Division of Infectious Diseases (ID) at the University of California, San Diego (UCSD). She serves as Attending Physician in the Owen HIV Clinic, on the In-Patient HIV and ID Services. In addition to research in HIV and HCV infections, Dr Torriani is responsible for the UCSD Infection Control/ Hospital Epidemiology Unit. In less than one year, she has successfully restructured the scope and functions of this program.

Dr Torriani has published extensively in peerreviewed journals including *New England Journal of Medicine, Journal of Infectious Diseases, AIDS, Journal of Acquired Immune Deficiency Syndromes*, and *Clinical Infectious Diseases*. She served as the co-principal investigator in the AIDS Pegasys Ribavirin Coinfection Trial (APRICOT) and has been invited to present her work at numerous international meetings.

University of California 200 West Arbor Drive San Diego USA 92103-8951

MEMORIAL SESSIONS

ASHM has a commitment to ensure that at each conference we honour the memory of those who have contributed greatly to the sector. Four memorial sessions are held each year. These include an Epidemiology Session on behalf of Margaret MacDonald, a Community Session on behalf of Phillip Medcalf, a Primary Care session on behalf of Peter Meese, and a Clinical Medicine Session on behalf of Ian Thompson.

Margaret MacDonald

Dr Margaret MacDonald, a Senior Lecturer at the National Centre for Epidemiology and Clinical Research, died on 29 September 2003 after a very brief illness. She had made a substantial contribution to Australia's remarkable response to the threat of an HIV epidemic. Dr MacDonald was a nurse before developing her career as a public health researcher. She devised and established a series of inexpensive, timely and effective epidemiological monitoring techniques, especially for populations of injecting drug users. Her influence extended beyond Australia to other countries through this work.

Dr MacDonald is best known for developing in 1995 an annual survey of demographic characteristics, drug consumption, risk behaviour, and hepatitis C and HIV serology. She had recently contributed substantially to the official evaluation of the Medically Supervised Injecting Centre in Kings Cross, Sydney. Despite her considerable contribution and international reputation, Dr MacDonald remained the same unassuming and self-effacing figure. Her work was influenced by a strong concern for social justice. Dr MacDonald, had a wide range of interests and enjoyed many pursuits.

Phillip Medcalf

Phillip Medcalf, President of NAPWA, died on 22 February 2003. In the Australia Day Awards of 2003, Phillip James Medcalf (deceased) was awarded the Medal of the Order of Australia for service to the community as a supporter and promoter of the interests of people living with HIV/AIDS.

Phillip had been a volunteer in the sector since he retired from full-time work as the General Manager at Sydney Sexual Health Centre in 1996.

From 1996, Phillip had state-based roles in PLWH/A (NSW), The AIDS Council of NSW and the Bobby Goldsmith Foundation as representative on the boards and committee membership of the NSW HIV Agencies Forum, and the NSW Rural HIV Conferences.

In May 1999 Phillip joined the National Association of People living with HIV/AIDS (NAPWA) Executive Committee, nominating for Vice President after several years as a PLWH/A (NSW) representative to the national body. In 2001 Phillip became President of NAPWA, a position he held until his death. Over this period he also represented in a variety of national positions, including the Commonwealth World AIDS Day Committee, the NAPWA nominee on the Board of Governors of the AIDS Trust of Australia (ATA), and the Board of Directors of the Australian Federation of AIDS Organisations (AFAO). He was also working in a part-time capacity at the Australasian Society for HIV Medicine (ASHM) from August 2000 to March 2002. Just one example of the unique places and positions that Phillip held in so many people's lives is that in a year where he was an Executive Assistant for the Executive Officer of ASHM, he was also the NAPWA President invited to be part of the Opening Session of the 2001 ASHM National Conference.

Phillip leaves behind a legacy that was obviously valued and appreciated by people all around Australia.

Peter Meese

Dr Peter Meese, a physician in the Infectious Diseases Unit, died on 23 February 2000. Dr Meese graduated from the University of Melbourne and began working at Middle Park Clinic in 1976.

Peter was a dedicated GP. His gifts of optimism, empathy and intelligence were available to all who consulted him. His patients had every confidence in him.

Peter also worked very hard for advancement in his profession. He was affiliated with many medical organisations, but worked particularly hard in the pursuit of excellence in the field of HIV and Sexual Health and was a very active HIV/STI clinician and ASHM Member. Peter was a senior Fellow of the Australasian College of Sexual Health Physicians, contributing articles for publishing and involved in the examination process of its doctors. He was one of the editors of the Management Guidelines for Sexually Transmissible Infections. Peter was a longterm committee member and past Chairman of the Venereology Society of Victoria and a past president of the National Venereology Council of Australia. He taught and examined the students of the Diploma of Venereology and was always contributing to furthering the knowledge in the field of STIs. He was also an examiner for the Royal Australian College of General Practitioners.

MEMORIAL SESSIONS

Peter had worked in the Infectious Diseases unit of the Alfred Hospital for almost a decade. He was instrumental in ASHM and the National Centre in HIV Epidemiology and Clinical Research. He was always involved in clinical trials - for the benefit of his patients. He made an invaluable contribution to this field of medicine.

lan Thompson

Dr Ian Lyall Thompson FRCP FRACP, consultant physician and haematologist, died in Sydney in August 1989 at the age of 59.

He was educated at Scots College, Sydney and the Faculty of Medicine of the University of Sydney and continued studies in Boston as a clinical fellow in haematology and in London at the Royal Postgraduate Medical School within the Hammersmith Hospital. He became a member of the Royal College of Physicians in 1959 and subsequently a Fellow of the Royal College of Physicians and the Royal Australasian College of Physicians.

In Sydney, his main appointments were consultant physician at Sydney Hospital, Crown Street Women's Hospital and St Luke's Hospital and later at St Vincent's Hospital, Darlinghurst where he was consultant physician to the Haematology and HIV Medicine Units.

Dr Thompson was known by all for his enormous breadth and depth of knowledge, his rapiersharp wit and his ever-present sense of humour. A compassionate and disciplined man, he was dedicated to the care of his patients and as a diagnostician he was unsurpassed. He was a muchloved teacher of medical students and of physician trainees. He devoted an enormous amount of time to and unending support for his younger colleagues, encouraging them in the pursuit of their careers in medicine.

But it is not only within medicine that he will be remembered - his great knowledge covered the fields of art, literature, music and travel. He was a consummate conversationalist and entertainer.

His enthusiasm for life itself made him a truly remarkable man, for which he will always be remembered.



GENERAL INFORMATION



GENERAL INFORMATION

Disclaimer

All information disclosed in the Conference Program is correct at the time of printing. ASHM reserves 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

An Internet café is available in the Federation Ballroom (the Exhibition Hall) of the Hotel Grand Chancellor and is proudly provided by Novartis.

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 conference venue. 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.

Registration Desk

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

| Tuesday 23 August: | 3.30pm – 5.30pm |
|----------------------|-----------------|
| Wednesday 24 August: | 7.30am – 5.30pm |
| Thursday 25 August: | 7.30am – 5.30pm |
| Friday 26 August: | 7.30am – 6.30pm |
| Saturday 27 August: | 7.30am – 5.30pm |

Smoking

This conference has a no smoking policy.

Speaker Preparation Room

A speaker preparation room will be located in the Macquarie Room on the First Floor of the Hotel Grand Chancellor. This room will be open at the following times:

| Tuesday 23 August: | 3.30pm – 5.30pm |
|----------------------|-----------------|
| Wednesday 24 August: | 7.30am – 5.30pm |
| Thursday 25 August: | 7.30am – 5.30pm |
| Friday 26 August: | 7.30am – 5.30pm |
| Saturday 27 August: | 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.

Tickets to Associated Events

Tickets and/or name badges will be required for entry to all associated events. All tickets will be given out on registration – or printed on the name badge. If you would like to purchase tickets to the breakfast or reception you may do so up until 12 noon on Wednesday 24 August at the registration desk. No tickets for the Gala Conference Dinner are available on-site. A no-refund policy exists for cancellation of function tickets.

Poster Display

Posters will be displayed for the duration of the Conference in the Federation Ballroom, which also contains the exhibition booths and all the catering. Posters will be available for viewing on Wednesday 24 August from 8.30am until Saturday 27 August at 12.30pm. 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 conference reception.

Posters for the Sexual Health Conference will be available for viewing on Wednesday 24 August till 3.30pm in the Federation Ballroom Foyer.

GENERAL INFORMATION

Trade Exhibition

The trade exhibition is situated in The Federation Ballroom of the Hotel Grand Chancellor, Hobart which also contains the posters and all the catering.

The exhibition will be open during the following hours:

| Wednesday 24 August: | 8.30am – 5.00pm |
|----------------------|------------------|
| Thursday 25 August: | 8.30am – 5.00pm |
| Friday 26 August: | 8.30am – 6.30pm |
| Saturday 27 August: | 8.30am – 12.30pm |

The trade exhibition for the Australasian Sexual Health Conference will also be available for viewing on Wednesday 24 August from 8.30am – 5.00pm.

Venue

The Hotel Grand Chancellor will host the plenary sessions in the Concert Hall accessible from the Ground Floor of the Hotel. Late arrivals are asked to access the room via the first floor entrance. The Saturday 27 August Plenary and the Consensus Conference will be held in the Grand Ballroom accessible on the First Floor across from the Registration Desk. Symposia and Concurrent Sessions will be held in the Grand Ballroom or the Sullivans Room on the Ground Floor. Meehans Restaurant, 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. This room will be used for catering purposes on Saturday 27 August from 12.30pm.

The Hotel Grand Chancellor 1 Davey Street Hobart, TAS 7000 Phone: +61 3 6235 4535 Fax: +61 3 6223 8175 Web: www.grandhotelsinternational.com

2004 Conference Scholarship Award Recipients

Dammen Akhurst St Vincent's Hospital, Sydney

Coral-Ann Almeida Royal Perth Hospital Department of Immunology & Biochemical Genetics, Perth

Alicia Arnott National Serology Reference Laboratory, Melbourne

Jennifer Clarke Institute of Medical and Veterinary Science, Adelaide

Lucette Adeline Cysique University of New South Wales, Sydney

Niamh Keane Royal Perth Hospital, Perth

Sarah Sasson St Vincent's Hospital, Sydney

Erin Verity National Serology Reference Laboratory, Melbourne

LOCATION MAP - HOBART CITY



FLOOR PLANS – THE HOTEL GRAND CHANCELLOR

Ground Floor



First Floor



ASSOCIATED EVENTS

Lunches and Tea Breaks

Lunches and tea breaks on each day will be served in The Federation Ballroom among the trade exhibition and poster displays. Lunch and afternoon tea on Saturday 27 August will be served on the Mezzanine Foyer and in Meehans Restaurant.

Gala Conference Dinner

7.00pm, Wednesday 24 August 2005 Pre-Dinner Drinks: Hotel Grand Chancellor, Mezzanine Foyer Dinner: City Hall, Hobart

The venue is a 2-minute walk from the Hotel Grand Chancellor. The dinner is held jointly with the Australasian Sexual Health Conference.

Medical Case Presentation Breakfast

Proudly sponsored by Bristol-Myers Squibb

7.00am – 8.30am, Friday 26 August 2005 Ballroom South, Hotel Grand Chancellor, Hobart

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. Breakfast will be served from 7.00am. The best Medical Case Presentation will be awarded a donated cash prize during the closing session. There will also be one Medical Case Presentation featured within the main conference program on Thursday 25 August in the All People with HIV Should Have Access to Transplantation between 11.00am and 12.30pm.

Conference Reception

5.00pm – 6.30pm, Friday 26 August 2005 Federation Ballroom, Hotel Grand Chancellor, Hobart

One ticket is included for registered delegates: \$44.00 for additional guests.

Tickets

Tickets will be required for entry into all Associated Events. All tickets will be given out on registration – or printed on the name badge. If you would like to purchase tickets to the breakfast or reception you may do so up until 12 noon on Wednesday 24 August at the registration desk. No tickets for the Gala Conference Dinner are available on-site. A no-refund policy exists for cancellations of function tickets.

CONSENSUS CONFERENCE

1.30pm – 5.30pm, Saturday 27 August 2005 Ballroom North/Centre, Hotel Grand Chancellor, Hobart

One ticket is included for registered delegates of the full ASHM Conference Program for Saturday.

ASHM is holding the 1st Australasian Consensus Conference on the use of antiretroviral agents in HIV-1 infected adults and adolescents on the afternoon of Saturday 27 August 2005, in Hobart, immediately following the 2005 ASHM Conference.

At its February 2005 meeting the Australian Health Minister's Advisory Committee on HIV and STI endorsed the USA Department of Health and Human Services *Guidelines for the Use of Antiretroviral Agents in HIV-1 Infected Adults and Adolescents* and requested that ASHM's Antiretroviral Guidelines Panel develop and regularly update a detailed commentary on those Guidelines relevant to Australia. The Panel has drafted the commentary which can be viewed, along with the source Guidelines, at http://www.ashm.org. au/aust_guidelines/

The Panel identified that three levels of commentary were required. The first was procedural and involved translating terms and contacts to Australian equivalents. The second involved a number of minor variations or differences of opinion and/or data. This commentary is embedded in the electronic version of the Guidelines and the reader is alerted to the commentary by virtue of it being included in a highlighted text box. The commentary has been written by Australian experts and reviewed by the Antiretroviral Guidelines Panel as a whole. The website also has capacity for readers to feedback comments on the commentary or other aspects of the source Guidelines. These comments will then be reviewed by the ASHM Secretariat and referred to the Panel.

The Panel also identified a third level of commentary. This related to substantive and substantial issues which the panel thought required broader discussion across the ASHM Membership, HIV medical and scientific community and HIV health consumers and their advocates, before a recommendation (supporting or providing an alternative position) could be made and included in the commentary. The 1st Australasian Consensus Conference will attempt to address these issues. The four key issues identified for discussion at the Consensus Conference are:

- When to commence antiretroviral therapy (in established HIV infection)
- Management of primary HIV infection
- Preferred first-line antiretroviral regimen(s)
- The role of resistance testing in HIV management.

The Consensus Conference will also provide a forum for:

- identification of other issues for broader debate or consideration by the panel
- review of the commentary as a whole, and
- consideration of the mechanism for regularly updating the commentary.

Following the ASHM Conference and presentations and discussion at the Consensus Conference, the Antiretroviral Guidelines Panel will synthesise the opinions of the Conference into appropriate Australian commentary. The commentary will then be included in the electronic document. It is the Panel's intention to update the commentary in line with updates in the USA source Guidelines, and to hold an annual Consensus Conference, adjacent the ASHM Conference, to endorse this method of providing Guidelines for the Australasian setting and to review and update the commentary.

The Consensus Conference is being held adjacent to the ASHM Conference to reduce costs, but more importantly it will allow Consensus Conference attendees to benefit from the presentations at the ASHM Conference. The ASHM Board also recognises the importance of providing a forum for debating contentious treatment strategies. Topics considered substantive and substantial by the Antiretroviral Guidelines Panel will be taken into consideration in planning subsequent ASHM Conference programs and extending invitations to international and local speakers.

The program for the Consensus Conference is shown from page 69.



EXHIBITION DIRECTORY



EXHIBITION BOOTH LISTING

Organisation

Booth Number

| 3m Pharmaceuticals |
|--|
| Australian Injecting and Illicit Drug Users League/NSW Users and AIDS Association |
| New Zealand AIDS Foundation |
| Bristol-Myers Squibb |
| Roche Products |
| Durex (Wednesday 24 August 2005 only) |
| Australasian Society for HIV Medicine |
| Boehringer Ingelheim |
| Novartis Pharmaceuticals |
| Gilead |
| Pfizer |
| AusAID |
| National Centre in HIV Social Research/Australian Research Centre in Sex, Health & Society |
| Tasmanian Council on AIDS, Hepatitis & Related Diseases 15 |
| Schering-Plough |
| Abbott Australasia |
| Merck Sharp & Dohme |

EXHIBITION HALL FLOOR PLAN



EXHIBITOR DIRECTORY

GlaxoSmithKline (Booth 1)

GlaxoSmithKline (GSK) Australia is one of Australia's largest pharmaceutical and healthcare companies and is committed to improving the quality of human life by enabling people to do more, feel better and live longer.

GSK has four main sites in Australia, employing more than 1550 people. It is Australia's largest supplier of vaccines and a leading supplier of medicines for asthma, bacterial and viral infections, depression, migraine, gastroenterological disease, epilepsy, smoking cessation and pain relief. More than 16 million Australians rely on at least one of GSK's medicines, vaccines or consumer healthcare products.

The company invests more than \$34 million in R&D each year, making it one of Australia's top 20 R&D investors.

GSK Australia plays a significant role in the global pharmaceutical supply chain – exporting in excess of 70% of production to more than 78 countries, with export earnings totalling \$345 million in 2003.

Contact Ms Sweta Ghelani Valtrex Brand Manager GlaxoSmithKline Australia PO Box 168 BORONIA VIC 3155 Tel: +61 3 9721 6904 Fax: +61 3 9720 2071 Email: Sweta.P.Ghelani@gsk.com Web: www.gsk.com.au

3M Pharmaceuticals (Booth 2)

3M Pharmaceuticals, a division of 3M, develops, manufactures and sells branded prescription drug products related to dermatology, women's health, sexual health, cardiology, and respiratory medicine. We are committed to improving life through innovation.

3M Pharmaceuticals is known for its immune response modifier (IRM) product platform as well as respiratory and cardiology drugs. In 1996, 3M Pharmaceuticals acquired the leading therapy for bacterial vaginosis enhancing 3M's presence in women's health care.

Drawing on 3M's long-standing expertise in Scotch® Tape and Post-it® Notes 3M created the innovative "drug-in-adhesive" technology for transdermal patches. 3M Pharmaceuticals continues to be an innovative and reliable source for healthcare products. Contact Jennifer Castillo Product Manager - Aldara Sexual Health 3M Pharmaceuticals Tel: +61 2 9875 6393 Fax: +61 2 9875 6412 Email: jlcastillo@mmm.com

Australian Injecting and Illicit Drug Users League (Booth 3)

AIVL is the national peak organisation representing the state and territory drug user organisations and issues of national significance for people who use or have used illicit drugs. AIVL is a peer-based organisation, which means that it is run by and for people who use or have used illicit drugs. AIVL's activities include publication of a national magazine *Junkmail*; developing peer education resources, providing training opportunities for peer educators, representing the 'voice' of people who use drugs illicitly in the national policy context.

NSW Users and AIDS Association (Booth 3)

NUAA is the funded drug user group in NSW and is the largest organization of its type within the AIVL network. NUAA's mission is to advance the rights, health and dignity of people who use drugs illicitly, particularly those who inject drugs. NUAA is funded through the NSW Health Department and over the years since 1989 has implemented many innovative projects to educate and empower drug users, helping to contribute to one of the lowest HIV rates among injecting drug users in the world.

Underpinning NUAA's work is the philosophy and practice of harm reduction. NUAA provides education, practical support, information and advocacy to users of illicit drugs, their friends, and allies. These activities cover a range of issues – HIV, HBV, HCV and treatment for drug use problems.

Contact Michael Lodge AIVL President NUAA Executive Officer PO Box 278 DARLINGHURST NSW 1300 Tel: +61 2 8354 7300 Fax: +61 2 9360 8677 Email: michaell@nuaa.org.au

EXHIBITOR DIRECTORY

New Zealand AIDS Foundation (Booth 4)

The New Zealand AIDS Foundation is a 'not for profit'/ charitable organisation that grew from the initiative of gay men in New Zealand in the early 1980s who began to raise concerns about the rapidly unfolding HIV epidemic. The first meeting on HIV was in April 1984 and the gay community responded by forming branches across the country of the AIDS Support Network. In September 1985 this network was renamed New Zealand AIDS Foundation and we have been working as a non-government organisation to reduce HIV transmission and support those affected by HIV and AIDS ever since.

This community-based organisation has evolved into a national organisation providing:

- Locally and regionally based free and independent HIV testing, counselling and support services to anyone (irrespective of gender, sexuality, religion, ethnicity or race) infected or affected by HIV and AIDS.
- HIV prevention programmes, resources and campaigns, primarily to men-who-have-sexwith-men (MSM), who still represent more than 80% of new HIV infections occurring within New Zealand.
- Advocacy for supportive environments, policy advice on evidence-based human rights based strategies and research on MSM sexual behaviours.

In total, while the recent surge in all western countries in sexually transmitted HIV in both homosexual and heterosexual populations is a concern, New Zealand's overall rate of HIV per head of population is still one of the lowest worldwide. The significant success in maintaining the low cumulative incidence rate in MSM and, in particular the indigenous community Māori and Takatāpui, has been recognised globally.

Contact

New Zealand AIDS Foundation PO Box 6663, AUCKLAND, NEW ZEALAND Tel: +64 9 303 3124 Fax: +64 9 309 3149 Email: contact@nzaf.org.nz Web: www.nzaf.org.nz

Bristol-Myers Squibb (Booth 5)

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 Reyataz[®], (atazanavir sulfate) VIDEX EC[®] (didanosine) and ZERIT[®] (stavudine) for the treatment of patients with HIV/AIDS.

Contact Mark Manuele Product Manager – HIV Bristol-Myers Squibb Pharmaceuticals 556 Princes Highway NOBLE PARK NORTH VIC 3174 Tel: +61 3 9213 4074 Fax: +61 3 9701 1526 Email: mark.manuele@bms.com

Roche Products (Booth 6)

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 Fuzeon® (envurvitide) 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.

Contact

Tracy Jones-Bower HCV, Associate Product Manager Roche Products Pty Ltd 4–10 Inman Road DEE WHY NSW 2099 Tel: +61 2 9454 9512 Fax: +61 2 9982 5269 Email: tracy.jones-bower@roche.com
Durex (Booth 7)

Durex is the world's largest condom manufacturer. Sold in over 150 countries, Durex accounts for 26% of the world's four billion condoms market, making it the number one condom brand in the world.

The Durex brand name, which was registered in 1929, was derived from three principal attributes to the product – Durability, Reliability and Excellence.

The Durex brand is credited with many developments in the modern evolution of the condom, including the first lubricated condom (Extended Pleasure Climax Control), the first anatomically shaped condom and the world's first non-latex condom (Avanti).

Durex works with health care professionals, governments and organisations, including the World Health Organization and UNAIDS to support them in promoting good sexual health and the importance of consistent condom use to prevent HIV and other STIs.

Contact Carla McCarthy Durex Marketing Manager SSL Australia 225 Beach Road MORDIALLOC VIC 3195 Tel: +61 3 9587 6770 Fax: +61 3 9587 6870 Email: Carla.Mccarthy@ssl-asiapacific.com Web: www.durex.com

Australasian Society for HIV Medicine (ASHM) (Booth 8)

ASHM is the peak organisation representing medical practitioners and health care providers in HIV, viral hepatitis and related diseases in Australasia. Its activities include: an annual medical scientific conference; continuing medical education program; publications; training courses run in metropolitan and country Australia; policy development; the setting of standards in best-practice care, treatment and management.

Contact Australasian Society for HIV Medicine (ASHM) LMB 5057 DARLINGHURST NSW 1300 Tel: +61 2 8204 0700 Fax: +61 2 9212 2382 Email: ashm@ashm.org.au Web: www.ashm.org.au

Boehringer Ingelheim (Booth 9)

Boehringer Ingelheim is committed to active involvement and practical answers for people living with HIV. Our fight against HIV/AIDS extends to resource-poor settings where Viramune[®] (nevirapine) has been provided as a donation to more than 500,000 mother-child pairs through 132 programmes in 57 countries. 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 Ms Karen Low Product Manager Boehringer Ingelheim PO Box 1969 Macquarie Centre NORTH RYDE NSW 2113 Tel: +61 2 8875 8833 Fax: +61 2 8875 8712 Email: klow@syd.boehringer-ingelheim.com

Novartis Pharmaceuticals (Booth 10)

Novartis is a world leader in the research, development and supply of products to protect and improve health and well-being.

Novartis Pharmaceuticals researches and supplies a broad range of innovative and effective prescription medicines to treat patients in both general and specialist practice and hospitals.

Created in 1996 from the merger of Swiss companies, Ciba and Sandoz, Novartis has a history in Australia going back over 50 years. Novartis employs about 80 000 people and operates in over 140 countries around the world.

In Australia the company now employs more than 500 people, and invests over A\$27million annually in local research. This research not only assures the effectiveness of the company's current range of treatment, but also secures the promise of improving health for the future.

Novartis medicines treat some of the most serious health conditions confronting health care professionals and their patients. The company's work is spread across many disease areas including Primary Care, Oncology, Transplantation and Ophthalmics.

Contact Dr Barry Frost 54 Waterloo Road NORTH RYDE NSW 2113 Tel: +61 2 9805 3555

Fax: +61 2 9888 9374 Email: barry.frost@novartis.com Web: www.herpes.com.au

Gilead (Booth 11)

Gilead is a bio-pharmaceutical company that discovers, develops and commercialises therapeutics to advance the care of patients suffering from lifethreatening 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 efavirenzdemonstrating a further commitment to helping simplify treatment.

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

Contact

Fiona Palmer Director, Marketing Gilead Sciences Pty Ltd Level 1,128 Jolimont Road EAST MELBOURNE VIC 3002 Tel: +61 3 9272 4400 Fax: +61 3 9272 4411 Email: fpalmer@gilead.com

Pfizer (Booth 12)

With a history dating back to 1886, Pfizer Australia has grown to become the nation's leading provider of prescription medicines and consumer healthcare products, whilst our animal health business is amongst the best in Australia. Today, employing more than 2000 staff, we export A\$600 million worth of product around the region annually. Our researchers are part of the world's largest private sector medical research program with more than 600 projects in discovery and development. In Australia, we've committed more than A\$40 million to local R&D in 2004. With many of our prescription medicines leading their therapeutic areas, and with trusted consumer products such as Listerine, Benadryl, Codral and Visine, it's easy to see why millions of Australians trust Pfizer Australia everyday.

Contact

Pfizer Global Pharmaceuticals 38-42 Wharf Road WEST RYDE NSW 2114 Tel: +61 2 9850 3333 Web: www.pfizer.com.au

AusAID (Booth 13)

AusAID is the Australian Government's agency for overseas aid. The overseas aid program aims to assist in reducing poverty, helping to raise standards of living and increasing quality of life for people in developing countries.

The Australian Government is deeply concerned at the incidence and impact of HIV/AIDS globally, but most particularly in our region: Asia and the Pacific. AusAID is matching this concern with action and resources. We have committed A\$600 million over ten years (to 2010) to the fight against HIV/AIDS in developing countries.

AusAID supports ASHM's international program.

Contact AusAID HIV/AIDS Task Force GPO Box 887 CANBERRA ACT 2601 Tel: +61 2 62064000 Fax: +61 2 62064880

National Centre in HIV Social Research (Booth 14)

The National Centre in HIV Social Research (NCHSR) was established in 1990 with funding from the Commonwealth government and is located at The University of New South Wales. The NCHSR conducts social research into the prevention and treatment of HIV, hepatitis C and other communicable diseases, with special reference to gay men, injecting drug users and other marginalised groups, and a growing program of international research, particularly in the Asia-Pacific region. The NCHSR works with affected communities and NGOs so that its research is both informed by community needs and informs policy and practice.

Contact

Maude Frances Research Resource Manager National Centre in HIV Social Research University of New South Wales SYDNEY NSW 2052 Tel: +61 2 9385 6405 Fax: +61 2 9385 6455 Email: m.frances@unsw.edu.au Web: http://nchsr.arts.unsw.edu.au

Australian Research Centre in Sex, Health & Society (Booth 14)

The Australian Research Centre in Sex, Health & Society (ARCSHS) opened in February 1993 as an independent unit within the Faculty of Health Sciences at La Trobe University in Melbourne.

The aims of this multidisciplinary research centre are to:

- undertake research into social, psychological and cultural aspects of human sexuality and sexual health;
- provide research leadership at state, national and international levels;
- provide knowledge, skills, and resources to assist other organisations in health promotion, service delivery and the formulation of public policy.

Contact

Vic Perri Research Officer Australian Research Centre in Sex, Health & Society La Trobe University Level 1, 215 Franklin Street, MELBOURNE VIC 3000 Tel: +61 3 9285 5236 Fax: +61 3 9285 5220 Web: www.latrobe.edu.au/arcshs

Tasmanian Council on AIDS, Hepatitis & Related Diseases (Booth 15)

The Tasmanian Council on AIDS, Hepatitis & Related Diseases (TasCAHRD) is a state-wide service with the vision of a community that celebrates the value of diversity and that supports TasCAHRD's client/ consumer groups so that they may achieve quality of life and reach their full potential. TasCAHRD's client/ consumers include gay men, men who have sex with men, people who inject licit and illicit drugs, people living with HIV and/or Hepatitis C, their communities and other people at risk of infection. TasCAHRD also advocates for the reduction of discrimination against and the stigmatisation of TasCAHRD's client/ consumer groups.

Contact Tony Gardner Education & Prevention Coordinator Gay Men's Health Program Tasmanian Council on AIDS, Hepatitis & Related Diseases PO Box 595, HOBART TAS 7001 Tel: +61 3 6234 1242 Fax: +61 3 6234 1630 Email: tgardner@tascahrd.org.au Web: www.tascahrd.org.au

Schering-Plough (Booth 16)

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-thecounter 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 Locked Bag 5011 BAULKHAM HILLS NSW 2153 Tel: +61 2 9852 7444 Email: ronda.fethers@spcorp.com

Abbott Australasia (Booth 17)

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 Kaletra (Lopinavir/ritonavir) was released in 2002 and has now established itself as a key component of successful HIV therapy. Abbott continues its commitment to all facets of HIV and hepatitis both locally and globally.

Contact Melanie Martel Product Manager 32-34 Lord Street BOTANY, NSW 2019 Tel: +61 2 9384 9720 Fax: +61 2 9384 9999 Email: melanie.martel@abbott.com

Merck Sharp & Dohme (Booth 18)

Merck & Co., Inc. is a global research-driven pharmaceutical company dedicated to putting patients first. Established in 1891, Merck discovers, develops, manufactures and markets vaccines and medicines in over 20 therapeutic categories. The company also devotes extensive efforts to increase access to medicines through far-reaching programs that not only donate Merck medicines but help deliver them to the people who need them. Merck also publishes unbiased health information as a notfor-profit service.

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



UNDERGRADUATE AND JUNIOR RESEARCHER SUPPORT AWARDS PROGRAM



2005 UNDERGRADUATE AND JUNIOR RESEARCHER SUPPORT AWARDS IN HIV AND HEPATITIS AWARDEES

Coral-Ann Almeida

Coral-Ann is a PhD student with the Centre for Clinical Immunology and Biomedical Statistics and Murdoch University at Royal Perth Hospital. Her research has focused on potentially life-threatening drug hypersensitivity reactions associated with the use of the nucleoside reverse transcriptase inhibitor, abacavir. An initial population-based study of abacavir-exposed HIV patients has revealed that carriage of HLA-B*5701 and associated haplotypic markers within the major histocompatibility complex (MHC) region is strongly associated with the hypersensitivity reaction, which occurs in ~8% of abacavir-treated patients of European ancestry. To date, the immunogenic mechanisms of the abacavir hypersensitivity reaction have not been characterised. The aims of Coral-Ann's study are to determine if MHC-restricted recognition of abacavir-specific antigen(s) is directly involved in the pathogenesis of the hypersensitivity reaction and to characterise the immunological response to drugspecific antigen(s).

Oral Presentation – Wednesday 24 August, Concurrent Session - Clinical Basic Science, 3.30pm – 5.00pm

Alexandra Calmy

Alexandra trained in Switzerland. She specialised in internal medicine and completed her HIV subspecialisation in University Hospital in Geneva in the service of Infectious Diseases, led by Professor Bernard Hirschel.

Alexandra came to Sydney to work at St Vincent's with Profs. David Cooper and Andrew Carr as their team gained an internationally recognised experience in HAART-related side effects. Her research work will focus on cardiovascular consequences of HAART-related metabolic and fat redistribution syndrome. Her research aims to test by a case control trial the hypothesis that the increased cardiovascular risk of HAART is influenced by nonlipid/glycemic (inflammatory, pro-thrombotic and adipocyte-derived) factors. Alexandra has also been involved with Médecins sans Frontières (MSF) in access programs for HIV treatment in different African (Cameroon, Mozambique, South Africa) and Asian countries (Laos and Burma). She was responsible for developing HAART treatment and monitoring protocols for MSF, and is now part of the WHO guidelines expert committee for adult HIV treatment. Toxicities are not only an issue in developed countries, and very little research has been done on this topic in developing countries. Ensuring equitable access to care also implies that clinical research is performed according to the needs of resource-poor settings.

Her interest in toxicities issues is linked to a commitment to ensure long-term ARV treatment also in areas where limited drug possibilities exist.

Anjana Chakravorty

Anjana is with the AIDS Pathogenesis Research Unit (APRU), MacFarlane Burnet Institute of Medical Research, Melbourne. The focus of Anjana's work is to understand the mechanism by which HIV-1 impairs monocyte and macrophage function, and their potential role as viral reservoirs. GM-CSF is a key regulator of macrophage function, particularly in the lung compartment. The research has examined how HIV-1 infection affects the GM-CSF signalling pathway. Experiments have shown the HIV-1Ba-L infection of human monocyte-derived macrophages impairs activation of the JAK/STAT pathway by GM-CSF, which may contribute to alveolar macrophage dysfunction in HIV-1 infected individuals and their predisposition to pulmonary opportunistic infections. Anjana's honours project aims to characterise the mechanism of inhibition of the GM-CSF signalling pathway in HIV-1 infected monocyte derived macrophages, with particular focus on the endogenous negative regulators of cytokine signalling, the suppressors of cytokine signalling (SOCS) proteins.

Poster Presentation – Board number 81

2005 UNDERGRADUATE AND JUNIOR RESEARCHER SUPPORT AWARDS IN HIV AND HEPATITIS AWARDEES

Hayley Croom

While studying for a Bachelor of Biomedical Science degree at the University of Melbourne, Hayley worked as a research assistant at the National Serology Reference Laboratory (NRL). She worked on a project to develop an assay that could detect antibodies to hepatitis C virus (HCV) in dried blood spot samples. Such an assay would enable testing for HCV antibodies in under-resourced settings and in situations where venous access is difficult. This study demonstrated the feasibility of achieving high sensitivity and specificity by modifying a commercial enzyme immunoassay (EIA) for use with this sample type.

Hayley is now in her honours year at the NRL. The aims of her project are to characterise the titre, affinity and specificity of individual antibody isotypes generated during maturation of the humoral immune response to HCV infection. She aims to identify an antibody isotype marker specific for recent infection, and identify a prognostic marker of disease progression. This would be of great assistance for accurate epidemiological monitoring of HCV, better design of programmes to control the spread, trace outbreaks and manage treatment programs. Ultimately, Hayley aims to develop an EIA to detect a marker of recent infection that is compatible with dried blood spot samples.

Poster Presentation – Board number 83

Joseph Doyle

Joseph graduated with both medical (MBBS) and arts (BA) qualifications from the University of Melbourne. He is now undertaking physician training with a view to specialising in infectious diseases and public health.

After two years at St Vincent's Hospital Melbourne, Joseph is currently engaged in full-time health policy research, considering particularly whether Australian HIV policy can adapt to changes in HIV epidemiology. Successful national strategy saw transmission in Australia decline from a peak in the mid-1980s until 1999. However, there were subtle increases in new HIV diagnoses over the past five years, suggestive of increasing transmission. This challenges our current approach to creating HIV prevention policy.

Joseph conducted interviews with individuals involved in HIV policy-making from academic, community and government organisations, and medical backgrounds. The interview information characterised current policy structures as sluggish and in need of rejuvenation regardless of background, while non-government actors were also likely to report that existing strategies have deteriorated, and no longer engage all necessary actors. He has identified that the capacity for policy to adapt is now limited by institutional barriers and conflicting interests. His findings suggest the domestic HIV epidemic may continue to evolve, with potential for substantial changes in some sections of the community, yet the national policy response could lag behind.

Oral Presentation – Wednesday 24 August, Concurrent Session - Challenges To Prevention And Management: Programs And Policy, 1.30pm – 3.00pm

Michelle Giles

Dr Giles is an infectious diseases physician enrolled full time in her PhD. Her area of interest includes infectious diseases in obstetrics and avnaecology. The topic of her PhD is 'Women, HIV and reproduction in Australia'. Her study over the next three years will focus on women in Australia with HIV in the era of highly active antiretroviral therapy and the implications this has for reproduction, pregnancy, clinical management during pregnancy and labour (including interventions to reduce perinatal transmission) and the potential impact of pregnancy on the immune system and viral reservoirs. In addition, current antenatal HIV screening practice and knowledge base of obstetricians practising in Australia will be assessed and issues around universal antenatal HIV screening in Australia will be explored.

Oral Presentation – Wednesday 24 August, Joint Session 2 - Current Issues In Clinical Management, 1.30pm – 3.00pm

2005 UNDERGRADUATE AND JUNIOR RESEARCHER SUPPORT AWARDS IN HIV AND HEPATITIS AWARDEES

David Hawkes

David is currently in his first year of a PhD with Monash University Department of Biochemistry and Molecular Biology, and the MacFarlane Burnet Institute. Under the guidance of his supervisor Dr Johnson Mak he is currently examining the role of virion cholesterol in HIV-1 entry into target cells. Specifically, his research aims to determine the mechanistic contribution of virion cholesterol in HIV-1 viral entry. He aims to achieve this by determining function significance of different properties of cholesterol, such as movement of cholesterol, binding of HIV-1 co-receptors, fusion pore formation and raft-promoting properties. The research hopes to demonstrate that virion cholesterol plays a vital role in viral entry and that it contributes to the viral fusion pore formation.

Oral Presentation – Thursday 25 August, Concurrent Session - Basic Science - Replication, 1.30pm – 3.00pm

Anna Olsen

Anna Olsen is a PhD Candidate at National Centre for Epidemiology and Population Health, Australian National University, Canberra. Women make up around one-third of Australians infected with hepatitis C (HCV), and young women are the fastest-growing group of those acquiring the virus. If this trend continues, Australia will be faced with a significant number of women, of child-bearing age, with a chronic virus. Yet little research has focused on women living with HCV or examined their specific sexual and reproductive health needs.

Choice or chance: The social context of contraceptive use by women with Hepatitis C extends on past research (the Women Living with Hepatitis C Survey) which found that many women with HCV expressed needs and concerns around their sexual and reproductive health. These related to pregnancy, partners, children, sexual transmission and contraception. In particular, almost two-thirds of the women were not using contraception and this low use of contraception was not related to socioeconomic status or to injecting drug use. This ANU study is investigating the complex social contexts behind the low level of contraception among women with HCV and general reproductive and sexual health motivations, beliefs, attitudes and needs. Preliminary findings are currently being analysed and further assessment will be carried out in collaboration with the Australian Injecting and Illicit Drug Users' League and other service providers.

Poster Presentation – Board number 154

Miranda Smith

Miranda began a PhD with Associate Professor Stephen Kent and Dr Andrew Brooks following an honours project characterising Major Histocompatibility Complex (MHC) class I genes in pigtail macaques. Based in the Department of Microbiology & Immunology at the University of Melbourne, Miranda's PhD project is focused on better understanding the role of antigen-specific CD8+T-cells in a pigtail macaque-SIV/SHIV model of human AIDS. The urgent need for a vaccine against HIV is incontrovertible, however the precise immune mechanisms needed to control HIV infection are not well understood. Miranda's research seeks to further understand the influence of host genetic factors and viral variation on the outcome of vaccination and infection.

Oral Presentation – Friday 26 August, Concurrent Session - Basic Science - Six Degrees of Investigation, 1.30pm – 3.00pm

UNDERGRADUATE AND JUNIOR RESEARCH IN HIV & VIRAL HEPATITIS AWARDS PROGRAM 2006

ASHM is making up to 6 support awards available in 2006. The awards are available to promote research interest in HIV and viral hepatitis.

Applications should be made in writing via the application form on the reverse side of this flyer, and must be received in the ASHM Office, Locked Mail Bag 5057, DARLINGHURST NSW 1300 by COB **31 March 2006**. Please attach your abstract and a photocopy of your most recent academic transcript.

The grant will comprise:

- Annual ASHM associate membership for 2006, valued at A\$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 2006 ASHM Annual Conference, valued at over A\$500
- A scholarship for recipients requiring travel and/ or accommodation to assist with attendance at the Conference, to a value of A\$400
- An opportunity to present work in progress at the ASHM Conference in 2006
- Publication of a short report on the research initiative in an edition of *ASHMNews*.

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 are open to residents of Australia and New Zealand. Applications that reflect national research priorities as outlined in the National HIV/AIDS 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. org.au. Applicants must submit an abstract of no more than 350 words with their application.

Adjudication:

The Committee will review the applications and successful applicants will be notified of the outcome of their application by 28 April 2006. 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 and submit an abstract. 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 Tel: +61 2 8204 0700

ASHM UNDERGRADUATE AND JUNIOR RESEARCHER SUPPORT AWARDS 2006 IN HIV & HEPATITIS APPLICATION FORM

Please attach your abstract (max. 350 words) and a photocopy of your most recent academic transcript. Feel free to attach any extra notes or supporting documentation.

| Name: | |
|--|---|
| Postal address: | |
| | |
| Phone: | Email: |
| Course in which you are enrolled: | |
| Department/faculty: | Institution: |
| Supervisor contact details: | |
| Name: | |
| Postal address: | |
| | |
| Phone: | Email: |
| Please describe your area of research interest (and attach abstract): | What is your interest in HIV or viral hepatitis? |
| What do you hope to achieve? | How could ASHM assist you? |
| | |
| | |
| Supervisor's signature: | Date: |
| Applicant's signature: | Date: |
| Form deadline Send to: ASHM Office, Locked M | : COB 31 March 2006 ail Bag 5057, DARLINGHURST NSW 1300 |



FULL CONFERENCE PROGRAM

| 7.30am | Registration | | | |
|----------------------|--|----------------------|--|--|
| | | | | |
| 9.00am | ASHM Opening Ceremony | | Proffered Papers Session: Medical | |
| - 10.30am | Concert Hall Chairs: Elizabeth Dax and Frank Bowden | | Ballroom North/Centre Chair: Maree O'Sullivan | |
| 9.00am - 9.05am | Debbie Hocking - Welcome to the Land | | Bourne C - Is Urine | |
| 9.05am - 9.10am | David Llewelyn, State Health Minister | 9.00am - 9.15am | Gonococcal PCR Screening of Asymptomatic Men Who Have Sex with Men (MSM) | |
| 9.10am - 9.15am | Elizabeth Dax, ASHM President | | Worthwhile? | |
| 9.15am - 9.20am | Frank Bowden, Chair of HIV/AIDS and Sexually Transmissible Infections Sub-committee of the Ministerial Advisory Committee on AIDS, Sexual Health and Hepatitis | | Macdonald E - Prolyliminopeptidase | |
| 9.20am - 9.25am | Darren Russell, AFAO President | 9.15am - 9.30am | (PIP)-Negative Neisseria Gonorrhoeae Strains - The Clinical/Contract Tracing | |
| 9.25am - 9.30am | Gabe McCarthy, NAPWA President | | Story | |
| | Cindy Shannon,Chair of the Indigenous Australians' Sexual Health | 9.30am - 9.45am | Lee DM - The Re-Emergence of Syphilis Among Homosexually Active Men in Melbourne | |
| 9.30am - 10.00am | Committee, Australia Workforce Challenges in Addressing Indigenous Sexual Health and BBV Outcomes | | Francia R - HIV Post Exposure Prophylaxis (PEP) Completion and Associated Sexually Transmitted Infection (STI) Care at a Sexual Health Clinic | |
| 10.00am | Michel Kazatchkine, Chair of the Scientific and Technical Advisory Group on HIV/AIDS to WHO in Geneva and Chair of the Technical Review Panel of the Global Fund, France | 10.00am - 10.15am | McCloskey J - High Rates of Epithelial Dysplasia in Anal Condylomata Acuminata - An Underestimated Public Health Problem - Is Low Risk HPV Really Low Risk? | |
| - 10.30411 | Challenges for Research at the Time of Scale Up of Antiretroviral Treatment in Developing Countries | | Haddow L - Increase in Rates of Herpes Simplex Virus Type 1 (HSV-1) As a Cause of Genital Herpes Between 1979 and 2003 | |
| 10.30am - 11.00am | Morning Tea in Exhibition & Poster Area - Federation Ballroom | | | |
| 11 00 | Synergies with Sexual Health (HSV) - Conduit plenary with Sexual Health Conference | | Symposium - Basic Science - Immunology | |
| - 12.30pm | Concert Hall Chairs: Jenny Hoy and Anna McNulty | | Ballroom North/Centre Chairs: Daniel Douek and Damien Purcell | |

| 11.00am - 11.30am | Anne Johnson, Head of the Dep Sciences at University College L Epidemiology, London, United I (At Least) Two to Tango - Chang | artment of Pri ondon and Pro Kingdom ging Sexual Be | 11.00am - 11.30am | Kelleher T - The HIV-Infected Immune System: A Gutless Wonder? | | | | | |
|----------------------|---|--|---|--|--|--|--|--|--|
| 11.30am | Anthony Cunningham, Director Hepatitis Virology Research, Syc | , Director of the Australasian Centre in HIV and earch. Svdnev. Australia | | | Bieniasz P - Natural Variation in the Activity of Anti-retroviral Cytidine Deaminases and their Viral Antagonists | | | | |
| - 12.00pm | Epidemiology and Significance Types 1 and 2 in Australia and t | of Infection with the Region | with Herpes Simplex Virus | 12.00pm - 12.15pm | Jaworowski A - The Mechanism of Defective Immunity in HIV-1 and Malaria Coinfected Pregnant Women | | | | |
| 12.00pm - 12.30pm | Andrew Grulich, Head, HIV Epidemiology and Prevention Program, National Centre in HIV Epidemiology and Clinical Research, Sydney, Australia Interactions between HIV and STIs in Homosexual Men Unteractions between HIV and STIs in Homosexual Men | | | | | | | | |
| 12.30pm - 1.30pm | Lunch in Exhibition & Poster Area - Federation Ballroom | | | | | | | | |
| | | | | | | | | | |
| 12.30pm - 1.30pm | Launch of the National Centre i Hepatitis/STIs and the Nationa Australia Sullivans Room | in HIV Epidem Il Centre in HIV | iology and Clinical Research Ann V Social Research Annual Report | ual Surveillan of Behaviour o | ce Report on HIV/Viral on HIV/AIDS, Hepatitis & STIs in | | | | |
| | | | | | | | | | |
| 1.30pm | Joint Concurrent Session: Current Issues in Clinical Management | | Concurrent Session - Basic Science - Immunity and Pathogenesis | | Concurrent Session - Challenges to Prevention and Management: Programs and Policy | | | | |
| - 3.00pm | Concert Hall Chairs: Alan Street and Edwina Wright | | Ballroom North/Centre Chairs: John Coffin and Tony Kelleher | | Ballroom South Chairs: Kim Stewart and Carla Gorton | | | | |
| 1.30pm - 1.40pm | Street A - Commentary on the Australian Antiretroviral Guidelines | 1.30pm - 1.45pm | Purcell D - Inhibiting Cellular Expression of HIV-1 TAR-RNA Binding Protein (TRBP) Augments Innate Resistance to HIV-1 | 1.30pm - 1.45pm | Lodge MA - How Essential is the "Truth" in Social Marketing Campaigns? An Analysis of the Current Mass Media Anti Drugs Campaign | | | | |
| 1.40pm - 1.45pm | Crooks L - Process for the Consensus Conference | | McPhee D - Broad | | | | | | |
| 1.45pm - 2.00pm | Ralph A - Evaluation of Serum and CSF Syphilis Serology in the Diagnosis of Early Neurosyphilis in HIV Positive and Negative Patients | 1.45pm - 2.00pm | Neutralisation and Complement Mediated Lysis of HIV-1 by ^{PE} HRG214, a Novel Caprine Anti-HIV-1 Polyclonal Antibody | 1.45pm - 2.00pm | Velecky M - Challenges in Implementing Changes Across the NSW AIDS Program | | | | |

| 2.00pm - 2.15pm | van Leewuen M - Prevalence of Anal Squamous Intraepithelial Lesions and Related Abnormalities in a Community-Based Sample of HIV Positive and HIV Negative Homosexual Men | 2.00pm - 2.15pm | Peut V - T Cell Immunity to HIV-1 Envelope in Macaques: A Potential Paradigm of Constraints on Immune Escape | 2.00pm - 2.15pm | Doyle JS - Preventing HIV Transmission in Australia: Can National Policy Adapt to an Evolving Epidemic? |
|--|--|--|--|--|---|
| 2.15pm - 2.30pm | Giles ML - A Study Investigating Obstetricians' Screening Practice and Knowledge Base for Management of Women with a Blood Borne Virus in Australia Pre and Post Intervention | 2.15pm - 2.30pm | Wilson KM - Maturation of the Humoral Immune Response to HIV-1 Infection | 2.15pm - 2.30pm | Read C - Capacity Building to Improve Reproductive and Sexual Health Literacy in Aboriginal Women in Western NSW |
| 2.30pm - 2.45pm | Egan C - Comparisons of Sexual Risk Behaviour and Morbidity in Backpackers and Non-Travellers at a Sydney Sexual Health Clinic | 2.30pm - 2.45pm | Lee CMY - IL-7 Gene Polymorphism and HIV-1 Disease Progression | 2.30pm - 2.45pm | Hannan TJ - More Than a Quarter of a Century of Computerised Clinical Decision Support Using Electronic Medical Record Functionalities |
| 2.45pm - 3.00pm | Knox J - An Audit of Chlamydia and Gonorrhoea PCR Testing at Wu Chopperen Health Service | 2.45pm - 3.00pm | Shah M - Diverse Areas of the Brain from HIV Patients with and without Dementia Show Preponderance of CCR5 Usage | 2.45pm - 3.00pm | Crooks L - Supporting Access to s100 Drugs in the Community: HIV and HCV Experiences |
| 3.00pm - 3.30pm | Afternoon Tea in Exhibition & P | oster Area - Fo | ederation Ballroom | | |
| 3.30pm | Concurrent Session - Social Research - Injecting and Hepatitis C | | Concurrent Session - Clinical Basic Science | | Sexual Health Conference Plenary: Sex and the Internet and Conference Closing |
| - 5.00 pm | Concert Hall | | | | |
| | Chairs: Marian Pitts and Michael Lodge | | Ballroom South Chairs: Sharon Lewin and Bruce Brew | | Ballroom North/Centre Chair: Janet Say |
| 3.30pm - 3.45pm | Chairs: Marian Pitts and Michael Lodge Salmon A - The Sydney Medically Supervised Injecting Centre: Services Delivered and Potential Public Health Achievements in 44 months of Operation | 3.30pm - 3.45pm | Ballroom South Chairs: Sharon Lewin and Bruce Brew Almeida CM - Abacavir Stimulated Production of Inflammatory and T1 Cytokines in Abacavir Hypersensitive and Tolerant HIV-Infected Individuals | 3.30pm - 3.50pm | Ballroom North/Centre Chair: Janet Say Patrick Rawstorne - Gay Men's Use of the Internet for Sex-seeking: An Overview |
| 3.30pm - 3.45pm 3.45pm - 4.00pm | Chairs: Marian Pitts and Michael Lodge Salmon A - The Sydney Medically Supervised Injecting Centre: Services Delivered and Potential Public Health Achievements in 44 months of Operation Prestage G - Alcohol and Illicit Drug Use in the Positive Health (pH) Cohort | 3.30pm - 3.45pm 3.45pm - 4.00pm | Ballroom South Chairs: Sharon Lewin and Bruce BrewAlmeida CM - Abacavir Stimulated Production of Inflammatory and T1 Cytokines in Abacavir Hypersensitive and Tolerant HIV-Infected IndividualsMurray JM - Comparison of Variability Over Time of T Cell Subsets for HIV Uninfected Individuals on Successful HAART | 3.30pm - 3.50pm 3.50pm - 4.10pm | Ballroom North/Centre Chair: Janet Say Patrick Rawstorne - Gay Men's Use of the Internet for Sex-seeking: An Overview Robert Reynolds - Imagining Gay Life in a Virtual Age |

| 4.15pm - 4.30pm | Hopwood M - Resilience and Coping During Interferon- based Treatment for Hepatitis C Infection | 4.15pm - 4.30pm | Cherry C - The In Vitro Efficacy of L-Acetyl Carnitine (LAC) for Preventing Nucleoside Analog (NRTI) Toxicity | 4.30pm | Questions | | | |
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| 4.30pm - 4.45pm | Temple Smith M - Discrimination or Discretion? Dentists' Experiences of Providing Care to People with Hepatitis C | 4.30pm - 4.45pm | Tippett E - A Novel Ex Vivo Assay for Measuring Phagocytosis of Malaria Infected Erythrocytes by Peripheral Blood Monocytes | - 4.45pm | Questions | | | |
| 4.45 | Frances M - Linking Research, Policy and Practice: A Clearinghouse | 4.45 | Price P - Interferon-Gamma Responses to Candida | 4.45pm - 4.55pm | Prize Presentations | | | |
| 4.45pm - 5.00pm | of Australian Resources in HIV, Hepatitis C and Related Diseases | 4.45pm - 5.00pm | Recover Slowly or Remain Low in Immunodeficient HIV Patients Responding to ART | 4.55pm - 5.00pm | Anna McNulty, Chair of the Chapter - Closing Remarks | | | |
| 5.00pm - 5.15pm | Zheluk A - The HIV Epidemic in Ukraine: An Update | | | | | | | |
| C 00mm | Oral Poster Session - Clinical Mo | edicine, Epide | miology, Nursing and Internation | nal Streams | | | | |
| - 6.00pm | Federation Ballroom Chairs: Francesca Torriani and Jo | effrey Post | | | | | | |
| 5 00mm | Futures 4 Forum: Drilling into t | he Data | | | | | | |
| - 6.00pm | Ballroom South Panel: Jeffrey Grierson, Marian Pitts, John Rule, Rachel Thorpe | | | | | | | |
| 7.00pm - 11.00pm | Joint Gala Conference Dinner a | t City Hall | | | | | | |

| 7.30am | Registration | | | | | | | | |
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| | | | | | | | | | |
| | Plenary - Collective Insights | | | | | | | | |
| 9.00am - 10.30am | Concert Hall Chair: David Shaw and Steve \ | Vesselingh | | | | | | | |
| 9.00am - 9.30am | David Cooper, Director of the National Centre in HIV Epidemiology and Clinical Research, Australia Management of Virological Failure | | | | | | | | |
| 9.30am - 10.00am | Michel Kazatchkine, Chair of the Scientific and Technical Advisory Group on HIV/AIDS to WHO in Geneva and Chair of the Technical Review Panel of the Global Fund, France The Global Fund : Priority Issues and Current Challenges | | | | | | | | |
| 10.00am - 10.30am | John Coffin, Director of the HI and Microbiology at Tufts Uni Understanding HIV Host Inte | / Drug Resistance Progran versity School of Medicine, action | n at the Natio . USA | nal Cancer Institute a | nd Professor o | of Molecular Biology | | | |
| 10.30am - 11.00am | Morning Tea in Exhibition & F | oster Area - Federation Ba | allroom | | | | | | |
| 11.00am- 12.30pm | Morning Tea in Exhibition & Poster Area - Federation Ballroom Debate - Clinical Symposium Medicine - All - Basic Science - Immuno- - Immuno- pathogenesis and New Challenges for Vaccines Sentinel Concert Hall Chairs: Joe Sasadeusz and Ballroom North Jeffrey Post. Panel: Joe Sasadeusz, Jeffrey Post. Post, Francesca Garsia | | | | | | | | |

| | Concert Hall | | Ballroom North | | Ballroom Centre | | Ballroom South | |
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| | Francesca Torriani, Associate Professor of | | | | Hull P - Looking for Sex Partners: | 11.00am - 11.05am | Thoraya Obaid, Executive Director of UN FPA - DVD Message | |
| Clinica 11.00am and D - 11.20pm the Ep Unit a Unive Califo San D (Affirr | and Director of the Epidemiology Unit at the University of California, San Diego (Affirmative) | 11.00am - 11.30am | Kent S - Enhanced Cellular Immunity in Macaques Following a Novel | 11.00am - 11.15am | From Sex-on- premises Venues and Gay Bars to the Internet and Implications for HIV Risk | 11.05am - 11.20am | Dame Carol Kidu, Minister for Community Development, Member for Port Moresby South, Papua New Guinea | |
| 11.20am - 11.40am | Ed Gane, Director of the New Zealand Liver Transplant Unit at Auckland Hospital | | Immunotherapy | | 11.15am - 11.30am | Booth A, Rogers G - The Only Gay in the Village! Reflections on Perceived Identity and Sense of Belonging in Gay Men | 11.20am - 11.35am | Dr Wendy Holmes, Senior Fellow, Burnet Institute, Melbourne - Preventing HIV Infection in Mothers - Why We Need To Shift Policy Direction |
| (Negative) | (Negative) | | Dauak D. T. Call | 11.30am - 11.45am | Duffin R - HIV Positive Gay Men and Protection | 11.35am - 11.50am | Suzanne Lau Gooey, Co Convenor, NAPWA International Portfolio | |
| 11.40am - 11.55pm | Adoam Richards JS - Successful 0utcome of First Australian Liver 1.55pm Transplant in a Patient with HIV and Hepatitis B Co-infection | 11.30am - 12.00pm | Receptor Motifs and Immune Escape in Acute SIV Infection | 11.45am - 12.00pm | Prestage G - Illicit Drug Use and HIV Seroconversion in the Health in Men (HIM) Cohort | 11.50am - 12.05pm | Elizabeth Reid, Visiting Fellow, Gender Relations Centre, Australian National University - "Who Will Mourn Us?": Women and the HIV Epidemic | |
| 11.55pm - 12.30pm | Discussion | 12.00pm - 12.15pm | Ammaranond P - The Escape Mutation in HLA-B27 Positive Individuals Predicts Viral Load Outcome | 12.00pm - 12.15pm | Mao L - Serosorting Distinguishes Unprotected from Protected Anal Intercourse with Casual Partners: Findings from the Health in Men (HIM) Cohort | 12.05pm - 12.5pm | Discussion | |
| | Discussion | 12.15pm - 12.30pm | Zaunders J - Distinct Survival Phenotype of CCR5+ Antigen- Specific CD4+ T Lymphocytes in the Acute Phase of the Antiviral Response to HIV-1 and Vaccinia | 12.15pm - 12.30pm | Rawstorne P - Assumptions About Partner Serostatus and Difficulties with Disclosure Among a Cohort of HIV- Positive Men | 12.25pm - 12.30pm | Annmaree O'Keeffe, Australia's Special Representative on HIV/AIDS - Summation | |

| 12.30pm | Lunch in Euhihitian | 9. Doctor Area | Endoration Pallreer | | | | | | |
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| - 1.30pm | | | | | | | | | |
| 12.30pm | ASHM AGM | | | | | | | | |
| - 1.30pm | Sullivans Room | | | | | | | | |
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| 1.30pm - 3.00pm | Concurrent Session - Clinical Medicine - Complications of Therapy | | Concurrent Session - Basic Science - Replication | | Concurrent Session - Community - PLWHA in the Community - Phillip Medcalf Memorial Session | | Concurrent Session - Policy - CALD Session | | |
| | Concert Hall Chairs: Alan Pithie and Jenny Hoy | | Ballroom North Chairs: Andy Poumborios and Tony Cunningham | | Ballroom Centre Chairs: Robert Mitchell and Gabe McCarthy | | Ballroom South Chairs: Tadgh McMahon and Stevie Clayton (TBC) | | |
| 1.30pm - 1.45pm | Martin AM - Involvement of Metabolic and Immune Responses in the Pathogenesis of Abacavir Hypersensitivity Reaction | 1.30pm - 1.45pm | Jones K - Can Retroviral Particle- Associated UNG and dUTPase Counteract APOBEC Mediated Innate Immunity | 1.30pm - 1.45pm | Daye J - Rules of Rescue: How Can We Do Things Better for our Highly Treatment- Experienced Populations? | 1.30pm - 1.45pm | McNally SP - Access to HIV Prevention Information Among Culturally and Linguistically Diverse (CALD) Communities in Victoria | | |
| 1.45pm - 2.00pm | Martin AM - Genetic Screening for Abacavir Hypersensitivity (ABC-HSR) in the Western Australian Cohort: Prospective Data and Novel Diagnostic Approaches | 1.45pm - 2.00pm | Lay CS - Terminal Interactions Outside the Six- Helix Bundle Core Domain of HIV-1 gp41 Are Essential For its Membrane Fusion Function | 1.45pm - 2.00pm | Petoumenos K - Risk Factors and Causes of Death in the Australian HIV Observational Database | 1.45pm - 2.00pm | Nguyen O - Travelling "Home": A Real HIV Risk for Australian- Vietnamese Injecting Drug Users? | | |
| 2.00pm - 2.15pm | Price P - Cytokine Genotypes Establish a Role for Inflammation in Antiretroviral Toxic Neuropathy (ATN) and Predict an Individual's ATN Risk | 2.00pm - 2.15pm | Harrich D - Molecular Analysis of HIV-1 Early Events during Cell Infection: Prospects Towards Novel Antiviral Drug Targets and Strategies | 2.00pm - 2.15pm | Gallagher S - HIV Treatment Literacy in People with HIV/AIDS in 2005 | 2.00pm - 2.15pm | Katsaros E - The Feminisation of HIV: Challenging the Stereotypes in HIV/AIDS Prevention and Treatment in Australia | | |

| | Concert Hall | | Ballroom North | | Ballroom Centre | | Ballroom South |
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| 2.15pm - 2.30pm | Zhou J - New AIDS Defining Illness Diagnosed within 90 Days after Initiation of Antiretroviral Treatment among Patients from the Treat Asia HIV Observational Database (TAHOD) | 2.15pm - 2.30pm | Shehu-Xhilaga M - Impact of Simian Immunodeficiency Virus Infection in the Male Genital Tract of Juvenile Macaques | 2.15pm - 2.30pm | Brown G - Internet Chatrooms: Knowing your Environment and Community Before Outreaching | 2.15pm - 2.50pm | Martin L, Paljor S - Cultural Competence: Its Development in Relation to Producting HIV and Hepatitis C Resources for |
| 2.30pm - 2.45pm | Yunihastuti E - Incidence of Rash and Discontinuation of Nevirapine Among ARV Naïve Patients in Ciptomangukusumo Hospital Jakarta | 2.30pm - 2.45pm | Hawkes D - Dissecting the Contribution of Cholesterol in Viral Entry: A Potential Role in Fusion Pore Formation | 2.30pm - 2.45pm | Allan B - Positive Living Centres: "Their Role in Health Promotion" | | People from Culturally and Linguistically Diverse Backgrounds |
| 2.45pm - 3.00pm | Srasuebkul P - Parametric Models to Predict Immunological Failure in Thai Patients Receiving Antiretroviral Treatment | 2.45pm - 3.00pm | Ellis P - The Phosphorylation of HIV-1 Nef by PKC | 2.45pm - 3.00pm | Tripp R - Sustaining the Gain | 2.50pm - 3.00pm | Launch of the National Hepatitis C Project Resource: Hepatitis C is Everybody's Business |
| 3.00pm - 3.30pm | Afternoon Tea in Exh | ibition & Pos | ter Area - Federation | Ballroom | | | |
| | | | | | | | |
| 3 30nm | Oral Poster Session - | Community | Program Stream | | | | |
| - 5.00pm | Federation Ballroom Chairs: Robert Mitch | ell and Simor | o 'Donohue | | | | |
| | | | | | | | |
| 3.30pm - 5.00pm | Concurrent Session - Clinical Medicine - Hepatitis | | Concurrent Session - Epidemiology - Overview | | Concurrent Session - International - Implementing Treatment | | Concurrent Session - Issues in HIV Nursing and Allied Health |
| | Concert Hall Chairs: Ed Gane and Francesca Torriani | | Ballroom North Chairs: Anne Johnson and Margaret Hellard | | Ballroom Centre Chairs: Goa Tau and Marina Carman | | Ballroom South Chairs: Sally Algar and Richard Norris |

| | Concert Hall | | Ballroom North | | Ballroom Centre | | Ballroom South |
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| 3.30pm - 3.45pm | Singh K - HIV-HBV Co-infection: Analysis of Resistance Mutations in the Hepatitis B Virus Polymerase Selected During Therapy in Two Patients with Fulminant Liver Disease while Receiving Tenofovir | 3.30pm - 3.45pm | McDonald A - Trends in Newly Acquired and Newly Diagnosed HIV Infection in Australia, 1995 - 2004 | 3.30pm - 3.45pm | Schaefer M - Increased Access to HAART in Resource- Poor Settings in Médecins Sans Frontiéres Programs: Current Status and Challenges | 3.30pm - 3.45pm | Gibbie T -HIV/AIDS Depression and Adherence to HAART |
| 3.45pm - 4.00pm | Dore G - Australian Trial in Acute Hepatitis C (ATAHC): Baseline Characteristics and Early Virological Response | 3.45pm - 4.00pm | Bartlett M - Women and HIV in NSW - An Increase in Cases in 2004 | 3.45pm - 4.00pm | Yunihastuti E - Spectrum of Opportunistic Infections Among HIV-Infected Patients in Jakarta | 3.45pm - 4.00pm | Trotter G - We Are All Getting Older! |
| 4.00pm - 4.15pm | Thein H-H - Estimating the Impact of Antiviral Treatment on Health Burden of HCV in Australia | 4.00pm - 4.15pm | Maher L - Antibody HIV and HCV Prevalence and Risk Behaviours among Indo- Chinese Injecting Drug Users in the National NSP Survey | 4.00pm - 4.15pm | Wright EJ - The Asia Pacific NeuroAIDS Consortium: Paradigm's Progress | 4.00pm - 4.15pm | Hill C - Responses to the Mental Health Needs of PLWHA |
| 4.15pm - 4.30pm | Potgieter Z - Hepatitis C Treatment Discontinuation and Response: Improved Management of Morbidity | 4.15pm - 4.30pm | Lawrence CG - Queensland Survey of Aboriginal and Torres Strait Islander Men who have Sex with Men | 4.15pm - 4.30pm | Sokhal B - The National Institute of Public Health Cambodia: How Quality Managed Laboratory Services Can Support HIV Care in a Resource Limited Setting | 4.15pm - 4.30pm | Thompson J - Roughly Right Rather than Perfectly Wrong |
| 4.30pm - 4.45pm | Thein H-H - The Prevalence and Correlates of Depressive Symptoms during Pegylated Interferon-alpha and Ribavirin Therapy in HCV Monoinfection and HIV-HCV Coinfection | 4.30pm - 4.45pm | Lim MSC - Patterns of HIV Testing in Victoria | 4.30pm - 4.45pm | Hannan TJ - An Electronic Medical Record System for Ambulatory Care of HIV-Infected Patients in Kenya | 4.30pm - 4.45pm | Bourne AF - Strengths Skills, Resources Inspiration: The SSRIs of Living with HIV or Hepatitis C |

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| THU | THURSDAY 25 AUGUST 2005 | | | | | | |
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| 4.45pm - 5.00pm | Sasadeusz J - An Interim Analysis from a Single- arm, Open-label, Multicenter Pilot Study Evaluating the Efficacy and Safety of Pegasys RBV (peginterferon alfa-2a plus ribavirin) in Patients with Chronic Hepatitis C (CHC) Attending a Methadone (or Drug Dependency Treatment Program) Clinic | 4.45pm - 5.00pm | Middleton MG - Monitoring the Completeness of Notifications to the National AIDS Registry via Linkage to the National Death Index | 4.45pm - 5.00pm | Discussion | 4.45pm - 5.00pm | Discussion |
| 5.30pm | Future Shock: A Hyp | othetical Abo | out HIV in Australia in | Ten Years' Tir | ne | | |
| - 7.00pm | Ballroom South Chair: Kirsty Machon | 1 | | | | | |

| 7.30am | Registration | | | | | | |
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| | | | | | | | |
| 7 30am | Case Presentation Breakfast | | | | | | |
| - 9.00am | Ballroom South Chairs: Alistair McGregor and A | an Pithie | | | | | |
| 7.30am - 7.45am | Chih DT - Primary HIV Infection | ı - Diagnosis and Manager | ment in 200 | 5 | | | |
| 7.45am - 8.00am | Skinner MJ - HIV Encephalitis: | A Case, Its Treatment and | Complexitie | 25 | | | |
| 8.00am - 8.15am | Chua K - Myasthenia Gravis in a | an HIV Infected Patient | | | | | |
| 8.15am - 8.30am | Iles S - A Complicated Case of PJP | | | | | | |
| 9 00am - | Plenary: Contemporary Challe | nges | | | | | |
| 10.30am | Concert Hall Chairs: David Cooper and Sharon Lewin | | | | | | |
| 9.00am - 9.30am | Paul Bieniasz, Head of the Laboratory of Retrovirology at the Rockefeller University, USA TRIM5 - Mediator of Intrinsic Immunity to Retroviruses | | | | | | |
| 9.30am - 10.00am | Cindy Patton, Canada Research Chair in Community Culture and Health at Simon Fraser University in British Columbia - Senior Scholar of the Michael Smith Foundation for Health Research, Canada Understanding Lipids: Doctor-patient Communication in the Changing Context of Long Term HIV Care | | | | | | |
| 10.00am - 10.30am | Francesca Torriani, Associate P California, USA HIV/HCV Coinfection: To Treat I | rofessor of Clinical Medicin ICV First, HIV First, or Both | n <mark>e and Direc</mark> t h at Once? | tor of the Epidemiolog | y Unit at the | University of | |
| 10.30am - 11.00am | Morning Tea in Exhibition & Po | ster Area - Federation Bal | lroom | | | | |
| | Symposium - International - Policy | Symposium - Clinical Medicine - Hep B: Development of Resistance/ Combination Therapy | | Symposium - Community - HIV Research Community Perspectives | | Symposium - Basic Science - New Prospects for Antivirals | |
| 11.00am - 12.30pm | Ballroom North Chairs: Michel Kazatchkine and Edward Reis | Ballroom Centre Chairs: Ed Gane and Greg Dore. Panel: Ed Gane, Greg Dore, Joe Sasadeusz, Graeme Macdonald, and Lloyd Sansom | | Ballroom South Chairs: Andrew Grulich and Martyn Goddard | | Sullivans Room Chairs: Heidi Drummer and Paul Bieniasz | |

| | Ballroom North | | Ballroom Centre | | Ballroom South | | Sullivans Room |
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| 11.00am - 11.05am 11.05am - 11.20am | Dr Mam Bun Heng, Ministry of Health, Cambodia - Introduction Mean CV - Scale Up Sustainability and Integration of HIV Care Into | 11.00am - 11.15am | Sasadeusz J - For Combination Therapy | 11.00am - 11.20am | Baxter D - The HIV Research Program - Assessing Its Value and Addressing Current Challenges | | Coffin J - Appearance, Persistence and |
| | Existing Health Care Systems | | | | chanenges | 11.00am - 11.30am | Disappearance of Drug Resistant |
| 11.20am - 11.35am | Patton C - The Cartography of HIV: Dividing Lines and Shared Borders | 11.15am - 11.30am | Macdonald G - Against Combination Therapy | 11.20am - 11.40am | Whittaker B - New Drugs and New Knowledge - Challenges for HIV/AIDS Clinical Research and Treatment | | Mutations in NNRTI-Treated Individuals |
| 11.35am | Reid E - Mainstreaming | Sansom L - Subsidised Medicines - The PBAC and its Processes 11.40am - Constructing | Hurley M - Constructing | 11.30am | Poumbourios A - Receptor Activated | | |
| - 11.50am | and The HIV Epidemic | 11.45am - 12.00pm | Gane E - Case Presentation on Multi Resistance with Serial Monotherapy | - 12.00pm | about Living with HIV/AIDS | - 12.00pm | HIV gp120-gp41: New Targets for Antivirals |
| 11.50am - 12.05pm | Rock J - Making the Involvement of Positive People Meaningful: Putting GIPA Into Practice | | | | Machon K - Relative Merit: Keeping the Research Program Real | 12.00pm - 12.15pm | Tachedijan G - Role of HIV-1 Reverse Transcriptase Dimerization in Enzyme Function and Maturation |
| 12.05pm - 12.20pm | Dr Rosmini Day, Director for Commmunicable Diseases Control, Ministry of Health, Indonesia - Response on HIV/AIDS Epidemic in Indonesia | 12.00pm - 12.30pm | Discussion | 12.00pm - 12.20pm | | | |
| 12.20pm - 12.30pm | Discussion | | | 12.20pm - 12.30pm | Discussion | 12.15pm - 12.30pm | Repits J - Selection of HIV-1 R5 Variants with Augmented Infectivity and Reduced Sensitivity to Entry Inhibitors at Time of Severe Immunodeficiency |

| 12.30pm - 1.30pm | Lunch in Exhibition & Poster Area - Federation Ballroom | | | | | | | |
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| | Symposium/Open Forum - Clinical Medicine & Policy - HIV and Migration | | Concurrent Session - Social Research - Workforce Qualitative | | Concurrent Session - Clinical Medicine - Cardiovascular and Lipodystrophy | | Concurrent Session - Basic Science - Six Degrees of Investigation | |
| 1.30pm - 3.00pm | Ballroom North Chairs: Liz Dax and Alan Pithie. Panel: Liz Dax, Les Szaraz, Deborah Couldwell, Tadgh McMahon, Mark Kelly and David Puls | | Ballroom Centre Chairs: Marian Pitts and Anne Johnson | | Ballroom South Chairs: Bruno Cotter and Gary Rogers | | Sullivans Room Chairs: David Harrich and Anthony Jaworowski | |
| 1.30pm - 1.45pm | Szaraz L - Australia's immigration response to HIV/ AIDS | 1.30pm - 1.45pm | Newman CE - Accounting for 'Wellness' in Interviews on Illness: Notes from a Social Research Project with Aboriginal People in Western Australia who are HIV-Positive | 1.30pm - 1.50pm | Cotter B - Cardiovascular Complications of HIV | 1.30pm - 1.45pm | Donaghy H - Resistance of Plasmacytoid Dendritic Cells to Herpes Simplex Virus 2 Infection In Vitro | |
| 1.45pm - 2.00pm | Pithie A - The Effect of Migration on the HIV Epidemic in New Zealand | 1.45pm - 2.00pm | Slavin S - Contemporary Meanings of Risk Among Gay Men Recently Infected with HIV in Melbourne | | | 1.45pm - 2.00pm | Grgacic E - Immunogenicity of DHBV VLPs Carrying the HCV E2 Ectodomain | |
| 2.00pm - 2.15pm | Couldwell D - HIV-Infected Migrants: Clinical and Public Health Issues | 2.00pm - 2.15pm | McDonald KM - The Meaning of Complementary and Alternative Medicine Practices Among PLWHA | 1.50pm - 2.10pm | Drummond F - The Smart (Strategies for Management of Anti-Retroviral Therapy) Study - Enrolment Update, Risks for Cardiovascular Disease and Adherence to Strategy | 2.00pm - 2.15pm | Chang JJ - The Specificity and Phenotype of Intrahepatic and Circulating HBV Specific T cells Differ in Chronic HBV Infection | |
| 2.15pm - 2.30pm | McMahon T - A Snapshot Survey of Medicare Ineligibility Amongst PLWHA in NSW | 2.15pm - 2.30pm | Combo T - Tharanban- Connecting Academia with Aboriginal Communities and Connecting Aboriginal Communities with Academia | 2.10pm - 2.30pm | Mallon PWG - A Randomised, Placebo- Controlled Trial of Pravastatin for the Treatment of Protease- Inhibitor-Induced Hypercho- lesterolaemia in HIV-Infected Men | 2.15pm - 2.30pm | Smith MZ - Rapid Escape and Reversion at an Immunodominant SIV Gag Epitope in Pigtail Macaques: Effective CD8+ T Cells and Big Fitness Cost? | |

| | Ballroom North | | Ballroom Centre | | Ballroom South | | Sullivans Room |
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| 2.30pm - 2.45pm | Kelly M - Provision of Antiretroviral Therapy (ART) to Individuals Not Eligible for Medicare Benefits: The Clinician's Response | 2.30pm - 2.45pm | Salter MA - Developing a Charter for Community Engagement | 2.30pm - 2.50pm | Wand H - Combined Analysis of Two Randomized Trials: Mitox and Rosey to Determine the Factors Associated with Changes in Body Composition Parameters and Their Respective Relation to Metabolic Changes at Weeks 24, 48 and 72 | 2.30pm - 2.45pm | Alexander M - Control of HIV-1 by Non-coding RNA |
| 2.45pm - 3.00pm | Discussion | 2.45pm - 3.00pm | Jenkinson KM - Infection Control Compliance in Two Groups of Australian Health Practitioners | 2.50pm - 3.00pm | Discussion | 2.45pm - 3.00pm | Suzuki K - Promoter Targeted DSRNAS Induces HIV-1 Gene Silencing and De Novo CpG Methylation |
| 3.00pm - 3.30pm | Afternoon Tea in Ext | nibition & Pos | ter Area - Federation I | Ballroom | | | |
| 3.30pm | Concurrent Session - Clinical Medicine - Advances in Therapy | | Concurrent Session - Epidemiology - MSM - Margaret MacDonald Memorial Session | | Concurrent Session - Current Issues in Primary Care - Peter Meese Memorial Session | | Concurrent Session - International - PNG |
| - 5.00pm | Ballroom North Chairs: David Shaw and Debbie Marriott | | Ballroom Centre Chairs: John Kaldor and Darren Russell | | Ballroom South Chairs: Nick Medland and Andrew Gowers | | Sullivans Room Chairs: John Millan and Edward Reis. Panel: Session Speakers |

| | Ballroom North | | Ballroom Centre | | Ballroom South | | Sullivans Room |
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| 3.30pm - 3.45pm | Grey P - Time to Commence Long Term Antiretroviral Therapy, For Patients Who Were Treated At Primary HIV Infection (PHI), Achieved Virological Suppression, and then Followed a Structured Interruption Strategy (STI) | 3.30pm | Johnson A - Changing Behaviours in Men who have | 3.30pm - 3.45pm | Blyth K - A Model for Rural HIV Service Delivery - A Victorian Perspective | 3.30pm - 3.40pm | Millan J - PNG HIV/AIDS Update |
| 3.45pm | Smith DE - The Role of Hydroxyurea in Enhancing the Virological Control Achieved Through Structured Treatment | - 4.00pm Britain - Public Be of yurea in ing the ical Control red | Attwood R - Improving Based HIV Ca Managemen | Attwood R - Improving Rural- Based HIV Case Management for Complay | 3.40pm - 3.50pm | Kambal F - ANC Serosurveillance in Lae - Morobe Province | |
| - 4.00pm | Interruption (STI) in Primary HIV Infection (PHI): Final Results from a Randomised Clinical Trial (Pulse) | | | - 4.00pm | Clients Through The Telehealth Network of New South Wales | 3.50pm - 4.00pm | Pantumari J - Sexual Behaviour of Inmates of Bumana Prison |
| 4.00pm - 4.15pm | Dwyer D - Final Results from the Alliance Study (ML16992) - A 96 Week Open Label Study to Describe the Efficacy and Safety of Enfuvirtide in Patients Changing Therapy to an NRTI-Sparing Regime | 4.00pm | .00pm 4.15pm Grulich A - Risk Factors for Seroconversion in Homosexual Men in Australia | 4.00pm - 4.15pm | Fisher K - Examining and Identifying Trends in Syphilis Notifications in Northern NSW: What is Involved for Rural Clients Accessing Services for Sexually Transmitted Infections (STIs)? | 4.00pm - 4.10pm | Dennis J - Responding to the HIV/AIDS Epidemic in Papua New Guinea: Hope Worldwide (PNG)'s Activities |
| | | - 4.15pm H in | | | | 4.10pm - 4.20pm | Rock J, Mea M - IGAT Hope/ NAPWA Project |
| 4.15pm - 4.30pm | Pett S - Cycling with Recombinant Interleukin-2 (rIL- 2) in Esprit and Silcaat | 4.15pm - 4.30pm | Jin F - Incidence and Risk Factors for HIV Infection in the Health in Men (HIM) Cohort | 4.15pm - 4.30pm | Bourne C - Still Immune to the Message? Preliminary Results from the Sydney Gay Men's Hepatitis Vaccination Pilot Project | 4.20pm - 4.30pm | Kulunga A - HIV/ AIDS Care in the Highlands |

| | Ballroom North | | Ballroom Centre | | Ballroom South | | Sullivans Room |
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| 4.30pm - 4.45pm | Sarangapany J - Atazanavir Plasma Concentrations Vary Significantly Between Patients and Correlate with Increased Serum Bilirubin Concentrations | 4.30pm - 4.45pm | Guy RJ - HIV Sentinel Surveillance in Victoria - A Pilot Study | 4.30pm - 4.45pm | Dabbhadatta J - Passing the Tests?: Inner Sydney GPs and Use of STI Testing Guidelines for Men who have Sex with Men | 4.30pm - 4.40pm | Martin C - Caring for People with HIV: A Capacity Building Program for Health Care Teams in Papua New Guinea |
| 4.45pm - 5.00pm | Bloch MT - Atazanavir Trough Plasma Concentration Monitoring in a Cohort of HIV-1 Positive Individuals Receiving Highly Active Antiretroviral Therapy | 4.45pm - 5.00pm | Prestage G - Sexually Transmitted Infections in a Cohort of HIV Positive Gay Men in Sydney | 4.45pm - 5.00pm | Whately YE - A Cross Sectional Study of Access and Use of HIV Information by HIV Positive People in Sydney | 4.40pm - 5.00pm | Discussion |
| 5.00pm | Session Ends | 5.00pm | Session Ends | 5.00pm - 5.15pm | Puls DN - Negotiating the Law - Service Providers Duties to Third Parties | 5.00pm | Session Ends |
| 5.00pm - 6.30pm | Conference Reception in Exhibition & Poster Area - Exhibition Hall | | | | | | |

SATURDAY 27 AUGUST 2005

| 7.30am | Registration | | | | | | | |
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| | | | | | | | | |
| 9 00am - | Plenary: Understanding HIV Pathogenesis and Treatment | | | | | | | |
| 10.30am | Ballroom North/Cen Chairs: Suzanne Crov | tre we and Bruce | Brew | | | | | |
| 9.00am - 9.30am | Jenny Hoy, Head, Cli What to start with: | n <mark>ical Researc</mark> an NNRTI or a | h <mark>Unit, The Alfred Hosp</mark> a PI? Does it matter? | ital, Melbour | ne, Australia | | | |
| 9.30am - 10.00am | Daniel Douek, Investigator at the Vaccine Research Center of the National Institutes of Health, and Chief of the Human Immunology Section, USA Mechanisms of HIV Pathogenesis | | | | | | | |
| 10.00am - 10.30am | am Oam Simon Mallal, Professor and Executive Director, Centre for Clinical Immunology and Biomedical Statistics, Royal Perth Hospital, Perth, Western Australia Abacavir and Nevirapine Hypersensitivity: Genetics and Pathogenesis | | | | | | | |
| 10.30am - 11.00am | n Morning Tea in Exhibition & Poster Area - Federation Ballroom | | | | | | | |
| 11.00am- | Symposium- Clinical Medicine - Contentious & Emerging Issues - Ian Thompson Memorial Session | | Symposium - ACON/NSW Health Session | | Symposium - International - Testing Testing Is This Thing Working? | | Symposium - Current Issues in Public Health and Prevention | |
| 12.15pm | Ballroom North/ Centre Chairs: Debbie Marriott and Jenny Hoy | | Ballroom South Chairs: Lisa Ryan and Geoff Honnor | | Sullivans Room Chairs: Sue Kippax and Elizabeth Reid | | Meehans Private Dining Room Chairs: Phillip Clift and Vanessa Read | |
| 11.00am - 11.20am | Kazatchkine M - Current Issues in Antiretroviral Treatment | 11.00am - 11.15am | Clayton S - Negotiated Safety or Negotiated Risk: Is It Time to Rethink Talk, Test, Test Trust? | 11.00am - 11.15am | Worth H - Routine HIV Testing: The Answer to the AIDS Crisis in the Resource- Poor World, or a Backward Step for Human Rights? | 11.00am - 11.15am | Combo T - Early Detection and Treatment of STI and BBI: A Manual for Improving Access to Early Detection and Treatment of STI and BBI within Aboriginal Communities in NSW | |

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SATURDAY 27 AUGUST 2005

| | Marriott D - Virological and Immunological Outcomes at 3 Years Following | 11.15am - 11.30am | Berry S - Getting in Early - Working Smarter with People Living with HIV and Mental Illness | 11.15am - 11.30am | Reis E - What Part of Prevention Don't We Understand? | 11.15am - 11.30am | Lodge MA - Is the Australian Approach to Drugs and HIV/AIDS Still Underpinned by the Principles of Harm Minimisation? | | |
|----------------------|--|----------------------|--|----------------------|---|----------------------|---|--|--|
| - 11.35am | with Regimens Containing a NNRTI or PI or Both: The Initio Trial | 11.30am - 11.45am | Hobday T - Management of Clients with Challenging Behaviours: A Shared Responsibility Model of Care | 11.30am - 11.45am | Burke M - VCT as a Proxy Test for Male Partners in Tanzanian PMTCT Programs | 11.30am - 11.45am | Moreton R - Increased Risk- Taking Behaviour Despite Improved STI Knowledge Following a Local Targeted Health Promotion Campaign | | |
| 11.35am - 11.55am | Kelleher A - Management of Primary HIV Infection | 11.45am - 12.00pm | Persson A - Entering the Closet: Living with HIV Heterosexually | 11.45am - 12.00pm | Race KD - Configuring the Body of HIV Prevention | 11.45am - 12.00pm | Kaldor J - Pre-Exposure Chemoprophylaxis for HIV Prevention | | |
| 11.55am - 12.15pm | Crowe S - Role of Resistance Testing in HIV Management | 12.00pm - 12.15pm | Discussion | 12.00pm - 12.15pm | Discussion | 12.00pm - 12.15pm | Grulich A - Definining High Incidence Groups of Homosexual Men for HIV Prevention Studies: Data from the Health in Men (HIM) Cohort | | |
| 12 1Emm | Closing ASHM Confe | rence | | | | | | | |
| - 12.45pm | Ballroom North/Centre Chairs: Sharon Lewin, Liz Dax and Levinia Crooks | | | | | | | | |
| 12.25pm - 12.40pm | Sharon Lewin - Closi | ng Remarks a | and Prize Announceme | ents | | | | | |
| 12.40pm - 12.45pm | Levinia Crooks - Future Conferences | | | | | | | | |
| 12.45pm - 1.30pm | Lunch in Meehans Restaurant for registrants of the Consensus Conference | | | | | | | | |
| 1.30pm - 5.30pm | Consensus Conferen | ce (See follov | ving pages for full pro | gram) | | | | | |
| 5.30pm | End | | | | | | | | |



CONSENSUS CONFERENCE PROGRAM

| Time | Session | Chairs | Format | Speaker |
|------|---|--|---|-------------------|
| 1330 | Process and rules of engagement | Levinia Crooks | Plenary | Alan Street |
| | | | | |
| 1340 | When to commence antiretroviral therapy | Nick Medland Tony Kelleher Debbie Marriott | | |
| | | | Issues raised at the conference | Fraser Drummond |
| | | | Issues for PLWHA | Bill Whittaker |
| | | | Questions from the chairs | |
| | | | Questions from the floor | |
| | | | | |
| 1430 | The management of primary HIV infection | Tony Kelleher Nick Medland Debbie Marriott | | |
| | | | Issues of primary care | Norm Roth |
| | | | Issues of primary care | Robert Finlayson |
| | | | Questions from the chairs | |
| | | | Questions from the floor | |
| 1515 | Afternoon Tea | - Meehans Restaurant and Fo | byer | |
| 1530 | Preferred first-line regimens | Jenny Hoy Jeff Post Chris Birch Suzanne Crowe | | |
| | | | Issues in primary care | Nick Medland |
| | | | Issues for PLWHA | Kirsty Machon |
| | | | Questions from the chairs | |
| | | | Questions from the floor | |
| | | | | |
| 1610 | Role of resistance testing in HIV management | Suzanne Crowe Jeff Post Chris Birch Jenny Hoy | | |
| | | | Testing in particular populations | Gary Rogers |
| | | | Availability on resistance testing | Jonathan Anderson |
| | | | Questions from the chairs | |
| | | | Questions from the floor | |
| | | | | |
| 1650 | Additional issues raised in the guidelines which require an Australasian commentary | Sharon Lewin | Brainstorm | Alan Street |
| 1700 | Process from the day and continuous process of update | Sharon Lewin | Plenary | Jeff Post |
| 1705 | | Alan Street Sharon Lewin | Issues from the floor | |
| | | | | |
| 1710 | Summing up | Alan Street | Plenary Focus for future conferences | Sharon Lewin |



ORAL PRESENTATION ABSTRACTS


WEDNEDSAY 24TH AUGUST 2005

OPENING AND PLENARY SESSION

– 9.00 am – 10.30 am

WORKFORCE CHALLENGES IN ADDRESSING INDIGENOUS SEXUAL HEALTH AND BBV OUTCOMES

Shannon C

A strong primary health care workforce in the community controlled and mainstream health sectors is a prerequisite for effective action in addressing Aboriginal and Torres Strait Islander sexual health and Blood Borne Viruses (BBV). The first National Indigenous Australians' Sexual Health Strategy focused on the need to increase the number of Aboriginal and Torres Strait Islander health workers and to improve the knowledge and skill level of health workers in sexual health prevention, treatment, care and support.

The links between sexual health workers and drug and alcohol workers are important, particularly given the role of injecting drug use in the transmission of HIV and hepatitis C in the Aboriginal and Torres Strait Islander community in recent years. Drug and alcohol use in the Aboriginal and Torres Strait Islander community has also been linked to sexual violence and abuse and to risky sexual behaviour, particularly amongst young people.

Action in relation to workforce development is this area is now guided by the *National Strategic Framework for the Aboriginal and Torres Strait Islander Health Workforce* (SCATSIH, 2002) which was endorsed by Australian Health Ministers Advisory Council (AHMAC) in 2002, following a national review of Aboriginal and Torres Strait Islander health worker training. This session will explore the current workforce context and some of the challenges in implementing national policy as it relates to the workforce in Indigenous sexual health and BBV.

SEXUAL HEALTH CONFERENCE: PROFFERED PAPER SESSION: MEDICAL

– 9.00 am – 10.30 am

IS URINE GONOCOCCAL PCR SCREENING OF ASYMPTOMATIC MEN WHO HAVE SEX WITH MEN (MSM) WORTHWHILE?

Quach, C-H¹ Bourne C^{1.2}, McNulty, A^{1,2},

¹Sydney Sexual Health Centre (SSHC), Sydney, NSW, Australia; ²School of Public Health and Community Medicine, University of New South Wales, Kensington, NSW, Australia

Background: Public sexual health clinics traditionally test all men for urethral gonorrhoea irrespective of symptoms. During 2002, SSHC ceased testing heterosexual men without urethral symptoms who were not contacts of an STI. After this time, asymptomatic MSM continued to be screened although recent STI testing guidelines for MSM do not recommend screening for asymptomatic urethral gonorrhoea.

Objective: to determine the positive yield of urinary gonorrhoea PCR tests from asymptomatic MSM at a public sexual health clinic.

Methodology: SSHC medical record database was searched for MSM who had had a urinary gonococcal PCR test between 30/6/02 and 30/6/04 and MSM with a diagnosis of urethral gonorrhoea between 30/6/02 to 30/6/04. The 'positive results' record in the SSHC laboratory was also checked for the same period to ensure that no diagnoses were missed.

Results: In the 2-year period, there were 2081 urine PCR gonorrhoea tests and 56 urethral gonorrhoea diagnoses. 42 of these men had urethral symptoms and 5 men were miscoded, leaving 9 men with asymptomatic positive urine PCR tests. Of these 9 men, 4 had negative urethral gonococcal cultures (2 of these also had concurrent negative repeat PCR) and 4 were not retested by culture (1 of whom had positive rectal gonococcal culture). The one remaining asymptomatic man was a contact of gonorrhoea and had concurrent positive urethral and pharyngeal cultures. So the possible positive yield of urine gonorrhoea PCR for asymptomatic, non-contacts was 4/2081 (0.0019%).

Conclusion: Screening for gonorrhoea with urine PCR in asymptomatic MSM who are not contacts of gonorrhoea is not recommended.

PROLYLIMINOPEPTIDASE (PIP)-NEGATIVE NEISSERIA GONORRHOEAE STRAINS- THE CLINICAL/CONTACT TRACING STORY

<u>MacDonald E J¹</u>, Bruce J², Bridgewater P³, Blackmore T⁴ ¹Wellington Sexual Health Service, Wellington, New Zealand, ² Fertility Associates, Wellington, New Zealand (previously Sexual Health Service), ³ Wellington Medical Laboratories, Wellington, New Zealand, ⁴ Laboratories, Wellington Hospital, Wellington, New Zealand

In 2004 investigators in New Zealand and overseas described a previously uncharacterized strain of Neisseria gonorrhoeae (NG). This is known as the PIP-negative-NG because of a lack of specific enzyme leading to negative results in commonly used commercial kits used for species confirmation. Of note strains identified in Wellington to date have represented a different strain to those seen in Auckland and elsewhere.

In 2002 a nurse at the Wellington sexual health service saw classical Gram negative diplococci in urethral discharge from a symptomatic male, but when cultured the result was returned from the laboratory as "no NG identified". The nurse questioned this result and investigations began.

This paper summarises the characterization of the PIP-negative NG, discusses the clinical and contact tracing aspects and presents demographics and sexual networking pattern of the 8 cases of PIP-negative NG identified since 2002 in the Wellington region.

Six cases have described sexual networks. Four were men who have sex with men (MSM), two identified as heterosexual and denied male partners. Majority were in their 30's, five had urethral symptoms and one had asymptomatic rectal NG and was also HIV positive. There were no identified overseas partners but there were anonymous partners either in male sex-on-site venues or female partners in other parts of New Zealand. All seem to have been infected in New Zealand. The identification of this new strain has led to changes in the laboratory confirmatory testing protocols in laboratories in the Wellington region.

THE RE-EMERGENCE OF SYPHILIS AMONG HOMOSEXUALLY ACTIVE MEN IN MELBOURNE

Lee D M^{1,2}, Chen M Y^{1,} Fairley C K^{1,2} ¹Melbourne Sexual Health Centre, Carlton, VIC, Australia; ²School of Population Health, The University of Melbourne, VIC, Australia

Syphilis has re-emerged as a problem among homosexually active men internationally. At the Melbourne Sexual Health Centre, an increase in early syphilis among homosexual men attending the service has also occurred.

From July 2002 to December 2004, 40 homosexual men with early syphilis (primary, secondary, or early latent) attended the Centre, representing 54% of syphilis notifications in Victoria over this period. The characteristics of these men were compared with those of 76 randomly selected homosexual men who did not have early syphilis.

The mean age of syphilis-infected men was 35 years (range 26 to 48). Men with syphilis were more likely to be HIV positive (OR 5.9, 95%CI: 1.8-19.0, p=0.001) and to have had sex with a partner from overseas in the previous 12 months (OR 2.8, 95%CI: 1.2-6.9, p=0.03). Sixteen (40%) of the syphilis-infected men were HIV positive.

Fourteen (35%) men with syphilis reported no anal intercourse within the previous 12 months. This is consistent with oral sex being a significant route of syphilis transmission between men, as reported overseas.

Motile spirochetes were seen with dark ground microscopy in 13 of the 21 men who had specimens collected from genital ulcers. Eight of the ten specimens tested for *Treponema pallidum using polymerase chain reaction were positive.*

Clinicians managing homosexually active men – including those who are HIV positive – need to be vigilant for syphilis. The frequency of asymptomatic syphilis supports annual serological screening of men in this group.

HIV POST EXPOSURE PROPHYLAXIS (PEP) COMPLETION AND ASSOCIATED SEXUALLY TRANSMITTED INFECTION (STI) CARE AT A SEXUAL HEALTH CLINIC

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¹Sydney Sexual Health Centre, Sydney, NSW, Australia; ²School of Public Health and Community Medicine, University of New South Wales, Sydney, NSW, Australia

Objectives: To determine if patients prescribed HIV PEP obtained the complete 28-day course from the hospital pharmacy and the proportion of patients attending for HIV PEP that attended for an HIV test at/or after 3 months and were screened for syphilis, gonorrhoea and chlamydia.

Method: The Sydney Sexual Health Centre (SSHC) database was searched for HIV PEP presentations and cross-referenced with the Hospital Pharmacy records for the period March 1999 and December 2003.

Results: There were 140 presentations for HIV PEP from 135 patient (4 twice and one thrice). 97 patients were prescribed HIV PEP and 62/97 (64%) collected the 28-day supply from the pharmacy. At or after 3 months, only 30/62 (48%) of those completing dispensing and 8/35 (23%) of those who did not complete dispensing had returned for HIV testing. All tested HIV negative. 44/62 (70%) of those completing dispensing were screened for bacterial STIs detecting one case each of early latent syphilis, rectal Chlamydia and rectal gonorrhoea.

Conclusion: Attendance for follow-up HIV testing post-HIVPEP was sub-optimal, so a recall system is being considered at SSHC. Of those patients completing dispensing HIV PEP, 7% tested for STIs had a concurrent bacterial STI, supporting the need for STI screening at the time of HIV PEP assessment.

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HIGH RATES OF EPITHELIAL DYSPLASIA IN ANAL CONDYLOMATA ACUMINATA- AN UNDERESTIMATED PUBLIC HEALTH PROBLEM-IS LOW RISK HPV REALLY LOW RISK?

 $\underline{\text{McCloskey J } C^{1}},$ Metcalf C, French M A H, Flexman J P, Burke V, Beilin L G

¹Sexual Health Clinic, Royal Perth Hospital, Perth, WA, Australia

The incidence of anal cancer is rising worldwide, particularly among HIV (human immunodeficiency virus) infected men. High-grade dysplasia occurs in cervical warts, but there are few reports on the rate in anal warts.

An audit of surgically excised perianal/anal warts in patients attending the Royal Perth Hospital, Sexual Health Clinic from December 1995 – December 2004, was undertaken to study the prevalence of dysplasia. Anal and perianal warts were placed into separately labelled containers at the time of surgery. No material was discarded.

185 patients had surgery and 32 were excluded. Of those remaining, 115 were males and 38 females. Twenty-seven males and 2 females had HIV infection. Perianal and/or anal dysplasia was found in 78% (52% high-grade) of men with HIV, and 33% (20% high-grade) of men without HIV. 10.5% of women had dysplasia (5.5% high-grade). In multivariate logistic regression analysis, risk of dysplasia was increased with HIV positive status (OR 6.5, 95%CI 2.1-20.2), and homo/bisexual preference (OR3.3, 95%CI 1.3 – 8.9) independent of age, sex, and smoking.

High rates of perianal/anal dysplasia within warts in men in this audit are disturbing, and predict a substantial increase in anal cancer. These findings indicate a sub-population of HIV-infected men who are at particular risk. All HIV infected men who have sex with men should be assessed for the presence of perianal/anal warts. Scissor excision to obtain material for long-term prognostic purposes should be promoted as a treatment and may reduce the risk of cancer.

INCREASE IN RATES OF HERPES SIMPLEX VIRUS TYPE 1 (HSV-1) AS A CAUSE OF GENITAL HERPES BETWEEN 1979 AND 2003

Haddow L J $^{\rm 1}$, Dave B $^{\rm 2}$, Mindel A $^{\rm 1}$, Chung C $^{\rm 1}$, Marks C $^{\rm 1}$, Dwyer D $^{\rm 2}$

¹Sexually Transmitted Infections Research Centre, Sydney West Area Health Service, Westmead, NSW, Australia; ²Centre for Infectious Disease and Microbiology, Sydney West Area Health Service, Westmead, NSW, Australia.

Recent studies suggest that HSV-1 is becoming more common as a cause for genital herpes, relative to type 2 (HSV-2). We aimed to calculate trends in HSV type from specimens sent to Westmead Hospital, Sydney.

Three analyses were performed, comparing the proportions of typed specimens that were HSV-1 and HSV-2, adjusted for age and sex of source patient: positive genital HSV cultures to 1988; positive cultures from 1989 onward; and IgMpositive HSV serology.

The number of specimens in each analysis was 17512, 4359 and 497 respectively. There was a progressive rise in the proportions of samples being type 1 in all multivariate analyses. The minimum proportion of HSV-1 isolates was 3% (1980) and the maximum was 41% (2001). In the period 1979-1988, each additional year gave an O.R. of 1.236 (P<0.005, 95% C.I. 1.204 – 1.270). In the later period, similar results were found, with a steeper rise in rates of HSV-1 in samples from younger individuals (O.R. per year of 1.166, 95% C.I. 1.116 – 1.218) compared to those over 25 (O.R. per year 1.058, 95% C.I. 1.032 – 1.083). Female sex and age under 25 were associated with a greater proportion of HSV-1 isolates in both time periods. The trend seen in the proportion of HSV-1 IgM serology results was O.R. per year 1.357, 95% C.I. 1.256 – 1.466, P<0.005.

These data suggest that HSV-1 has become more important as a cause of genital herpes in NSW. There are several possible behavioural and biological explanations for this trend.

SYNERGIES WITH SEXUAL HEALTH – CONDUIT PLENARY WITH SEXUAL HEALTH CONFERENCE

– 11.00 am – 12.30 pm

(AT LEAST) TWO TO TANGO – CHANGING SEXUAL BEHAVIOUR AND STI/HIV RISK

Johnson A M1

¹Department of Primary Care and Population Sciences, University College London, United Kingdom

The transmission of STIs/HIV in populations is determined by the interaction between sexual behaviours, biological characteristics of sexually transmissible infections and the effectiveness of control programmes.

The global HIV epidemic stimulated major public education campaigns in most developed countries in the 1980s, and this was followed by dramatic declines in STI incidence, likely resulting from behaviour change. In developing countries, where there is evidence of some degree of HIV control, this has been achieved through political leadership, effective public education campaigns, behavioural change and clinical services.

Since the mid-1990s however, STI incidence has once again risen in many developed countries. This paper reviews evidence for changing patterns of sexual behaviour underlying these trends, drawing particularly on the 1990 and 2000 British National Surveys of Sexual Attitudes and Lifestyles (Natsal). These provide evidence of increasing rates of partner change, increasing proportions reporting paying for sex and homosexual partnerships. Changes are occurring in the context of evolving demographic, marriage and childbirth patterns and changing social contexts.

Evidence from homosexual community surveys in a number of countries demonstrate increasing levels of risk behaviour in the post HAART era. These are occurring in the context of rising HIV prevalence (due to improved survival on HAART) and acting synergistically with raised STI incidence, are likely to contribute to the maintenance of continuing HIV transmission, including transmission of resistant virus.

Despite rapid changes in sexual behaviour in the 1980s in response to the HIV epidemic, there is evidence that these trends have been reversed resulting in resurgence of STI and HIV transmission. STI/HIV control will require renewed investment in behavioural and biological intervention congruent with the changing social and demographic environment of the 21st century and changing prognosis in the clinical management of STIs/HIV.

INTERACTIONS BETWEEN HIV AND STIS IN HOMOSEXUAL MEN

Grulich A

National Centre in HIV Epidemiology and Clinical Research, UNSW, Sydney.

Studies in heterosexual populations have concluded that when rates of sexually transmissible infections (STIs) are high, interventions to reduce STI prevalence and incidence can reduce HIV incidence. The potential for STIs to facilitate HIV transmission in homosexual men has been much less studied.

We are currently studying these interactions in the Health in Men cohort in Sydney. Between 2001-04, 1,427 homosexual men were enrolled. The men undergo annual face-to-face interviews and anal swab and urine screening for gonorrhoea and chlamydia (nucleic acid amplification, BD ProbeTec), and serology for syphilis, herpes simplex virus (HSV) types 1 and 2, and HIV (all by enzyme immunoassay). The men also report specific STIs that are diagnosed between annual assessments ("interval diagnoses").

The incidence of combined at interview and interval diagnoses of STIs has ranged from 0.54 per 100 person years (PY) for syphilis, to 8.51/100PY for urethral chlamydia. The seroprevalence of HSV2 is 25% and the incidence of HIV is 1.07/100PY. Neither incident urethral infections, syphilis nor prevalent HSV2 are significantly associated with HIV seroconversion. However anal gonorrhoea and interval diagnosis of anal chlamydia are related to HIV seroconversion, even after adjusting for reporting receptive unprotected anal intercourse with casual partners. This was statistically significant for gonorrhoea (RR 8.29, 95% CI 1.98-34.8) but not significant for chlamydia (RR 3.75, 95% CI 0.80-17.5).

In this cohort, anal bacterial STIs are independent risk factors for HIV acquisition. As STIs are common in homosexual men, STI-based interventions have the potential to reduce HIV incidence, and intervention studies are justified.

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SYMPOSIUM – BASIC SCIENCE – IMMUNOLOGY – 11.00 am – 12.30 pm

THE HIV-INFECTED IMMUNE SYSTEM: A GUTLESS WONDER?

Kelleher A D1

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Recent data derived from SIV infection of macaques suggests that there is rapid, early and massive depletion of memory cells from the gut lymphoid tissue. These results and results from studies in human infection have been used to develop a model that suggests profound depletion of CD4+ T-cells from the gut is an early critical component of disease pathogenesis. Although this depletion is consistent with infection with a CCR5 tropic virus, as CCR5 bearing lymphocytes are targeted to peripheral lymphoid tissue, the true extent of the depletion of the gut relative to other lymphoid tissues in HIV-infection is not clear. A profound early depletion of gut and other memory cells appears somewhat inconsistent with a number of observations. Critically, overt gut pathology is not a major manifestation of either primary or early HIV infection. The overwhelming majority of gut related disease occurs late in the disease process, suggesting that the depletion of gut associated lymphoid tissue by HIV infection may follow a different time course to that seen in SIV models. Memory responses continue to be generated, many recall responses are relatively intact and responses to vaccines can be boosted until relatively late in the disease process. Although depletion of the gut occurs it is likely that the macaque models represent an extreme end of the spectrum. The generation of antigen specific CD4+ T-cells, bearing CCR5 in primary responses to HIV and other viral infections is only a recently recognised phenomenon and the role and critical importance of these cells is still to be fully defined. Clinical trials of CCR5 inhibitors, particularly when commenced early in primary infection, may provide an informative model for delineating the role of these cells and provide insight as how the modulation of depletion of lymphoid tissue associated with mucosal impacts on disease outcomes.

NATURAL VARIATION IN THE ACTIVITY OF ANTI-RETROVIRAL CYTIDINE DEAMINASES AND THEIR VIRAL ANTAGONISTS

Bieniasz P

APOBEC3G, and its close relative APOBEC3F, exhibit antiretroviral activity primarily as a consequence of their ability to deaminate cytidines in nascent retroviral DNA. However, in many situations antiviral activity is counteracted by Vif proteins encoded by HIV-1 and other primate lentiviruses. We have compared the properties of APOBEC3F from human, macaque and African green monkey (AGM) with each other and with corresponding APOBEC3G proteins from the same species. While all APOBEC proteins tested exhibited anti-HIV-1 activity, human APOBEC3F was, surprisingly, found to be 10-to 50-fold less potent than human APOBEC3G. Differences between APOBEC3F and APOBEC3G in antiviral potency were less evident when pairs of proteins from macaque and AGM were compared. A series of primate lentivirus Vif proteins reduced APOBEC3F expression and antiviral activity, but in each case, levels of Vif that were sufficient to completely reverse infectivity defects induced by APOBEC3G were only partially effective or completely ineffective against APOBEC3F. Moreover, the highly species-specific nature with which HIV-1 and SIVAGM Vif proteins neutralize APOBEC3G proteins was less evident when APOBEC3F proteins were argetled. Overall, these findings suggest a somewhat complex evolutionary relationship between lentiviral Vif proteins and cytidine deaminases, with highly efficient and species-specific neutralization of APOBEC3G and less efficient neutralization of APOBEC3F being a common characteristic of Vif proteins. We have also found that defective vif alleles can readily be found in HIV-1 isolates and infected patients. Most commonly, single residue changes in the Vif protein sequence are sufficient to cause the loss of Vif-induced APOBEC3G or APOBEC3F neutralization. Interestingly, not all the detected defects lead to a complete inactivation of Vif function and some naturally occurring Vif mutants retained selective neutralizing activity against APOBEC3F but not APOBEC3G or vice versa. Concordantly, independently hypermutated proviruses with distinguishable patterns of G-to-A substitution attributable to cytidine deamination induced by APOBEC3G, APOBEC3F or both enzymes were present in individuals carrying proviruses with completely or partly defective Vif variants. Natural variation in Vif function may result in selective and partial neutralization of cytidine deaminases and thereby promote viral sequence diversification within entivirush infected umans and nonhuman primates.

THE MECHANISM OF DEFECTIVE IMMUNITY IN HIV-1 AND MALARIA CO-INFECTED PREGNANT WOMEN

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Introduction: Pregnant women are susceptible to *Plasmodium falciparum* strains expressing surface proteins which bind chondroitin sulphate A (CSA) on placental trophoblasts. In malaria endemic regions HIV-1 prevalence is very high leading to high levels of co-infection. Since HIV-1 increases incidence and severity of malaria disease we examined its impact on antibody-dependent immunity against the pregnancy-specific strain of *P falciparum* CS2 *in vitro* and in a cohort of pregnant women from Malawi, where co-infection is common.

Methods: Levels of antibodies recognising CS2-infected erythrocytes (IE) were measured in serum from pregnant Malawian women by flow cytometry. Phagocytosis of IgG-opsonised IE by monocyte-derived macrophages (MDM) infected with the laboratory adapted, M-tropic strain HIV- $1_{\rm Ba-L}$ was measured using an established colourimetric assay.

Results: Antibodies reacting with IE were predominantly IgG1 and IgG3 subtypes. Staining of IE by serum from HIV-1-infected women was reduced compared to sera from HIV-1-uninfected women: percent positive staining =18.5% (sem=1.54%, n=222) c.f. 29.3% (sem=2.79, n=94) p < 0.001. Reduced reactivity was observed with serum from HIV-1-infected women at all gravidities and was more severe at lower CD4 counts. HIV-1-infection of MDM inhibited phagocytosis of IE (inhibition = 86.4%, n=8, p=0.01). The ability of sera to promote IgG-dependent phagocytosis by MDM and THP1 cells is currently being assessed.

Conclusions: HIV-1 impairs malaria immunity by decreasing serum levels of antibodies to pregnancy specific strains and by decreasing phagocytosis of IE by macrophages. Together these effects may synergistically impair clearance of IE by macrophages in HIV-1 infected women.

CD31+ NAÏVE T-CELLS ARE REDUCED IN HIV-INFECTED INDIVIDUALS AND ARE PERMISSIVE TO HIV INFECTION IN VITRO ONLY FOLLOWING IL-7 STIMULATION

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Expression of CD31 on the surface of naïve CD4+ T-cells has recently been shown to identify true recent thymic emigrants. Naïve T-cells that have proliferated without T-cell receptor-mediated stimulation lose expression of CD31. CD31- naïve CD4+ T-cells are infected with HIV in vivo. We hypothesised that the pool of CD31- naïve CD4+ T-cells will be significantly expanded in the setting of HIV infection as a homeostatic response to lymphopenia, and that CD31- naïve T-cells are targets for HIV infection leading to the establishment of a long-lived HIV reservoir in naïve CD4+ T-cells.

We measured the % CD31 expression within CD4+ Tcell subsets using whole blood from HIV-infected patients (n=48) and HIV-uninfected age-matched controls (n=25). We isolated and infected highly purified populations of CD4+CD45RO-CD31+, CD4+CD45RO-CD31- and CD4+CD45RO+ T-cells from HIV-negative individuals using magnetic beads. Uninfected purified T-cell populations were stimulated with IL-7 and cell phenotype was assessed by flow cytometry. CD4+CD45RO-CD31+ and CD31populations (freshly isolated and following stimulation with IL-7) were infected with NL4.3 and AD8 and HIV-gag DNA quantified using real time PCR.

We unexpectedly found a significantly higher %CD31+ within naive T-cells in HIV-infected individuals (mean \pm SD, 66 \pm 16%) compared with HIV-negative individuals (53 \pm 10%; p=0.005). As previously reported, the %CD45RA+CD4+ T-cells in HIV-infected individuals was significantly reduced (mean \pm SD, 6 \pm 7%) compared with HIV-negative individuals (mean \pm SD 44 \pm 9%, p<0.001). Freshly isolated CD4+CD45RO- T-cells (CD31+ or CD31-) were not permissive to HIV infection with either AD8 or NL4.3, however, following stimulation with IL-7 for 6 days, the CD4+ CD45RO- CD31+ T-cells were permissive to infection with both AD8 and NL4.3. Stimulation of CD31+ naïve CD4+ T-cells with IL-7 led to a down-regulation of CD31 expression, but no change in HLA-DR, CCR5, CXCR4, CD11a CD45RA or CD45RO expression.

HIV infection is characterised by an increase in the proportion of CD31+ naïve T-cells due to a relative depletion of CD31- naïve T-cells. HIV cannot directly infect differentiated CD31+ or CD31- naïve CD4 T-cells ex-vivo but can infect CD31+CD45RO-CD4+ cells that have been stimulated with IL-7. Expansion of CD4+ naïve T-cells, driven by IL-7, may favour the establishment of an infected pool of CD4+CD31- naïve T-cells in vivo

ashm2005hobart

JOINT CONCURRENT SESSION: CURRENT **ISSUES IN CLINICAL MANAGEMENT**

- 1.30 pm – 3.00 pm

EVALUATION OF SERUM AND CSF SYPHILIS SEROLOGY IN THE DIAGNOSIS OF EARLY NEUROSYPHILIS IN HIV POSITIVE AND **NEGATIVE PATIENTS**

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Neurosyphilis comprises a heterogeneous group of neurological conditions occurring in early or late syphilis. Limitations of cerebrospinal fluid (CSF) analysis for the diagnosis of neurosyphilis are well recognised; differing definitions are in use, and CSF markers can be misleading, especially in the setting of HIV infection. Early neurosyphilis may be conclusively diagnosed in a patient with positive syphilis serology whose neurological symptoms respond to high dose benzylpenicillin (1.8g intravenously 4 hourly for 14 days). This study aims to examine the role of CSF results in the diagnosis of early neurosyphilis using response to therapy as gold standard.

In this retrospective case series, records of all patients with CSF samples submitted for syphilis testing between January 2002 and July 2004 at St Vincent's Hospital, Sydney, were reviewed. Results included HIV serology, serum (EIA, TPPA, FTA-ABS and RPR) and CSF (VDRL, TPPA and FTA-ABS) syphilis serology, CSF cell counts and protein.

33 patients (24 HIV-infected, 28 male, aged 27 to 73 years) were identified. 16 (11 HIV positive) were treated for neurosyphilis. 2/16 had positive CSF VDRL. 3/16 were neurologically asymptomatic, 8/16 recovered with treatment, and an alternative diagnosis was identified in 4 of the remaining 5 treated patients. In those patients responding to treatment, sensitivity and specificity of CSF VDRL was 20% and 100% respectively; CSF WCC >=20 x 10%/L, 13% and 80% respectively; CSF WCC >=5 x 10⁹/L plus protein >=450 mg/L, 25% and 80% respectively, and reactive or minimally reactive CSF FTA-ABS, 75%, and 100% respectively. The negative predictive value of CSF FTA-ABS was 71%. The most accurate predictor of neurosyphilis in symptomatic patients was serum RPR >=1:8 (sensitivity 88%, specificity 100%).

In conclusion, negative FTA-ABS in CSF did not exclude neurosyphilis, contrary to common understanding. Secondly, the accuracy of high serum RPR in diagnosing symptomatic patients with neurosyphilis indicates that it may be possible to avoid or defer lumbar puncture in these patients.

Until clearer guidelines become available, applying stringent laboratory diagnostic criteria may result in treatment being inappropriately withheld, especially in HIV positive patients. The diagnosis and treatment of neurosyphilis need not necessarily be based on CSF results alone.

PREVALENCE OF ANAL SQUAMOUS INTRAEPITHELIAL LESIONS AND RELATED ABNORMALITIES IN A COMMUNITY-BASED SAMPLE OF HIV POSITIVE AND HIV NEGATIVE HOMOSEXUAL MEN

Vajdic C M¹, Medley G², Hillman R J³, van Leeuwen M T¹,

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Anal cancer occurs at least 20 times more frequently in homosexual men than in the general population. Previous studies among homosexual men have found very high rates of the precursor condition, anal squamous intraepithelial lesions (ASIL), particularly in those who are HIV positive. However, most of these studies have been clinic-based, and there are only limited population-based data. The few existing community-based studies have been conducted in the United States, and were mostly carried out prior to the widespread availability of effective anti-retroviral therapy.

We are conducting a cross-sectional study of ASIL in a community-based sample of HIV positive and HIV negative homosexual men. Eligible participants undergo a 'blind' anal smear, collected by a single trained study nurse. This involves the insertion of a pre-moistened Dacron swab into the anal canal and rotation of the swab against the anal wall at the anal transformation zone. The swab is subsequently transferred to a liquid-based cytology vial (ThinPrep). Anal cytology is read by a single trained cytologist with extensive experience in the diagnosis of ASIL, and results are classified according to the Modified Bethesda criteria for cervical cytology. Men with atypical squamous cells of undetermined significance (ASCUS) and high-grade lesions are referred for diagnostic high resolution anoscopy (HRA) and biopsy.

By May 2005, 45 HIV positive men had been enrolled. Technically adequate smears for cytological diagnosis were obtained in 40. Of these, only 13 (33%) were classified as normal. Nine (23%) had low-grade ASIL, 12 (30%) had ASCUS with possible low-grade changes, four (10%) had ASCUS with possible high-grade changes, and two (5%) had high-grade ASIL. Data on 100 HIV positive and 100 HIV negative participants will be presented, together with anoscopic findings.

ASIL were found commonly in this community-based sample of HIV positive homosexual men, with 18 (45%) of 40 men requiring referral for HRA. This high rate of abnormalities may well be related to the high incidence of anal cancer in this population. However, given the lack of clear data on rates of progression of ASIL, and poorly validated treatment options, further research is necessary before screening is advocated.

A STUDY INVESTIGATING OBSTETRICIANS' SCREENING PRACTICE AND KNOWLEDGE BASE FOR MANAGEMENT OF WOMEN WITH A BLOOD BORNE VIRUS IN AUSTRALIA PRE AND POST INTERVENTION

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Background: In Australia, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) recommend that all pregnant women be offered antenatal human immunodeficiency virus (HIV) screening and consideration be given to offering all women hepatitis C virus (HCV) screening. Management of women with a blood borne virus during pregnancy is variable.

Aim: To assess antenatal screening practice and knowledge base for management during labor of women with a blood borne virus pre and post an educational intervention. To assess the advice given regarding risk of transmission via breastfeeding.

Methods: A cross sectional survey of all obstetricians registered with the RANZCOG was performed. Feedback of results and educational material was sent to all fellows and then a follow up cross sectional survey was performed to assess change in practice post educational intervention.

Results: The response rate for both surveys was 68%. The first survey found that of all responders, 50% always offered antenatal HIV screening and 60% always offered antenatal HCV screening. The first survey also found that knowledge base regarding the management of pregnant women infected with HIV and the knowledge of transmission risk of HCV and hepatitis B virus (HBV) with breastfeeding needed improvement. The second survey found that of all responders 59% always offered antenatal HIV screening and 70% always offered screening for HCV. The proportion of obstetricians who always offered caesarean section and always avoided rupture of membranes in a woman infected with HIV or HCV increased significantly between the first and second survey. Knowledge regarding the risk of HBV and HCV transmission with breastfeeding improved after the education intervention.

Conclusion: Antenatal screening for HCV and HIV is increasing in Australia. The knowledge base of interventions to reduce mother to child transmission of HIV is improving. Knowledge of the risk of transmitting HBV and HCV via breastfeeding improved post educational intervention.

COMPARISONS OF SEXUAL RISK BEHAVIOUR AND MORBIDITY IN BACKPACKERS AND NON-TRAVELLERS AT A SYDNEY SEXUAL HEALTH CLINIC

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The objective of this study was to compare the sexual health needs and prevalence of STIs among backpacker and matched-age patients attending SSHC.

The definition of a backpacker included: aged 18 to 30 years, born outside of Australia and in a country where many backpackers originate from, lived outside of Australia for most of the past 5 years, living in Australia less than two years, and not a student. The comparison group consisted of other SSHC attenders aged 18 to 30. Current sex workers in both groups were excluded. A retrospective analysis of SSHC electronic data was conducted, including 2791 backpackers and 10506 controls who consecutively attended between 1998 and 2004.

43% of both backpackers and comparison clients presented to SSHC with symptoms suggesting sexually transmitted infections (STI). More backpackers than comparison clients were using contraception, yet 15% of backpackers were pregnant and almost half (44%) of the clinic attenders who requested emergency contraception were backpackers. Equal groups of backpackers and controls practiced consistent condom use (27%), but 16% of backpackers reported using condoms less than half of the time, and 23% never used them. Only a quarter of the backpackers reported always using a condom. Backpackers were significantly more likely than the comparison clients to report a history of human papillomavirus (HPV) (14% vs 12%, p=.008), chlamydia (13% vs 8%, p<.001) and PID (0.8% vs 0.3%, p<.001). They were also more likely to present with chlamydia (8% vs 5%, p<.001), and equally likely to present with HPV (16%). Backpackers and controls were equally unlikely to present with gonorrhoea, nongonoccocal urethritis, and genital herpes. Hazardous alcohol use (>280g/week for men; >140g/ week for women) was reported more often by male (17% vs 4%) and female (27% vs 12%) backpackers than by controls. 16% of male backpackers reported sex while in Thailand.

These findings highlight the potential for the cross-continental dissemination of STIs. Taken out of their familiar environment, backpackers engage in more risk taking that they would at home. Backpackers should be considered to be at risk and targeted for health promotion and education.

AN AUDIT OF CHLAMYDIA AND GONORRHOEA PCR TESTING AT WU CHOPPEREN HEALTH SERVICE

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Self collected specimens for gonorrhoea and chlamydia PCR is an acceptable way of testing that can be offered easily by a broad range of practitioners in a variety of settings. Despite the ease of PCR testing, barriers can hinder the offering and uptake of testing, particularly among those most at risk of STI.

An audit of PCR tests taken at Wu Chopperen Health Service in 2004 was conducted in order to identify and address gaps in testing. PCR tests were collated by age and gender, and the reason for testing was identified from medical records. The audit identified; a significant amount of chlamydia and gonorrhoea among 15 to 30 year olds; the majority of cases detected were amongst 15 to 30 women who either had no symptoms or who presented with low abdominal pain; significantly less PCR tests were taken among men, and very few were taken as a result of asymptomatic screening.

The audit highlighted the need to continue directing testing to asymptomatic 15 to 30 year olds, and to people of any age who present with symptoms. The audit also identified the need for strategies to increase both the offering of testing by practitioners and the uptake of testing particularly among 15 to 30 year old men.

CONCURRENT SESSION – BASIC SCIENCE – IMMUNITY AND PATHOGENESIS

– 1.30 pm – 3.00 pm

INHIBITING CELLULAR EXPRESSION OF HIV-1 TAR-RNA BINDING PROTEIN (TRBP) AUGMENTS INNATE RESISTANCE TO HIV-1

 $\frac{Purcell \ D \ F \ J^{i}, \ Christensen \ H \ S^{i}, \ Ong \ C \ L^{i}, \ Chung \ S \ W \ L^{i}, \\ Gatignol \ A^{2}$

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The Protein Kinase R (PKR) pathway plays an important role in suppressing the spread and replication of viruses. The importance of the PKR pathway in inhibiting HIV-1 replication is best exemplified in astrocytes, where infection results in severely diminished acute viral replication. While astrocyte PKR levels are similar to cells that exhibit a productive HIV-1 phenotype, the PKR pathway was more responsive to viral RNA in astrocytes and correlates with low levels of the TAR RNA binding protein (TRBP), a cellular inhibitor of PKR. Elevating TRBP levels in astrocytes reduced the activation of PKR and dramatically increased the production of new HIV. This lead to the hypothesis that decreasing TRBP expression in cells that normally produce high levels of HIV-1 might augment an antiviral PKR response and reduce viral replication. We aimed to use siRNA to reduce TRBP expression in cells permissive for HIV-1 replication and assess effects on virus production.

The ability of in vitro transcribed TRBP siRNAs to silence TRBP gene expression was assessed using a chimeric TRBP-EGFP fluorescent reporter assay. Quantitative PCR and western immunoblotting were used to measure decreases in endogenous TRBP mRNA and protein levels. Viral replication was measured using RT and immunoblotting assays.

Of seven TRBP specific siRNAs, two silenced expression by up to 80% at siRNA concentration of 14nM in the TRBP reporter system. After 48 hours these siRNAs down-modulated endogenous TRBP expression by up to 40% at concentrations lower than 7nM. While high concentrations of control non-specific siRNAs triggered small decreases in both reporter and endogenous TRBP expression, the TRBP specific siRNAs were always far more potent at all concentrations. Decreasing endogenous TRBP levels in HIV-1 permissive cells resulted in an 80% decrease in HIV-1 production.

RNAi was successfully used to specifically reduce reporter and endogenous TRBP expression. When down-modulating TRBP expression with siRNA, even small decreases in endogenous TRBP expression can dramatically reduce HIV-1 replication through enhanced activity of the PKR antiviral response, demonstrating an integral role of TRBP in supporting viral replication.

BROAD NEUTRALISATION AND COMPLEMENT-MEDIATED LYSIS OF HIV-1 BY ^{PE}HRG214, A NOVEL CAPRINE ANTI-HIV-1 POLYCLONAL ANTIBODY.

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Typical human antibody responses to HIV-1 infection are unable to neutralise virus efficiently, clear the infection, or prevent disease progression. However, more potent neutralising antibodies may be capable of playing a pivotal role in controlling HIV replication in vivo. ^{PE}HRG214 is a polyclonal caprine antibody raised against purified HIV-associated proteins, such that epitopes that are immunologically silent in humans may potentially be recognised in another species. It has been administered safely with minimal side effects to HIV-infected individuals in Phase I clinical trials (Dezube et al, 2003; Pett et al, 2004).

To assess the potency, breadth of action, and mechanism of action of this antibody, we assessed function using neutralisation and virion lysis assays. The target proteins for ^{PE}HRG214 activity were investigated using flow cytometry and by adsorption of anti-cell antibodies from the antibody cocktail.

The antibody strongly neutralised a diverse range of primary HIV-1 isolates, encompassing clades A to E and both CCR5 and CXCR4 phenotypes at concentrations similar to that observed for HIVIG, a reference pooled polyclonal anti-HIV-1 neutralising antibody. Neutralisation was enhanced by the presence of human complement. ^{PE}HRG214 also induced complement-mediated lysis of all HIV-1 isolates tested, and recognized or cross-reacted with a number of host cell proteins. Virion lysis was abrogated by adsorption with T and/or B cells expressing GPI-linked proteins, but not by GPI-deficient B cells or red blood cells.

Hence, ^{PE}HRG214 was found to potently neutralise and lyse HIV-1 particles. By targeting host-cell proteins present in the viral envelope, which are conserved among all strains tested, ^{PE}HRG214 potentially opens up a highly novel means of eliminating circulating virus in HIV-1 infected individuals being mindful of using a goat IgG-based immunotherapy.

T CELL IMMUNITY TO HIV-1 ENVELOPE IN MACAQUES: A POTENTIAL PARADIGM OF CONSTRAINTS ON IMMUNE ESCAPE

Peut V¹, Fernandez C¹, De Rose R¹, Dale J¹, Kent S¹ ¹Department of Microbiology and Immunology, University of Melbourne, VIC Australia.

Introduction: T cell immunity correlates with protection from HIV/SIV disease progression. Neutralizing antibodies (NAb) are, however, likely to be required to prevent infection. Most NAb are readily avoided by mutations within the envelope (Env). Interestingly, HIV-1 Env-specific T cell responses have been shown to be particularly effective in control of HIV/SIV in several prior studies. This is counterintuitive since Env is highly sequence-diverse. However, Env is subject to BOTH T cell immune responses AND NAb pressures. The effectiveness of Env-specific T cell responses, together with an appreciation of the fitness costs associated with immune escape suggests there may be constraints on viral escape from both T cells and NAb unique to Env. We have therefore begun to characterize and map HIV-1 Envspecific T cell responses in vaccinated and infected pigtailed macaques (Macaca nemestrina).

Methods: Identification and mapping of HIV-1 AE and B clade Env-specific T cells used progressively smaller, overlapping Env 15mer peptide pools to stimulate PBMC or whole blood from DNA and FPV-vaccinated macaques. IFN γ production by T cells was monitored via intracellular staining (ICS) or ELISpot.

Results: AE clade Env-specific T cells were identified in 7 of 12 DNA and FPV vaccinated macaques. Collectively, these 7 responses were mapped to 12 individual Env peptides. Phenotyping by ICS indicated CD4+ T cell responses in five animals and CD8+ responses in at least two of these animals. ICS studies on a subsequent cohort of five vaccinated animals identified strong B subtype Env-specific CD4+ responses in four, and CD8+ responses in two animals. The most common CD4+ epitope recognised in Env was amino acids 171-189, which was evident in 6 out of 12 animals, suggesting restriction by shared MHC-II alleles.

Conclusions: Env is commonly recognised by T cells in macaques, particularly CD4+ T cells, and we have now mapped responses to common epitopes. Interestingly, mutational escape from CD4+ T cell responses has rarely been reported, suggesting these responses, if sufficiently effective, could be highly useful components of vaccine regimens. We can now begin to unravel the kinetics of immune escape and the effect on viral fitness and escape from NAb control.

MATURATION OF THE HUMORAL IMMUNE RESPONSE TO HIV-1 INFECTION

 $\frac{Wilson \ K \ M^{1}, \ Croom \ H \ A^{1}, \ Richards \ K^{1}, \ Doughty \ L^{1}, \\ Cunningham \ P \ H^{2}, \ Grey \ P^{3}, \ Kelleher \ A^{3}, \ Smith \ D^{3} \ and \ Dax \ E \ M^{1}$

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We have examined in detail the maturation of the humoral immune response to human immunodeficiency virus (HIV-1) infection. This has been achieved by correlating the individual antibody isotype profiles (titre, affinity and epitope specificity) with time elapsed following initial infection. The methodology we have used includes isotype specific Western blots, antibody isotype and antigen specific enzyme immunoassays and the analysis of direct antibody-antigen interaction using surface plasmon resonance. We have analysed sequential samples obtained from individuals undergoing seroconversion, individuals placed on HAART early following infection and individuals who have undertaken structured treatment interruptions (STI) following early HAART intervention.

As the humoral immune response to HIV develops we have observed different antibody isotypes, directed to discrete HIV antigens, occurring at different time points following infection and often these interactions only occur transiently. The administration of HAART decreases the viral load to undetectable levels. This loss of antigenic stimulation halts maturation of the humoral immune response. Re-exposure to controlled levels of viral antigens during STI stimulates continuing maturation of the immune response.

The resulting profiles provide valuable insight into the different modes of antigen presentation, and the subsequent immune response generated. We have been able to identify interactions which allow us to distinguish between recent and established HIV-1 infection. We have identified differences in the antigens presented by a Th1 or Th2 dependent pathway and have also identified antigens which are potentially presented by T cell independent means. This information may assist in providing insight into the best strategies to employ for effective vaccines and potential correlates of disease progression.

IL-7R α GENE POLYMORPHISM AND HIV-1 DISEASE PROGRESSION

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Genetic polymorphism of HIV-1 coreceptors and HLA have been shown to influence susceptibility to HIV-1 infection. The cytokine IL-7 has an essential role in the survival of T cells and IL-7Ra (CD127) is evaluated in HIV-1 infection. The IL-7R α gene is located within the chromosome 5p14-p12 region. Thirteen SNPs have been identified in this gene, of which three are within the promoter region. Four haplotypes have been identified for nine SNPs, and the haplotype frequency can be readily determined from the three SNPs in the promoter region. In this study, an investigation of IL-7R α promoter polymorphisms was undertaken in the Sydney long term non-progressor, the IL-2 immunotherapy trial and the Western Australia HIV-1 cohorts. The association between IL-7R α promoter alleles and haplotype frequencies were examined. Comparisons of the haplotype, genotype, allele and carrier frequencies of all HIV-1 infected individual's samples and healthy control samples, revealed no significant differences. Moreover, a comparison of the Sydney LTNP cohort and individuals from the WA cohort who died or developed AIDS within 7 years, also revealed no significant differences. In survival studies of the WA cohort for which more extensive longitudinal data were available, no significant differences between the four haplotypes were found in terms of rate of CD4⁺ T cell decline, time to death and time to AIDS. However, despite the fact that no significant p value was evident a trend was observed towards accelerated disease progression and death for the haplotype GTG (log rank value = 0.1). This GTG haplotype has been identified to be associated with multiple sclerosis, where it was over-represented within a MS patient population. This demonstrates the potential importance of this haplotype in immune related diseases, and may reflect a functional correlate.

DIVERSE AREAS OF THE BRAIN FROM HIV PATIENTS WITH AND WITHOUT DEMENTIA SHOW PREPONDERANCE OF CCR5 USAGE

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In this study diverse areas of the autopsied brain of 12 HIV-infected patients with and without dementia were analyzed. All brain samples were obtained at autopsy through prior consent. Env C2-V5 region was PCR amplified and sequenced and compared between different brain regions within the same patient and also between patients to find changes, which can discriminate between patients with and without dementia and also identify motifs responsible for co-receptor-mediated entry of HIV into the CNS. For this, the Env Gp120 hypervariable V3 region (35 amino acid residues) was subjected to Position scoring matrix analyses (PSSM) for predicting co-receptor usage in brain. These predictions based on the V3 loop sequence were absolutely consistent with the biologically determined viral phenotype at least for the samples, which were successful for virus culture. These data clearly show that the PSSM correlates can be unambiguously applied in determining viral phenotype for entry. The most notable observations is that of 69 V3 region sequences analyzed from 12 patients from diverse brain regions, 64 showed CCR5 usage (93%) as opposed to only 5 using CXCR4. Comparison of the V3 loop charge failed to show any correlation between charge and co-receptor usage. Given that cells of macrophage lineage predominate the CNS and also facilitate HIV entry into the CNS, the preponderance of CCR5 usage in brain-derived HIV strains from patients with and without dementia may have important clinical implications.

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CONCURRENT SESSION – CHALLENGES TO PREVENTION AND MANAGEMENT: PROGRAMS AND POLICY

– 1.30 pm – 3.00 pm

HOW ESSENTIAL IS THE "TRUTH" IN SOCIAL MARKETING CAMPAIGNS? AN ANALYSIS OF THE CURRENT MASS MEDIA ANTI DRUGS CAMPAIGN

Lodge M A

Mass media campaigns have been a central feature of Australian Government responses to drug issues since the inception of the National Campaign Against Drug Abuse (NCADA) in 1985. Drug education theory and social marketing principles were initially used to guide many of the campaigns. Fear tactics were the wrong tactics and older style films like "Reefer Madness" were scoffed at as ineffective and counter productive. The principles of social marketing were drawn upon to develop sophisticated approaches to dealing with drug related harms that spoke about the real lives of real people.

Michael will argue that the current campaign material has gone back to the dark ages, where the approach was to scare people from using drugs. These scare tactics are based on questionable facts about the impact of drug use and exhibit a disdain for the lived experience of Australians who choose to use drugs illicitly.

Michael will analyse the campaign material in light of sound drug education theory and modern principles of social marketing. He will outline a scenario that suggests these campaigns will impact negatively on rates of HIV/AIDS and hepatitis C among Australians who use drugs illicitly.

CHALLENGES IN IMPLEMENTING CHANGES ACROSS THE NSW AIDS PROGRAM

Velecky M1

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Close to \$60 million in dedicated monies for HIV/AIDSrelated services are allocated annually to the eight Area Health Services (AHSs) in the NSW public health system. An additional \$1.3 million is allocated to prison health services and \$12.2 million to Non Government Organisations. This funding stream (the AIDS Program), builds on general health funds distributed across NSW and is intended for prioritised and targeted HIV/AIDS, sexual health and Needle and Syringe Program services.

In 2004 the NSW Department of Health conducted two projects in response to apparent shifts that were occurring to the service needs of people with HIV/AIDS. These projects were an assessment of HIV/AIDS care and treatment service needs and a review of the Resource Distribution Formula used to determine the dedicated funding levels of AHSs. The projects were recognised as important for documenting evidence on changed service needs and guiding the delivery of resource capacity.

The findings of these projects have established a set of priorities for the AIDS Program including:

- redistribution of funding to improve the match between resources and service needs
- · monitoring of ambulatory care service delivery
- promotion of support for general practitioners
- strengthening of statewide services;
- strengthening of the care for PLWHA with multiple needs.

Over the last year NSW has addressed significant barriers to redistributing funding consistent with levels recommended through the review on the Program's Resource Distribution Formula. A parallel project has been the introduction of reporting against a HIV/AIDS and sexual health ambulatory care minimum data set (MDS). The MDS will generate consistent and comparable data on ambulatory care service delivery in NSW.

Other steps taken have included the strengthening of ASHM's statewide role; the development of formal agreements on the roles, responsibilities and strategic directions of statewide services; and the instigation of a review of AIDS Program funded supported housing services. The review will result in coordinated statewide planning for supported housing based on current care and support needs of people with HIV/AIDS, particularly those with complex needs.

This presentation will overview the initiatives occurring, their implications for service delivery and challenges in their implementation.

PREVENTING HIV TRANSMISSION IN AUSTRALIA: CAN NATIONAL POLICY ADAPT TO AN EVOLVING EPIDEMIC?

Doyle J S1

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This study investigates whether Australian Human Immunodeficiency Virus (HIV) policy can adapt to changes in HIV epidemiology. A successful national strategy saw transmission in Australia decline from a peak in the mid-1980s until 1999. However, there were subtle increases in new HIV diagnoses over the past five years, suggestive of increasing transmission. This challenges our current approach to prevention.

Semi-structured interviews (n=24) were performed with individuals involved in Australian HIV policy-making. They were purposefully selected from academic, community and government organisations, and medical backgrounds based on three criteria: membership of policy committees, organisational leadership, and referral from other interviewees. Interviews were transcribed, examined for themes, and analysed with reference to the participant's background. Information collected was compared internally and with the other secondary documents to enhance reliability and validity.

Prevention was regarded unanimously as a primary goal of national policy. Most agreed that HIV transmission was increasing. Current policy-making was characterised as sluggish and in need of rejuvenation regardless of background, while non-government actors were also likely to report that existing strategies have deteriorated, and no longer engage all necessary actors. The capacity for policy to adapt is now limited by institutional barriers (bureaucratic capacity; government interactions; entrenched individual positions; organisational demands) and conflicting interests (political v scientific interest; prevention v treatment; community disagreement).

Inducing substantive policy change is unlikely in the absence of a new 'crisis' or structured, scheduled, inclusive reviews. HIV policy-making now echoes the institutional and interest barriers present in many other areas of health policy. Science and public interest are now less unifying, and are merely interests on a fiercely competitive policy stage, unable to trump other political factors. This conclusion is concerning as the HIV epidemic will continue to evolve, with potential for explosive changes in some sections of community, yet the policy response could lag behind. Without continuous refinement of prevention strategies, more difficult public health challenges may emerge.

CAPACITY BUILDING TO IMPROVE REPRODUCTIVE AND SEXUAL HEALTH LITERACY IN ABORIGINAL WOMEN IN WESTERN NSW

Read C M1

¹Family Planning Australia Health, NSW, Australia

The aim of this project was to improve reproductive and sexual health literacy (the ability to understand and act on health information) amongst Aboriginal women living in isolated communities in western NSW (Dubbo/Macquarie region) with a specific focus on young Aboriginal women.

The project was supported by the Rio Tinto Aboriginal Foundation and included clinical and health promotion components with a strong emphasis on the use of an Aboriginal Community Liaison Worker (ACLW), working with the local Aboriginal community and other service partners. The project was developed, implemented and managed by FPA Health, a non government organisation, a leader in reproductive and sexual health in the areas of clinical practice, health promotion, education and research with the assistance of the local community via an Aboriginal Women's Advisory Group.

A number of key strategies were identified and developed. These included a Well Women's Clinic, health promotion activities with community groups, partnerships with Sexual Health and the Aboriginal Maternal Infant Health Strategy, as well as active liaison and follow up with the local gynaecology practice. A specific 'health literacy program' was also developed for young Aboriginal women at a local high school.

This presentation will describe the clinical and health promotion outcomes with an emphasis on the capacity building elements of this reproductive and sexual health literacy project both for our service, other service providers and the community.

MORE THAN A QUARTER OF A CENTURY OF COMPUTERISED CLINICAL DECISION SUPPORT USING ELECTRONIC MEDICAL RECORD FUNCTIONALITIES

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This paper will describe more than 25 years of effective Computerised Clinical Decision Support (CCDS) within effective Electronic Medical Records (EMR) and show how these systems have confirmed the Institute Of Medicine conclusions that these are the "essential technologies" for improving health care. I will describe deficiencies on clinical decision making with continued use of the paper record. A definition of the core tools that is essential for all EMR systems such as Summarisation, Alerting, Reminding, Interpreting, Assisting, Critiquing, Diagnosing and Managing will be provided. I will demonstrate how the benefits from these systems date from the mid-1970s and present up to date information on the expansion of benefits of these systems. This presentation will also address why there have been failures in the implementation of effective EMR systems despite billions of dollars having being spent on information technologies in health care both here in Australia and overseas. The social and economic impact from the failure to implement such systems affirms the words of President Bill Clinton. "All our efforts to strengthen the economy will fail -- let me say this again, I feel so strongly about it - all our efforts to strengthen the economy will fail unless we also take this year - not next year, not five years from now, but this year - bold steps to reform our health care system."

SUPPORTING ACCESS TO S100 DRUGS IN THE COMMUNITY: HIV AND HCV EXPERIENCES

Crooks L1

¹Australasian Society for HIV Medicine, Sydney, NSW, Australia

The paper examines the first two years of implementation of the HCV PRESCRIBER PILOT IN AUSTRALIA. It compares the HCV pilot with the HIV prescribing program and contrasts the two programs.

Prescriber numbers in HIV have maintained around the 200 mark for approximately ten years. In HCV the program has established approximately 100 prescribers in just 12 months.

The duration of treatment and the differing complexities of diagnosis, management and treatment mean that one model may not transfer directly to the other. Considerable commonalities do exist, however.

CONCURRENT SESSION – SOCIAL RESEARCH – INJECTING AND HEPATITIS C – 3.30 pm – 5.00 pm

THE SYDNEY MEDICALLY SUPERVISED INJECTING CENTRE: SERVICES DELIVERED AND POTENTIAL PUBLIC HEALTH ACHIEVEMENTS IN 44 MONTHS OF OPERATION

 $\frac{Salmon \; A \; M^{l}}{I}, Maher \; L^{l}, Kaldor \; J^{l}, Jauncey \; M, Van \; Beek \; I$

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The Sydney Medically Supervised Injecting Centre (MSIC) was the first legally sanctioned facility for the consumption of illicit drugs in Australia, and aims to address public health and public order issues related to street based injecting in Kings Cross, Sydney.

As at December 2004 the Sydney MSIC had been open for 1322 days, with 7392 registered clients having visited on 214 399 occasions for supervised injections. Data collected at initial registration indicated that, on average, clients were aged 31 years and the typical client was male, heterosexual and unemployed. With overall low levels of education and high levels of unemployment, sex work among female clients and residential instability, the profile that emerges is of a highly marginalised client group.

Clients had been injecting for a median of 11.6 years with 18% reporting using a needle and syringe after someone else had used it in the month prior to registration. Four out of five clients (80%) reported having been tested for HIV and HCV in the last 12 months. HIV and HCV positive antibody serostatus was self reported as 2% and 47% respectively for males and 1% and 53% respectively for females.

Heroin was the drug most frequently injected (72%) at the Sydney MSIC. A total of 1218 drug overdose incidents were successfully managed at the Centre, 18% of which required Naloxone administration. Over 93 000 needles and syringe were dispensed and a total of 3620 referrals to drug treatment, health care and social welfare services were provided to 1170 clients.

This presentation explores evaluation findings from the first twenty six months of operation (May 2001 to December 2004) in the context of four potential public health impacts: potential reduction in the morbidity and mortality associated with drug overdoses; potential increase in access to health and social welfare service (including drug treatment and evaluation); potential earlier and increased engagement with high risk street based injecting drug users and a reduction in street based injecting.

ALCOHOL AND ILLICIT DRUG USE IN THE POSITIVE HEALTH (PH) COHORT

 $\underline{Prestage G^{1}}; Rawstorne P^{2}; Fogarty A^{2}; Grierson J^{3}; Grulich A^{1}$

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Rates of illicit drug use are higher among gay men than in the general population, but rates of alcohol use are similar to what is found in the general population. Here we examine drug use and unprotected anal intercourse with casual partners (UAIC) among HIV-positive gay men.

330 HIV-positive men in NSW and Victoria were interviewed during 2004 for the Positive Health cohort study. All participants undergo annual face-to-face interviews regarding their health status, treatments, sexual behaviour, recreational drug use, demographics and gay community involvement.

Most men (82.1%) reported using illicit drugs in the previous six months, including: ecstasy (37.3%), cocaine (10.0%) and speed (22.9%). Illicit drug use was associated with UAIC (See Table: p<.001). This was also true, regardless of the HIV serostatus of their casual partners, and of whether they took the insertive or receptive position during UAIC. Nonetheless, UAIC with HIV-negative partners (7.3%) was much less common than with either HIV-positive partners (28.5%) or partners whose HIV serostatus they did not know (27.3%). Drug use and UAIC were also associated with greater social involvement in gay community, being more sexually active, and 'esoteric' sex practices such as fisting or sadomasochism. In multivariate analysis, of these factors, only esoteric sex remained significant.

| | Used illicit drugs | No illicit drugs |
|---------------------------------|-----------------------|------------------|
| No casual partners | 66 (24.4%) | 31 (52.5%) |
| No UAIC | 95 (35.1%) | 20 (33.9%) |
| Any UAIC in previous six months | 110 (40.6%) | 8 (13.6%) |
| TOTAL | 271 (100%) | 59 (100%) |

Most men (86.4%) reported alcohol consumption that was rated as no risk according to National Heart Foundation measures. Just 5.7% consumed alcohol at high risk levels. There was no association between rates high risk drinking and UAIC.

While use of illicit drugs may not be a directly causative factor for all UAIC among HIV-positive men and for most is probably unproblematic, it is associated with UAIC and may play some role for some men. UAIC and drug use have also been associated with 'sexually adventurous' gay subcultures and this appears to also be true in this sample. Appropriate programmatic responses to problematic drug use may be beneficial.

BARRIERS TO HEPATITIS C TREATMENT UPTAKE IN INDO-CHINESE INJECTING DRUG USERS

Coupland H

Few studies have explored cultural differences in vulnerability to hepatitis C, including underlying belief systems or explanatory models, the contexts in which risk and protective behaviours are embedded, and the factors that shape health-related decision-making.

The current study used anthropological methods and techniques, including fieldwork and in-depth interviews, to explore these issues among Cambodian, Lao and Vietnamese background injecting drug users (IDU). Fifty-five participants were recruited in South Western Sydney using theoretical and snowball sampling techniques based on street and social networks. A "grounded theory" approach was used to code and compare content and emergent themes and field notes were triangulated with interview data to enhance internal validity.

Rather than being "bound" by culture, many participants adopted a pluralist approach to managing HCV, combining traditional and western beliefs and approaches to deliver specific outcomes, particularly in the absence of other alternatives. Valued cultural traits of stoicism and self-responsibility played a key role in determining when, and for what purpose, participants were willing to seek help. Low levels of HCV treatment uptake reflected a lack of awareness that treatment existed. However, cultural beliefs regarding the management of liver problems and the use of western medication also influenced decisions about HCV treatment. Current injecting drug use was a particularly significant reason for not seeking treatment. HCV infection served as a potent symbol of contamination, with treatment viewed by many as a way to remove the "stain" of injecting drug use and participants associating treatment with a need to "start afresh" by quitting drug use. Fear of "losing face" on presenting for treatment also meant participants were reluctant to seek help and disclose information regarding stigmatised behaviours.

Results suggest significant challenges in terms of the acceptability of western approaches to diagnosis and history taking and adherence to drug dependency and HCV treatment regimes over extended periods. These findings indicate a need for innovative and culturally sensitive service responses, including education and community-based support, to make both drug dependency and HCV treatment more attractive to culturally and linguistically diverse groups of IDUs.

RESILIENCE AND COPING DURING INTERFERON-BASED TREATMENT FOR HEPATITIS C INFECTION

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To date, the experience of treatment for hepatitis C (HCV) infection has been understood in terms of quantitative measures of the impacts of side effects on health-related quality of life. Studies report significant decrements in physical and mental functioning in patients receiving interferonbased treatments. Largely absent from this literature is an understanding of the implications of decreased functioning for patients' overall quality of life during treatment and how side effects from interferon and ribavirin affect patients' ability to cope with daily demands.

It has long been recognized that people vary in their resilience when experiencing adversity. The psychological literature regarding chronic illness suggests that resilience is an adaptive process which utilizes protective factors like social support, individual traits such as perseverance and determination, and spiritual beliefs. People's differential ability to meet life challenges such as coping with disease is rooted in the presence or lack of supportive family and community networks.

Using the notion of resilience, this paper reports on a qualitative study of twenty people undergoing interferon-based treatment for HCV and six health care workers involved in their treatment. Participants were recruited from three large metropolitan hospitals across Sydney during 2004 and 2005. The severity of participants' experiences of physical and psychiatric side effects during treatment varied, none the less all reported difficulties in coping with treatment. Beyond the standard medical and psychological strategies provided by the treating clinic, coping strategies articulated by participants included the use of cognitive restructuring and selftalk techniques; anger management and conflict resolution; non-medical therapeutic interventions; illicit drug use; and amassing support through selective disclosure at work and utilization of family and friendship networks. Coping was often discussed by participants in terms of resilience. For example, some reported that earlier adverse experiences in life had 'inoculated' them against the difficulties associated with side effects of interferon and ribavirin therapy.

This paper argues for further qualitative research into the HCV treatment experience to assist clinicians and patients in uncovering mechanisms to enhance resilience and ameliorate the experience of interferon-based treatment side effects.

DISCRIMINATION OR DISCRETION? DENTISTS' EXPERIENCES OF PROVIDING CARE TO PEOPLE WITH HEPATITIS C

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The epidemic of hepatitis C is an issue of growing public health concern. It is characterized in Australia by its major transmission route of injecting drug use. Many people with hepatitis C have reported discrimination by health care practitioners, whether or not they acquired the infection in this way. This paper describes the results of a qualitative study which explored the experiences and attitudes of dentists in providing care to people with hepatitis C. Twenty five dentists working in private dental practice or community dental services participated in an in-depth interview which covered issues such as infection control activities, management of exposure to blood-borne viruses, understanding of guidelines and past experiences of, and attitudes to, patients who injected drugs or patients with hepatitis C. Interviews were fully transcribed and coded using NVIVO. Data analysis produced four major themes - discrimination, work settings, guidelines and regulations, and occupational risk. Results showed almost all dentists believed in a professional obligation to treat patients regardless of their blood borne virus or injecting drug use status. Most stated that they had treated a patient with a blood borne virus. All dentists were aware of, and claimed to practice universal precautions, but some took additional care when treating those with hepatitis C and were genuinely surprised that patients may have construed this as discrimination. Some dentists displayed discriminatory attitudes in relation to injecting drug users. This was evident from statements made within the context of patients who were difficult to manage both medically and because of their behaviour, and in assumptions made about the lifestyle of such patients. It was clear that many of the actions which may have been perceived as discriminatory by patients arose from dentists' concerns about the possibility of acquiring their patient's infection. Issues in relation to compliance with infection control, and methods for reducing discrimination towards people with hepatitis C in dental settings will be discussed.

LINKING RESEARCH, POLICY AND PRACTICE: A CLEARINGHOUSE OF AUSTRALIAN RESOURCES IN HIV, HEPATITIS C AND RELATED DISEASES

Frances M¹, Newman C E¹

The presentation outlines the philosophy underpinning a web-based clearinghouse of the Consortium for Social and Policy Research on HIV, Hepatitis C and Related Diseases, a research and community health services collaboration funded by NSW Health. An overview of the scope of the Clearinghouse and demonstration of its functions is also provided, along with a discussion of possibilities for its integration into current work practices of researchers, policymakers and practitioners across the sector.

The Clearinghouse provides links and access to Australian resources and documents related to social and policy research, including conference presentations, journal articles, policy documents, reports, education and prevention campaign materials, and media information. It enables sharing of resources, including health promotion and organisational policies, across various government, community and research-based organisations, and is intended to facilitate existing and developing partnerships in the field. It is hoped that easy access to resources from across the sector will encourage dialogue, discussion and feedback that will enable policy and resource developers to draw on the strengths of existing resources in the development of new initiatives. A central point of access to material housed in university, government, community and other locations is also intended to facilitate a more sound understanding of the necessary links between research, policy and practice.

THE HIV EPIDEMIC IN UKRAINE - AN UPDATE

Zheluk A A1

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Over the past three years, the former Soviet republic of Ukraine has experienced one of the fastest growing HIV pandemics in Europe.

In contrast to many other parts of the world, the main driver behind the rate of infection is injecting drug use, with most of these people being under 25 years of age.

While there are 76000 cases of HIV/AIDS registered in Ukraine, other estimates ranger from 500 000 to over 1 million.

Previous government policies, including policing and medical interventions have not affected the growth rate in the epidemic, and has not succeeded in significantly reducing the level of drug use.

It has pushed the drug scene underground and increased risky behaviours among vulnerable groups. In the absence of measures to reduce infections and reverse the rate of transmission, the long-term impact of HIV/AIDS on population growth and economic development is likely to be grave.

This paper will examine the epidemiology of HIV in Ukraine in 2005.

It will also examine some of the efforts being undertaken by NGOs, with a particular focus on harm reduction.

CONCURRENT SESSION – CLINICAL BASIC SCIENCE – 3.30 pm – 5.00 pm

ABACAVIR STIMULATED PRODUCTION OF INFLAMMATORY AND T1 CYTOKINES IN ABACAVIR HYPERSENSITIVE AND TOLERANT HIV-INFECTED INDIVIDUALS

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¹Centre for Clinical Immunology and Biomedical Statistics, Royal Perth Hospital and Murdoch University, Perth, WA, Australia; ²Department of Clinical Immunology and Biochemical Genetics, Royal Perth Hospital, Perth, WA, Australia

Abacavir is a nucleoside reverse transcriptase inhibitor used to treat HIV-1 infection that has a generally favourable toxicity profile. However, approximately 8% of HIV patients treated with abacavir develop a multi-system hypersensitivity reaction to the drug. Subsequent genetic associations have revealed that genes located in the major histocompatibility complex (MHC) are highly predictive of hypersensitivity reactions in abacavir-exposed populations (positive predictive value >70%). The susceptibility locus/ loci reside within the 57.1 ancestral haplotype comprising HLA-B*5701, C4A6 and the -DRB*0701, -DQ3 combination, with evidence from recombinant haplotype mapping that the candidate region includes the haplotypic heat shock protein 70 (Hsp70)-Hom M493T polymorphism within the central MHC region, which in combination with HLA-B57*01 is highly predictive of an abacavir hypersensitivity response. In vitro studies have shown that patients who react adversely to abacavir have higher expression of type 1 (T1) and inflammatory cytokines and that depletion of CD8+ Tcells abrogates an abacavir specific response. The aim of this study was to quantify expression of T1 and inflammatory cytokines and identify the cell populations that produce these cytokines.

INF- γ and IL-6 expression was quantified by ELISAs or RT-PCR and intracellular flow cytometry using 48 hour abacavir exposed PBMCs from HIV infected abacavir hypersensitive and tolerant patients. Differential expression of IFN- γ in culture supernatants was significantly higher in the abacavir hypersensitive patients (median=123.86) compared to the tolerant controls (median=-30.83, *p*=0.001). In abacavir exposed PBMC cultures from an *HLA-B*5701+* hypersensitive individual, 4.7% and 4.2% of CD8+ T-lymphocytes and 3.5% and 1.9% of CD14+ cells expressed IFN- γ and IL-6 respectively compared to 0% expression of these cytokines in the HLA-B*5701-tolerant control.

These results indicate the involvement of an HLA Class I mediated CD8+ T-cell dependent immune response in the generation of the abacavir hypersensitive response. Characterisation of the cells involved in the hypersensitivity reaction may be useful in the identification of a clinical diagnostic marker and help clarify the immunological mechanisms involved in the pathogenesis of the abacavir hypersensitivity response.

COMPARISON OF VARIABILITY OVER TIME OF T CELL SUBSETS FOR HIV UNINFECTED CONTROLS AND HIV-INFECTED INDIVIDUALS ON SUCCESSFUL HAART

 $\frac{Murray \ J \ M^{1,2}}{Cooper \ D \ A^2}, \ Mallon \ P \ W^2, \ Zaunders \ J \ J^3, \ Kelleher \ A \ D^2,$

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T cell counts of HIV infected individuals on HAART can fluctuate considerably, even when virus has been undetectable for a number of years.

76 HIV-infected individuals were identified from the National Centre in HIV Epidemiology and Clinical Research database with virus undetectable for at least 2 years and with frequent assays of CD4+ and CD8+ T cells. Periods of undetectable virus for these patients ranged between 2 years 1 month to 7 years 10 months with a mean of 4 years 6 months. Mean time between assays of HIV RNA/ml, CD4+ and CD8+ T cells/mm³ was 3 months. For each individual and for CD4, CD4%, CD8, CD8%, and CD4/CD8, linear and S-shaped curves were fitted to data. The best regression curve for each individual and for each data type was then used as the basis for determining variability over these time periods through the coefficient of variation. This compensated for changing T cell counts through immune reconstitution. Means (standard deviation) of the Coefficient of Variation were: 18.5 (8.0) for CD4/mm³, 10.1 (4.8) for CD4%, 19.5 (7.0) for CD8/mm³, 6.2 (3.4) for CD8%, and 13.2 (5.8) for CD4/CD8. Significantly lower variability (all with p < 0.0001, two-sided sign rank test on paired samples, except for CD4 less variable than CD8, p = 0.04) were found for CD4% compared to CD4 absolute, CD8% compared to CD8, CD8% compared to CD4%, CD4/CD8 compared to CD4 absolute, and CD4% compared to CD4/CD8.

Coefficients of variation for 18 uninfected controls over time periods ranging from 10 months to 5 years 1 month (mean 3 years 5 months), were (mean (st.d.)) 7.7 (3.1) for CD4%, 8.2 (2.9) for CD8%, and 12.7 (5.3) for CD4/CD8. CD4% and CD8% variability were significantly less for controls than HIV infected (p = 0.03 and p = 0.005 respectively, Wilcoxon Rank Sum Test), but not for CD4/CD8 (p = 0.7).

Variability in T cell counts is much higher for HIV infected than uninfected individuals, even when virus is undetectable. CD4% and CD8% exhibit the least variability, which suggests that most of this can be attributed to perturbed trafficking of these cells between lymph nodes and peripheral blood.

NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS EFFECT ON ADIPOCYTE MITOCHONDRIAL TRANSCRIPTION *IN VITRO*

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Nucleoside reverse transcriptase inhibitors (NRTI) form a major part of highly active antiretroviral therapy. *In vivo* short term exposure to NRTI combinations containing the thymidine NRTIs (tNRTI) stavudine (d4T) and zidovudine (AZT) decreases mitochondrial RNA (mtRNA) expression in the absence of mtDNA depletion, suggesting that NRTIs cause mitochondria toxicity at the mtRNA level. Currently no established *in vitro* models exist in which to study these effects. We aimed to examine the effect of NRTIs on mtRNA expression *in vitro*.

We exposed fully differentiated 3T3-L1 adipocytes to d4T and lamivudine (3TC), a non-tNRTI, for seven days. In addition to control cultures, various physiological concentrations of NRTI were used; d4T at 89nM (C_{min}), 890nM ($10xC_{min}$) and 8.9μ M (C_{max}) and 3TC at 84nM (IC_{95}), 838nM (C_{min}), and 4.19 μ M (C_{max}). In addition we exposed cells to supraphysiological concentration of d4T at 44.5 μ M (5xC-max) and 89 μ M ($10xC_{max}$) for 7 days. RNA was extracted, cDNA prepared and expression of mtRNA (COX3 and cyt b) and nuclear genes (PPAR γ and PGC1) measured using real-time PCR (Lightcycler). Results were expressed relative to β -actin expression and non parametric analyses were applied.

We observed no significant change in expression of mtRNA or nuclear genes at any of the physiological concentrations of d4T and 3TC (all P>0.1). At supraphysiological concentrations, 7 days exposure to d4T caused significant down-regulation of cyt b (-92%, and -91% for 5xC_{max} and 10xC_{max} respectively, both P=0.01) with less effect observed in COX3 expression (-23%, P=0.5 and -56%, P=0.08 respectively). PPAR γ expression also decreased (-37%, P=0.06 and -79%, P=0.01 at 5xC_{max} and 10xC_{max} respectively). Downregulation of PGC1 expression was observed at 5xC_{max} (-93%, P=0.01), an effect not observed at 10xC_{max} (-21%, P=0.8).

Differing physiological conditions between human adipose tissue and 3T3-L1 cells, such as activity of thymidine kinase 1 at different stages of cellular differentiation, may explain the higher concentration of d4T required to induce mtRNA downregulation in differentiated 3T3-L1 cells, similar to that observed *in vivo*. Further experiments are needed to investigate the impact of these factors and determine the usefulness of 3T3-L1 cells as a model for tNRTI induced mitochondrial toxicity.

THE *IN VITRO* EFFICACY OF L-ACETYL CARNITINE (LAC) FOR PREVENTING NUCLEOSIDE ANALOG (NRTI) TOXICITY

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The introduction of highly active antiretroviral therapy (HAART) has seen a dramatic reduction in the morbidity and mortality associated with HIV in the developed world. However, HAART use is also associated with a diverse range of side effects. Mitochondrial toxicity due to nucleoside analogs (NRTIs) is thought to cause important problems including metabolic disturbances, lipoatrophy and toxic neuropathy. The co-administration of micronutrients such as L-acetyl carnitine (LAC) has been proposed as a method to reduce NRTI mitochondrial toxicity. Uncontrolled reports of success exist, and LAC is considered safe for human use, but evidence to support the biological plausibility of this strategy is lacking.

We are examining the effects of NRTIs in cultured human cell lines (including neuronal and lymphoid lines) in terms of cell counts, morphology, mitochondrial function (using xtt tests and polarography) and quantification of mitochondrial DNA (work currently in progress). Cells cultured in the presence of NRTIs that have been associated with a high degree of mitochondrial toxicity (including ddC, d4T and ddI) demonstrate morphological changes and altered mitochondrial function compared with control cells. When cells are cultured with LAC as well as NRTIs, these changes are prevented. Importantly, we have found some evidence of a dose response, with polarography results showing LAC completely prevents the early effects of 3.6µM d4T (equivalent to serum levels during therapeutic dosing) on mitochondrial function in PM1 cells, but only partially offsets the effects of 10.8 µM d4T.

These results provide preliminary evidence that LAC may have utility in preventing the cellular toxicity of NRTIs, and therefore may have an important role in improving the safety of effective HIV treatments. Further work is needed to confirm these findings *in vivo*, and in particular to establish whether co-administering LAC with NRTIs provides clinical as well as laboratory benefits.

A NOVEL *EX VIVO* ASSAY FOR MEASURING PHAGOCYTOSIS OF MALARIA-INFECTED ERYTHROCYTES BY PERIPHERAL BLOOD MONOCYTES.

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HIV-1 prevalence is often very high in regions of endemic *Plasmodium falciparum* malaria, leading to high levels of co-infection. Pregnant women are particularly susceptible to malaria since they may be infected by placenta-specific strains to which they have no pre-existing immunity. In this population, HIV increases the incidence of malaria infection and in co-infected individuals, malaria disease is more severe.

Our results suggests that HIV impairs antibody-mediated clearance of parasite-infected erythrocytes (IE) by professional phagocytes, which is thought to be a major mechanism of immunity to malaria. In order to test this, we have developed an assay which specifically measures phagocytosis of IE ex vivo by monocytes present in small aliquots of freshly drawn blood. O+ human erythrocytes are infected with the placenta specific CS2 strain, purified by Percoll gradient centrifugation and labelled with 10 µg/ml ethidium bromide. Parasite DNA in IE is labelled with ethidium bromide whereas uninfected E, which do not contain DNA, are unlabelled. Aliquots of freshly drawn whole blood containing 1.5.10⁵ phagocytes (determined by TruCount[™] beads) are incubated with 75.106 labelled IE for 15 min, then E lysed and monocytes identified by CD14-FITC staining. The proportion of monocytes positive for ethidium bromide fluorescence, is calculated. The assay has been adapted to measure phagocytosis by the human monocytic cell line THP1 in order to quantify opsonising ability of patient sera.

The ex vivo whole blood assay will be practically applied to compare patient monocyte responses to pregnancy-associated malaria in HIV-positive and negative women in Malawi.

INTERFERON-GAMMA RESPONSES TO *CANDIDA* RECOVER SLOWLY OR REMAIN LOW IN IMMUNODEFICIENT HIV PATIENTS RESPONDING TO ART

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When severely immunodeficient HIV-1 patients begin antiretroviral therapy (ART), CD4 T-cell counts usually increase within the first year. However, lymphoproliferative and interferon-gamma (IFN- γ) responses to cytomegalovirus (CMV) antigens peak at about three years and may subsequently decline. We monitored restoration of responses to *Candida* antigens and considered the findings in relation to putative regulatory T-cell populations.

Peripheral blood mononuclear cells were cryo-preserved from seventeen HIV patients (nadir CD4 T-cell count <100/vl) 0-8 years after the initiation of ART. Cells were stimulated with a *Candida spp* lysate, *Candida* enolase protein or CMV lysate and production of IFN- γ was assessed by ELISpot assay. CD57⁺ T-cells and regulatory Tcells (marked by CD25) were assessed flow cytometrically. Changes in responses from HIV patients over time on ART were assessed using flexible continuous piecewise-linear regression functions. Multiple measurements on the same individual were accommodated using mixed effects models, which allow individual-specific differences in the linear segments and estimation of the population average profile.

CD4 T-cell counts increased five-fold and stabilised within 24 months on CART, following rapid control of plasma viremia. IFN- γ responses to *Candida* antigens began low and increased slowly, generating a positive slope up to 60 months on ART (*Candida* enolase p=0.008; *Candida* lysate p=0.03; mixed-model Wald test). Only two patients displayed a CMV or *Candida*-specific IFN- γ response above the median for seronegative controls. Proportions of CD4 T-cells expressing CD25 or CD57 did not correlate with IFN- γ responses or change significantly with time. CD57 expression on CD8⁺ T-cells decreased with time on CART (p=0.02), but did not correlate with IFN- γ responses to *Candida* enolase.

Slow reconstitution of IFN- γ responses to *Candida* in previously immunodeficient patients with restored CD4+ T-cell counts on ART suggests a systemic defect in memory T-cell responses. This does not reflect frequencies of senescent or regulatory T-cells.

SEXUAL HEALTH CONFERENCE PLENARY: SEX AND THE INTERNET

– 3.30 pm – 5.00 pm

GAY MEN'S USE OF THE INTERNET FOR SEX-SEEKING: AN OVERVIEW

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The internet has become one of the most common ways through which gay men socialise and arrange sexual contacts. Gay chat sites, through which men can search out potential sex partners, advertise themselves through online profiles, and engage in real-time messaging and conversation, have arguably become the dominant way that gay men interact online. The apparent accessibility, affordability and anonymity of internet sex-seeking and the speed and ease with which men can locate one another has led some researchers to label the internet as an 'emerging risk environment'. Others have argued that the internet is nothing more than 'another setting to seek and find sex'. This presentation will provide a review of behavioural and other studies of gay men's use of the internet to find sex partners. These studies of online sex-seeking do not show clear patterns of risk-taking and are often inconsistent in their measurement and assessment of risk practice, although there are some suggestive findings about the characteristics of gay men who engage in online sex-seeking compared to those who do not. Referring to data collected in Gay Community Periodic Surveys in Sydney and Melbourne, the presentation will conclude with a discussion of what we currently know about gay men's use of the internet for sex-seeking in an Australian context.

IMAGINING GAY LIFE IN A VIRTUAL AGE

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This paper provides a broad historical and sociological overview of how the internet might be remaking social life and subjectivity in the 21st century, with a particular emphasis on gay life. As with many technological advances and cultural realignments, the emergence of the internet has spawned passionate advocates and equally passionate critics, not least among social theorists and sociologists. Quite often these critiques reflect a wider gulf in how to evaluate the social and cultural formations of late modernity. In my paper I will evaluate these optimistic and pessimistic critiques and consider how they pertain to contemporary imaginings of gay life.

GOING ONLINE: THE SEXY, SCARY, AND STIMULATING STUFF

Allan B¹

¹Positive Living Centre/Victorian AIDS Council, Melbourne, VIC, Australia

Motivations for going online are often much more complex than just finding sex. The successful presentation, negotiation and acquisition of skills via online gay sites is something that requires finesse, perseverance and perhaps a whole lot of luck. And it is about a whole lot more than, but of course can include, finding amazing mind-blowing sex, the perfect match or perhaps the love of your life.

The preparation and process of online cruising varies from highly skilled and seasoned 'users' to the occasional visitor and browser. The survival and success rate in the cut-throat world of cruise sites where you are up against fantasies, realities and the practicalities of actually hooking up comes down to many variables but is dependent, most importantly, on how you sell yourself online. The outcomes of participating in online gay cruise sites obviously depend a great deal upon what you say you are looking for, but participation in these virtual communities also has unintended outcomes – some which surprise, excite and perhaps annoy.

This presentation will explore some of the ways in which gay men advertise themselves online, some of the different sorts of online communication technologies that exist, as well as what makes going online so appealing (including some of the less obvious reasons that gay men go online to cruise).

FUTURES 4 FORUM: DRILLING INTO THE

DATA – 5.00 pm – 6.00 pm

¹Grierson J, ¹Pitts M, ²<u>Rule J</u>, ¹Thorpe R.

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This panel session will draw on data from Futures 4 to explore how research data can inform the changing needs and emerging issues for HIV positive people and service providers. Community groups and researchers will together reflect on issues such as the influence of economic and social circumstances on co-infection, co-morbidity and ageing as these affect the ability to deliver appropriate and timely services. This opportunity will allow for a more complex analysis of Futures 4 data, incorporating correlations between multiple variables and examining changes over time through analysis of Futures 1, 2, 3 and 4. The panel discussion will examine how to develop further community and policy responses to these data.



ORAL PRESENTATION ABSTRACTS

THURSDAY 25 AUGUST 2005



THURSDAY 25 AUGUST 2005

PLENARY: COLLECTIVE INSIGHTS

– 9.00 am – 10.30 am

UNDERSTANDING HIV-HOST INTERACTION

<u>Coffin J M</u>, Maldarelli F, Palmer S, Kearney M, Weigand A, Omachi J², Brun S², Kempf D², King M², and Mellors J W³

HIV Drug Resistance Program, NCI-Frederick, WA, Australia; ³Division of Infectious Disease, University of Pittsburgh, USA

We have used two new assays to detect and quantitate virus and analyze its genetic makeup and to obtain more detailed information about the dynamics and evolution of HIV in infected individuals. The first of these, the single copy assay (SCA) allows us to detect and accurately quantitate 1 copy of HIV RNA. In routine use, we can measure as little as 0.3 copies of HIV RNA (or 0.15 virions) per ml of patient plasma. The second assay is single-genome sequencing (SGS), in which multiple single cDNA molecules derived from reverse transcription of plasma virus are amplified over a region extending from the p6 region of gag through most of RT, and sequenced in bulk. This approach allows us to obtain a snapshot of the genetic diversity within the virus population in a single patient at any point in time, with minimal assay based error, and essentially no artifacts due to resampling or assay-based recombination. We have used these assays to study the virus in both naïve and drug-treated patients, with the following results.

1. In a large set of patients with levels of plasma virus that are "undetectable" by standard assays, we find that about 80% have viremia in the range of 1-20 copies of RNA per ml, with an average around 5 copies/ml. These levels are stable over periods of a year or more, and are likely to be the source of rebound viremia observed in all patients following interruption of therapy. The level of persistent virus is correlated with baseline virus load, but independent of the nature or potency of the suppressive antiviral therapy. These results imply that differences in regimen potency are not due to differential ability to inhibit virus replication, but rather to either the frequency of resistant mutants in the virus population prior to therapy or to pharmacological problems.

2. In individuals who have been infected for long periods of time and remained untreated, the virus has diversified to about 1-2% in the gag-pol region. This diversity is remarkably stable so that samples taken years apart cannot be distinguished by phylogenetic analysis, divergence, or change in diversity, although highly sensitive assays for panmixia can distinguish separation of virus populations after 2-3 years. Similarly, virus populations retain their diversity through a 100-fold decline in viremia following initiation of therapy. Samples taken soon after infection, by contrast, are usually almost perfectly monomorphic, exhibiting levels of diversity indistinguishable from background up to 70 days after infection. Thus the virus population in infected individuals is quite large, free of genetic bottlenecks, and subject to strong purifying selection, leading to remarkable genetic stability over hundreds to thousands of replication cycles.

Implications of these results for HIV pathogenesis and therapy will be discussed.

ashm2005hobart

DEBATE – CLINICAL MEDICINE – ALL PEOPLE WITH HIV SHOULD HAVE ACCESS TO TRANSPLANTATION

– 11.00 am – 12.30 pm

SUCCESSFUL OUTCOME OF FIRST AUSTRALIAN LIVER TRANSPLANT IN A PATIENT WITH HIV AND HEPATITIS B CO-INFECTION

<u>Richards JS</u>¹, Street AC¹ Gow P², Jones R², Angus P² ¹Victorian Infectious Diseases Service, Royal Melbourne Hospital, Melbourne, VIC, Australia; ²Liver Transplant Unit, Austin Hospital, Melbourne, VIC, Australia

Liver disease due to chronic hepatitis B (HBV) and C is an important cause of morbidity and mortality among HIV-infected patients treated with highly active antiretroviral therapy (HAART). We report a patient with HIV/HBV co-infection and decompensated liver disease who underwent liver transplantation and is in excellent health almost 2 years later.

The patient is a 51-year-old man who was diagnosed with HIV/HBV co-infection in September 1999 when he presented with bleeding oesophageal varices. His initial CD4 cell count was 390/µL, HIV viral load was 123,900 copies/mL, HBV DNA was positive and liver biopsy showed cirrhosis. HAART was started but was complicated by hepatitis flares and an allergic reaction to lamivudine. In May 2000 he developed decompensated liver disease. He was eventually desensitised to lamivudine. Manifestations of liver failure improved and both HBV DNA and HIV RNA became undetectable.

In early 2003, despite remaining HBV DNA negative, signs of liver failure reappeared. In September 2003 he became the first HIV/HBV co-infected patient in Australia to receive a liver transplant. He has remained HBV DNA negative on tenofovir, lamivudine and nelfinavir and monthly intramuscular hepatitis B immunoglobulin. HIV viral load is undetectable and CD4 cell count is normal. He has returned to part-time work in a highly functioning position.

Up to 13% of Australian HIV patients are HIV/HBV coinfected and at risk of accelerated HBV disease progression. For HBV-infected patients with decompensated liver disease, liver transplantation offers the best long-term outlook. In HIV patients, special issues related to liver transplantation include altered antiretroviral pharmacokinetics, the potential impact of additional immunosuppression, prevention of emergence of HBV resistance and drug interactions. The excellent outcome in our patient is in accord with the experience reported in the literature, and indicates that for carefully selected HBV-infected patients, HIV infection should not be a barrier to liver transplantation.

SYMPOSIUM – BASIC SCIENCE – IMMUNOPATHOGENESIS AND NEW CHALLENGES FOR VACCINES

– 11.00 am – 12.30 pm

ENHANCED CELLULAR IMMUNITY IN MACAQUES FOLLOWING A NOVEL PEPTIDE ("OPAL") IMMUNOTHERAPY

Kent S J¹, Chea S¹, De Rose R¹, Ramshaw I A², Dale C J¹ ¹Department of Microbiology and Immunology, University of Melbourne, Melbourne, VIC, Australia; ²John Curtin School of Medical Research, Australian National University, Canberra, ACT, Australia

Introduction: Preventing AIDS depends on manipulating effective immunity to HIV. We developed a technique to measure in vivo CTL responses in outbred macaques. During the development of this technique we made a remarkable observation: the re-infusion of macaque blood pulsed with SIV/HIV peptides generated sharply enhanced SHIV-specific T-cell immunity.

Methods: For the *in vivo* CTL assay, PBMC from previously immunised pigtail macaques, were incubated with pools of SIV Gag or SIV Pol overlapping 15mer peptides and labelled with fluorescent dyes. Autologous peptide-pulsed/labelled PBMC were re-infused into the macaques, and the stained cells tracked by FACS. T cell immunity following the re-infusion was detected *ex vivo* by IFN_Y ELIspot and ICS.

Results: The in vivo CTL assay was conducted two weeks following a DNA prime/FPV boost vaccine regimen. CTL lysis of Gag-pulsed cells was detected as early as 4 h post-infusion (up to 27.3%) in four vaccinated macaques analysed, which subsequently increased to 76% by 16 h post-infusion. No lysis was observed in control-vaccinated macaques. Two weeks following SHIV challenge over 98% clearance of both Gag- and Pol-pulsed cells was complete by 16h post infusion.

We then studied T cell immunity after the in vivo CTL assay. Strong, broad CD4+ and CD8+ T-cell responses were simultaneously enhanced to all SHIV peptide pools used with up to 10% of all CD4, and 4% of CD8 T cells responding to SHIV antigens. We subsequently infused autologous whole blood pulsed with peptides spanning 87% of all SIV/HIV-1 proteins and demonstrated new CD4 and CD8 T cell immune responses to all infused SHIV peptide pools.

Discussion: CTL responses can be monitored in vivo in macaques by infusing peptide-pulsed autologous cells. Further, the infusion of Overlapping Peptide-pulsed Autologous celLs (OPAL) sharply enhances broad SHIV-specific CD4+ and CD8+ T-cell responses. This simple technique holds promise for the immunotherapy of HIV.

T-CELL RECEPTOR MOTIFS AND IMMUNE ESCAPE IN ACUTE SIV INFECTION

Douek D¹

¹National Institutes of Health Vaccine Research Center, MD, USA

Escape from adaptive T-cell immunity through mutation of viral epitopes is a cardinal feature in the pathogenesis of SIV/HIV infection and a major obstacle to antiretroviral vaccine development. However, the molecular determinants of this phenomenon at the T-cell receptor (TCR)-antigen interface are unknown. We have shown that mutational escape is intimately linked to the structural configuration of constituent TCR clonotypes within virus-specific CD8+ T-cell populations. Analysis of 3416 SIV-specific TCR sequences revealed that polyclonal T-cell populations characterized by highly conserved TCRB CDR3 motifs were rendered ineffectual by single residue mutations in the cognate viral epitope. Conversely, diverse clonotypic repertoires without discernible motifs were not associated with viral escape. Thus, fundamental differences in the mode of antigen engagement direct the pattern of adaptive viral evolution. These findings have profound implications for the development of vaccines that elicit T-cell immunity to combat pathogens with unstable genomes.

THE ESCAPE MUTATION IN HLA-B27 POSITIVE INDIVIDUALS PREDICTS VIRAL LOAD OUTCOME

<u>Ammaranond P</u>^{1,2}, Petoumenos K¹, Middleton M¹, Anderson B³, Doong N C⁴, Finlayson R⁵, Kelly M⁶, McMurchie M⁷, Price R⁵, Cooper D A^{1,2}, Kaldor J¹, and Kelleher A D^{1,2} on behalf of the LTNP study group. ¹National Centre in HIV Epidemiology and Clinical Research, UNSW, NSW, Australia; ²St Vincents Hospital, Sydney, NSW, Australia; ³St. Leonard's Medical Centre, St. Leonards, NSW, Australia; ⁴Burwood Practice, Burwood, NSW, Australia; ⁶Albion St. Clinic, Darlinghurst, NSW, Australia; ⁷407 Doctors, Darlinghurst, NSW, Australia

Despite a significant literature on HIV escape from cytotoxic T cell (CTL) responses, a definitive association between escape and disease progression has never been demonstrated. The immune response in HLA-B27 positive HIV-infected individuals is characterised by an immunodominant response to a conserved epitope in *gag* p24 (KRWIILGLNK, aa 263-272) and is associated with long term non-progression. Substitutions at position 264 of this epitope have been identified as escape mutations. We hypothesised that escape at this immunodominant epitope would be a significant determinant of disease progression.

19 HLA-B27 positive patients were identified from the LTNP cohort with an average follow-up of 16 yrs after infection. *Gag, nef* and *env* regions were sequenced from plasma RNA at multiple time points up to the last time point available or the visit on which individuals' started anti-retroviral therapy. Host genetic factors impacting on disease progression such as polymorphisms in CCR5, CCR2, and SDF-1 genes were determined.

12/19 HLA-B27 LTNP had wild type sequences at the immunodominant epitope at all time points. 7/19 carried CTL escape variants: KKWIIMGLNK (n = 3), KGWIIMGLNK (n = 3) or KQWIIMGLNK (n = 1). A comparative analysis between the wild type and escape groups was performed. Median viral load and CD4+ T-cell counts were not significantly different between these groups at enrolment to the cohort. At last visit viral load was 1,750 and 21,000 RNA copies/ml in the two groups respectively (P = 0.01). Median CD4 T-cell counts were 596 and 360 cells/µl, respectively (P = 0.09). Escape mutants at other HLA-B27 epitopes in p17, gp41 and nef were uncommon and did not segregate. None of the 19 carried a nef-deleted virus. The host polymorphisms associated with alterations in disease progression: CCR5Δ32, CCR2-64I and, SDF1-3'A did not segregate to either wild type or escape groups. Each of these host and viral factors was examined for a relationship to viral load.

In a multivariate analysis the presence of the escape mutant (P=0.01) and the SDF1-3'A mutation (P=0.02) were found to be independently related to higher viral loads at the last visit. Escape is an important determinant of viral load in HLA-B27 positive individuals.

DISTINCT SURVIVAL PHENOTYPE OF CCR5+ ANTIGEN-SPECIFIC CD4+ T LYMPHOCYTES IN THE ACUTE PHASE OF THE ANTIVIRAL RESPONSES TO HIV-1 AND VACCINIA

<u>Zaunders J¹</u>, DyerW², Munier M L³, Ip S³, Amyes E⁴, Cooper D A^{1,3} and Kelleher A D^{1,3}.

¹Centre for Immunology, St Vincent's Hospital, Darlinghurst, NSW, Australia; ²Australian Red Cross Blood Service, Sydney, NSW, Australia; ³National Centre in HIV Epidemiology and Clinical Research, UNSW, Sydney, NSW, Australia; ⁴John Curtin School of Medical Research, ANU, Canberra, ACT, Australia

We recently found that HIV-specific CD4+ T cells express cell surface CCR5 and CD38+++ early in primary HIV-1 infection (PHI), and decline, due to either cytopathic infection or normal homeostatic processes. As a similar phenomenon is seen in acute EBV infection we asked if these cells formed part of the normal immune response to viral pathogens. Therefore we studied in detail the phenotype and kinetics of antigen-specific CD4+ T cells in healthy subjects inoculated with Vaccinia.

Samples were obtained from three healthy adults undergoing routine inoculation with Vaccinia at baseline, and days 7, 10, 14 and 21. CD4+ T cell subsets were analysed by multiparameter flow cytometry. Vaccinia-specific CD4+ T cells were analysed using a flow cytometric intracellular cytokine assay.

All subjects reported local lymphadenopathy by days 7-8, and edema at the inoculation site by days 8-10. An increase in circulating activated (CD38+++), CCR5+ CD4+ T cells was observed at days 8-10, peaked at day 14 and declined by day 21. At day 14, there was a peak in proliferating (Ki-67+) CD4+ T cells, of which more than half were CCR5+; many were also TIA-1+ (specific for granules in cytotoxic T lymphocytes). Simultaneously, there was a peak of interferon- γ producing Vaccinia-specific CD4+ T cells, which were predominantly CD38++, Bcl-2low, TIA-1+ and Ki-67+. These cells therefore have a similar phenotype to HIV-specific CD4+ T cells during PHI. However, Vaccinia-specific CD4+ T cells produced more IL-2 and expressed more CD127 (IL-7R), than HIV-specific CD4+ T cells at the same stage of infection.

The results indicate that the development of CD4+ CCR5+ antigen specific cells may occur in a range of viral infections. However we observed a qualitative difference in IL-2 and CD127 expression by HIV-specific CD4+ T cells during PHI when compared to those responding to Vaccinia. These differences suggest that the paucity of central CD4+ memory cells in HIV-infection is determined early in infection and is related to reduced signalling by important survival factors (IL-2 and IL-7), in addition to cytopathic infection.

CONCURRENT SESSION – SOCIAL RESEARCH – SENTINEL – 11.00 am – 12.30 pm

LOOKING FOR SEX PARTNERS: FROM SEX-ON-PREMISES VENUES AND GAY BARS TO THE INTERNET AND IMPLICATIONS FOR HIV RISK

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With the widespread use of the internet and its increasing popularity to find partners, we examined changes in where men look for sex partners and the implications of these changes for risk of HIV infection. Cross-sectional gay community periodic surveys were conducted in 2002, 2003 and 2004 at gay venues and clinics in Sydney. As well as questions on sexual behaviour, men were asked to indicate where they looked for male sex partners. The overall proportion of men who used the internet to look for sex partners increased significantly from 49.1% in 2002 to 54.2% (p<.05) in 2004. Moreover, the proportion that 'often' used the internet to look for sex partners increased from 9.8% in 2002 to 17.1% in 2004 (p < .001). Over the same period the proportions of men using some of the more traditional places to find sex partners decreased significantly. For example, the proportion looking in sex venues decreased from 74.0% to 62.2% (p<.001), gay bars decreased from 77.5% to 71.3% (p<.01), and beats from 38.7% to 33.4% (p<.01).

Variables that were significantly related to unprotected anal intercourse with casual partners (UAIC) in bivariate analyses were entered into a logistic regression analysis to ascertain the factors most salient to engaging in UAIC. The final logistic regression model showed that UAIC was significantly and independently associated with: having a larger number of sex partners, an HIV positive serostatus, looking for sex partners on the internet. looking for sex partners in gay bars, looking for sex partners in beats and the use of a greater number of recreational drugs. Although there is a relationship between UAIC and using the internet to look for sex partners it cannot be assumed that finding sex partners here will lead to riskier sex practices. The current data shows that among the men who engaged in UAIC, higher proportions frequent gay bars and sex-on-premises venues to find sex partners, 81.6% and 79.3%, respectively, than those who use the internet (68.2%). Similarly, the statistical relationship of looking in beats for sex partners and UAIC should not infer that those men looking in these places are more likely to engage in UAIC. Among those who engaged in UAIC, 47.3% looked in beats for sex partners.

THE ONLY GAY IN THE VILLAGE! REFLECTIONS ON PERCEIVED IDENTITY AND SENSE OF BELONGING IN GAY MEN

Booth A1, Rogers G1

¹Health In Human Diversity Unit, Department of General Practice, University of Adelaide, Adelaide, SA, Australia

Daffyd is very proud to be gay. Dafydd however refuses to accept that he isn't the only 'gayer' in his Welsh hometown of Llandewi Breffi. This character from the UK series Little Britain has provided much humour and insight into the lives of Daffyd and his not so 'straight' villagers.

In clinical practice settings we often converse with our clients regarding how they interact with others, what their social networks are like and how their relationships with others are going.

If we were to undertake some analysis of the term 'the only gay in the village' and consequently reflect on this meaning then is this in fact a new phenomenon that we need to build into our therapeutic work with gay men and/or men who have sex with other men? What would our exploration reveal?

This paper will explore and reflect on personality, self-identity and the inner psyche of gay men who may hold similar views to Daffyd. What would their clinical profile look like? Would the DSM IV reveal narcissism as a major component of personality? Being "the only" provides a sense of uniqueness for individuals – what did this mean for those first diagnosed with HIV in the early 1980's?

This reflective presentation will provide an opportunity to consider the clinical implications of 'being the only' and explore what happens when individuals find out they are in fact not the only gay in the village...in fact there are gays everywhere!

HIV-POSITIVE GAY MEN AND PREVENTION

Duffin R¹

CONCURRENT SESSION – SOCIAL RESEARCH – SENTINEL

¹Australian Federation of AIDS Organisations, NSW, Australia

There is increasing pressure on HIV education organisations to differentially target HIV-positive gay men in their prevention efforts, particularly given recent rises in rates of HIV infection and the high incidence of other STIs in HIVpositive gay men.

HIV is now decentred from many HIV-negative or untested gay men's lives. HIV does not play the central political and cultural role it did for gay communities. Improvements in treatments give gay men with HIV the opportunity to somewhat decentre HIV from their lives. However, because HIV is still an integral part of HIV-positive gay men's lives and because they are easier to reach and target through their use of medical services, there are reasons why HIV-positive men now constitute an easier and more accessible target for prevention education and why GPs in particular are seen as more important in HIV prevention efforts.

The danger of such differential targeting is the potential for it to be read as 'positive men are responsible for rises in HIV infection and STIs' or, conversely, that 'negative men don't have to be responsible' for themselves.

This paper will look at the increasing pressure placed on disclosure in this context, and the different responses of HIVnegative and HIV-positive gay men to the campaign. It will then examine the relationship between social research and gay men's education policy.

ILLICIT DRUG USE AND HIV SEROCONVERSION IN THE HEALTH IN MEN (HIM) COHORT

Prestage G¹, Jin F¹, Mao L², Kippax S², McGuigan D³, Kaldor J¹, Grulich A¹ on behalf of the Australian-Thai HIV Vaccine Consortium.

¹National Centre in HIV Epidemiology & Clinical Research, UNSW, NSW, Australia; ²National Centre in HIV Social Research, UNSW, NSW, Australia; ³AIDS Council of NSW, NSW, Australia

Rates of illicit drug use are considerably higher among gay men than in the general population. Here we investigate drug use and HIV risk.

1427 HIV-negative men participating in Sydney's gay community were interviewed between 2001 and 2004 for the Health in Men (HIM) cohort study. All participants undergo annual HIV testing and face-to-face interviews regarding sexual behaviour, illicit drug use, demographics and gay community involvement. Hazard ratios (HR) were calculated using Cox regression.

At baseline, most men (80.2%) reported using illicit drugs in the previous six months, including: ecstasy (58.2%), cocaine (23.8%) and speed (32.3%). Drug use was associated with unprotected anal intercourse with casual partners (UAIC) (p<.001). However, in a comparison of the last episodes of unprotected and protected anal intercourse in men who reported any UAIC, drug use did not differentiate these episodes. 61.2% believed drug use was 'very much' a part of Sydney's gay community, and 22.5% were concerned about their own current drug use. There were 24 confirmed HIV seroconversions. Illicit drug use was significantly associated with HIV seroconversion and the HR increased with greater frequency of drug use (See Table). This association was true for all illicit drugs, though it was highest for so-called party drugs such as ecstasy (monthly compared to never use: HR 7.79, 95% CI 2.21-27.42) and methamphetamines (monthly compared to never use: HR 5.01, 95% CI 1.82-13.83).

| | n | РҮ | Incidence (per 100PY) | HR | 95% Cl Ptrend=0.024 | |
|------------------------|----|--------|-----------------------------|------|------------------------|--|
| Illicit drug use | | | | | | |
| Never | 2 | 572.4 | 0.35 | 1 | | |
| Less than once/week | 9 | 1241.4 | 0.73 | 2.00 | 0.43-9.27 | |
| Once/week or more | 13 | 917.7 | 1.42 | 4.15 | 0.93-18.44 | |

In HIM, while drug use may not be a directly causative factor for all UAIC or HIV seroconversion, frequent drug use is associated with both of these and undoubtedly plays some role, at least in some cases. Whether causal or not, frequent drug users are at high risk of HIV infection. High levels of illicit drug use appear to be relatively normative within some gay subcultures, but is nonetheless problematic for some gay men. Appropriate programmatic responses to problematic drug use may be beneficial.

SEROSORTING DISTINGUISHES UNPROTECTED FROM PROTECTED ANAL INTERCOUSE WITH CASUAL PARTNERS: FINDINGS FROM THE HEALTH IN MEN (HIM) COHORT

<u>Mao L¹</u>, Crawford J¹, Kippax S¹, Prestage G², Grulich A², Kaldor, J², on behalf of the Australian-Thai HIV Vaccine Consortium

¹National Centre in HIV Social Research, Sydney, NSW, Australia; ²National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, Sydney, Australia

Health in Men (HIM) is an open cohort of HIV-negative gay men in Sydney. Participants are interviewed annually through face-to-face and six-monthly by telephone. At each face-to-face interview men who reported any unprotected anal intercourse in the six months prior to interview were invited to provide additional information specifically about their most recent episodes of protected and unprotected anal intercourse.

From July 2001 to the end of June 2004, 1427 men were enrolled. We analysed data from the 311 men (21.8%) who, at baseline, reported episode-specific information on their most recent episodes of both unprotected anal intercourse with casual partners (UAIC) and protected anal intercourse with casual partners (PAIC).

The research question is: What episode-specific variables, if any, distinguish UAIC from PAIC? The episode-specific variables included are: the location where the latest episode took place; practice of ejaculation and withdrawal prior to ejaculation; the use of alcohol, amyl/other recreational drugs, and Viagra; and participants' perception (based on actual verbal discussions or various assumptions) of the casual partners' HIV serostatus.

For each individual, McNemar tests for repeated measures were applied in the univariate analyses and hierarchical conditional logistic regression in the multivariate analyses were used to differentiate the two episodes (one UAIC and one PAIC).

Results indicate that the only significant difference (p<.001) between the most recent UAIC and PAIC episodes was whether the participants perceived their casual partners to be HIV seroconcordant-negative (serosorting). A UAIC episode was twice as likely when a casual partner was perceived by the participant to be HIV-negative (OR=2.06, 95%CI 1.44-2.93). Even when a casual partner did tell the participant his HIV serostatus, about half of such verbal disclosure by a casual partner happened on that occasion just before they engaged in the most recent UAIC or PAIC episode.

For HIV-negative men, serosorting is strongly associated with a UAIC episode. However, serosorting in casual encounters is an unreliable method of risk-minimisation. Condom use in casual encounters remains the most effective method of preventing HIV transmission among HIV-negative gay men.

ASSUMPTIONS ABOUT PARTNER SEROSTATUS AND DIFFICULTIES WITH DISCLOSURE AMONG A COHORT OF HIV-POSITIVE MEN

<u>Rawstorne P</u>¹, Race K¹, Prestage G², Fogarty A¹, Grierson J³, Kippax S¹

¹National Centre in HIV Social Research, The University of New South Wales, Sydney, NSW, Australia; ²National Centre in HIV Epidemiology and Clinical Research, The University of New South Wales, Sydney, NSW, Australia; ³Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, VIC, Australia

This paper examines ways that HIV-positive gay men assess the HIV status of their partners or potential partners as well as the reasons why men find it difficult to disclose their HIV status to casual partners. The presentation itself will also draw on comparative data from the HIV-negative cohort – Health in Men.

Data were drawn from 235 HIV-positive gay and homosexually identified men living in NSW and Victoria, Australia, who participated in the interview-based Positive Health (pH) cohort study in 2004. These men reported having had sex with casual partners in the sex months preceding the interview.

Of the 235 men, the majority never engaged in unprotected anal intercourse with casual partners (UAIC), so disclosure of HIV status would not be a factor in HIV transmission. 120 men had UAIC. This equated to 4826 episodes, of which 2954 (61%) were with HIV-positive men, 340 (7%) with HIV-negative men, and 1532 (32%) with men whose serostatus was unknown. A sizeable proportion of the UAIC with HIV-negative and serostatus unknown men was in the context of strategies to minimise the risk of HIV transmission. Some men may rely on relatively accurate information to assess their partners' serostatus, but many others use strategies to determine serostatus that is likely to be more prone to error—such as the place where they met or the partner's attitude towards condoms. Major difficulties disclosing to partners included issues around a philosophy of shared responsibility, concerns about a bad reaction from partners, and inappropriate timing.

Although men are using rational approaches to assess their partners' serostatus, some of these approaches may be more accurate than others. These men see their partners as very much a part of the risk dynamic and shared responsibility is often assumed. Programmatic responses may be needed that address the assumptions made by both HIV-positive and HIV-negative men. Ongoing discussion about the role of community values and norms in developing safe sex education programs may be beneficial.

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SYMPOSIUM – AUSAID – FEMINISATION

OF HIV – 11.00 am – 12.30 pm

WOMEN AND GIRLS MAKE UP AN INCREASING PROPORTION OF PEOPLE INFECTED AND AFFECTED BY HIV/AIDS.

The lower social and economic status of women and girls in the developing world increases their vulnerability to the epidemic and its impact. Globally, 60% of 15-24 year olds living with HIV/AIDS are young women. Women and girls also disproportionately bear the burden of the epidemic: they are the principal carers for people living with HIV/ AIDS, and they are most likely to lose property and assets on becoming widowed. Even where support services may be available, women and girls are victims of stigmatisation and usually have less access to HIV/AIDS care and treatment than men. Feminisation of the epidemic also stands to increase the risk of mother-to-child transmission and the loss of caregivers for future generations.

In the Asia Pacific region women and girls represent an increasing proportion of people living with HIV compared with five years ago. Women in Papua New Guinea are at least four times more vulnerable to infection than men and heterosexual sex is the dominant mode of HIV transmission in Papua New Guinea and the Pacific.

The AusAID symposium, *HIV/AIDS: 'Feminisation' of the epidemic* will be chaired by Australia's Special Representative on HIV/AIDS. The symposium is an important part of AusAID's efforts to draw greater international attention to the feminisation of the epidemic in the Asia Pacific Region, and to promote further debate on Australia's role in addressing the epidemic and its impact in the region.
CONCURRENT SESSION – CLINICAL MEDICINE – COMPLICATIONS OF THERAPY – 1.30 pm – 3.00 pm

INVOLVEMENT OF METABOLIC AND IMMUNE RESPONSES IN THE PATHOGENESIS OF ABACAVIR HYPERSENSITIVITY REACTION

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Background: Abacavir is an effective therapeutic nucleoside analogue used in the treatment of HIV infection that is associated with hypersensitivity reactions in ~8% of individuals. Susceptibility to abacavir hypersensitivity (ABC-HSR) is highly predicted by the presence of alleles on the 57.1 ancestral haplotype including *HLA-B*5701*, *TNF* –238A, and *Hsp70Hom-493T*.

Objective: To examine the metabolic and immune responses in the pathogenesis of ABC-HSR.

Methods: Cellular HSP70, CD40 and IFN- γ expression were measured by immuno-fluorescence staining using confocal microscopy, intracellular flow cytometry (ICS) and ELISA. Alcohol dehydrogenase activity was determined by spectrophotometric analysis of NADH production.

Results: Confocal microscopy revealed significantly increased HSP70 expression in endosomal compartments of antigen presenting cells within 3 hours of abacavir stimulation in cultured PBMCs from HLA-B*5701⁺ ABC-HSR and HLA-B*5701+ ABC-naive individuals, compared with ABC-tolerant patients (P=0.023). Blockade of cell surface receptors with CD14, HSP70 or TLR4 antibodies reduced HSP70 redistribution in susceptible individuals to basal levels (P<0.004). CD40 expression, an activation and maturation marker, was significantly higher in CD14⁺, CD83⁺ cells from HSR versus tolerant patients (P=0.0008). Abacavir stimulation resulted in increased T1 cytokine expression including monocyte TNF- α (ICS, P=0.0003) and IFN- γ (ELISA, P=0.001) associated in ABC HSR compared with tolerant patients. The IFN-y response was observed in CD8+ T cells (ICS). Inhibiting abacavir bioactivation via ADH with 4-MP decreased both HSP70 redistribution and IFN-y production.

Conclusions: Both innate and adaptive immune responses are critical in the pathogenesis of ABC-HSR, providing abacavir-specific activation and maturation signals to antigen presenting cells, whilst the generation of abacavir-specific immune responses also appears to be contingent on ADH-mediated bioactivation. The exquisite *HLA-B*5701+* restriction of abacavir modified ligands provides the most clinically relevant basis for genetic screening, although the involvement of toll-like receptors may also have therapeutic implications.

GENETIC SCREENING FOR ABACAVIR HYPERSENSITIVITY (ABC-HSR) IN THE WESTERN AUSTRALIAN COHORT: PROSPECTIVE DATA AND NOVEL DIAGNOSTIC APPROACHES

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Background: Abacavir treatment is associated with drug hypersensitivity reactions in $\sim 8\%$ of Caucasians, and is highly predicted by the presence of *HLA-B*5701* allele.

Objective: To determine the incidence of ABC-HSR after introduction of prospective *HLA-B*5701* screening, and to develop new tests to rapidly screen and identify susceptible individuals.

Methods: Prospective study. All individuals prescribed abacavir after January 2002 were examined (n=138). ABC-HSR was diagnosed utilising standardised criteria. HLA results were obtained by sequence-based typing (SBT).

Diagnostic assay development. A multiplexed sequence specific primer (SSP) assay to identify *HLA-B*5701* alleles, and a serological flow cytometry assay for HLA-B57 phenotyping using commercial B17 monoclonal antibodies and gating on the CD45+ lymphocyte population, were developed and validated.

Results: Prospective study. Three $HLA-B^*5701$ + individuals developed classical ABC-HSR symptoms. In two cases HLA results were not reviewed, while one patient with limited treatment options made an informed choice based on the absence of other markers of the 57.1 ancestral haplotype. No definite cases of ABC-HSR were identified among the 135 $HLA-B^*5701$ -negative individuals, with no symptoms in 96% (n=131). Abacavir was discontinued within 6 weeks due to minor symptoms in one case (diarrhoea) or symptoms likely to be associated with an alternative drug in three cases (nevirapine = 2, zidovudine =1).

Diagnostic assay development. The PCR-SSP assay amplified all HLA-B*5701 alleles and was able to distinguish between HLA-B*5701 (n=10) and related alleles B*5702 (n=2), B*5703 (n=1), B*5704 (n=1); and non-HLA-B*57 alleles (n=61). Flow cytometry testing of whole blood samples from HLA-B57+ individuals were positive (n=7), while all HLA-B57-negative individuals (n=77) tested negative.

Conclusion: Testing and excluding individuals carrying the susceptibility locus HLA- B^*5701 has decreased the incidence of abacavir HSR in the WA HIV cohort to 0% (95% CI 0-0.03) in HLA- B^*5701 individuals. The SSP diagnostic test for HLA- B^*5701 detection is a rapid and accurate typing method with high specificity, sensitivity and reproducibility. The B17/CD45 dual staining was sufficient to discriminate between individuals carrying B57/B58 antigens and could be used as a rapid screen to identify and possibly exclude individuals with potential genetic susceptibility to abacavir. Confirmation of the HLA-B57 subtypes must be done using molecular methods.

CYTOKINE GENOTYPES ESTABLISH A ROLE FOR INFLAMMATION IN ANTIRETROVIRAL TOXIC NEUROPATHY (ATN) AND PREDICT AN INDIVIDUAL'S ATN RISK

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Sensory neuropathy is one of the commonest problems affecting people with HIV, with a prevalence of 44% documented in one Australian out-patient clinic. Distal sensory polyneuropathy (DSP) due to HIV itself, as well as antiretroviral toxic neuropathy (ATN) associated with exposure to the nucleoside analogues (NRTIs) d4T, ddI or ddC are both recognized. The histological correlates of DSP include loss of epidermal nerve fibers and increased numbers and activation of macrophages throughout the peripheral nervous system. Epidermal nerve fiber loss is also seen in ATN, but inflammation has not been examined. It is unclear why some individuals develop ATN when exposed to potentially neurotoxic NRTIs but others do not.

Host genotype of affected versus unaffected individuals provides an opportunity to assess the possible importance of inflammatory pathways in the development of ATN. We have analyzed alleles of cytokine genes in DNA from a clinically well characterized HIV-infected cohort who have all been exposed to at least one of d4T, ddI or ddC. Subjects with no ATN despite ≥6 months of exposure to d4T, ddI or ddC (n=28, "ATN resistant") and those with a definite or probable diagnosis of ATN (n=40, neuropathy onset temporally related to d4T, ddI or ddC exposure) could be distinguished by alleles of *TNFA* (p=0.023) and *IL12B* (p=0.05) (encoding TNF α and IL-12p40, resp.). Alleles of genes encoding IL-1, IL-4 and IL-6 had less pronounced effects.

These findings support a role for inflammatory pathways in the development of ATN following exposure to potentially neurotoxic NRTIs. If confirmed in a larger cohort, these findings will enable improved assessment of an individual's risk of ATN prior to commencing NRTIs, allowing more informed treatment decisions. By facilitating an understanding of the cytokines involved in the development of ATN, these findings may also aid the development of rational immunotherapeutic strategies for this common and disabling problem.

NEW AIDS DEFINING ILLNESS DIAGNOSED WITHIN 90 DAYS AFTER INITIATION OF ANTIRETROVIRAL TREATMENT AMONG PATIENTS FROM THE TREAT ASIA HIV OBSERVATIONAL DATABASE (TAHOD)

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With the increasing accessibility of antiretroviral treatment, immune reconstitution syndrome may warrant more consideration for clinicians treating HIV patients in developing countries. Using data from TREAT Asia HIV Observational Database (TAHOD), this paper aims to assess the rate of and risk factors associated with the diagnosis of new AIDS defining illness (ADI) within 90 days after initiation of antiretroviral treatment.

Patients were included when they started triple or more antiretroviral treatment and had at least one follow-up. Patients with a follow up less than 90 days and without a diagnosis of ADI were excluded from the analysis. Rate of ADI was described by person-year method. Risk factors associated with new ADI were assessed by logistic regression.

Among the 1185 patients who started first antiretroviral treatment containing three or more drugs, 75 (6.3%) were diagnosed with a new ADI within 90 days. Median time of the diagnosis was 23 days (range 1-88 days). The rate of new ADI was 26.8 (95% CI 21.4-33.6) per 100 person-years. Among the patients with new ADI, when treatment was started, median CD4 count was low (43 cells/µl and 61% below 50 cells/µl), HIV viral load was high (90%>10000 copies/ml) and 52% had a prior ADI diagnosis. Tuberculosis (26%) was the most common new ADI, followed by PCP (19%) and Non-TB mycobacterial diseases (12%). A lower CD4 count before treatment was significantly associated with higher risk of new ADI diagnosis. Patients who started treatment in the same year as their first HIV positive test were at a higher risk of AIDS

A higher rate of new ADI within 90 days after starting first double or triple antiretroviral treatment was observed from patients in TAHOD. Although it is difficult to be certain whether a newly diagnosed ADI is indeed immune reconstitution syndrome, in TAHOD serious clinical events shortly after starting antiretroviral treatment were relatively common.

INCIDENCE OF RASH AND DISCONTINUATION OF NEVIRAPINE AMONG ARV NAÏVE PATIENTS IN CIPTOMANGUNKUSUMO HOSPITAL JAKARTA

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Drug hypersensitivity in HIV-infected patients is a hundred times more common than in general population. Although its pathogenesis is unknown, suggested mechanism included the degree of immune deficiency of immune activation, the longer duration and higher doses of therapy, altered drug metabolism and coexisting infections. Nevirapine (NVP) is widely used for the treatment of HIV infection. Generic NVP is already available in Indonesia. The major adverse effect associated with NVP is rash, which manifests as maculopapular eruption with or without constitutional symptoms.

Retrospective analysis of antiretroviral naïve HIV-infected patients initiating NVP-containing regimen in Pokdisus Clinic between January to July 2004 was done to assess the incidence of NVP-rash and identify associated risk factors. NVP therapy was started using standard initial escalating dose.

A standard form was used for abstraction of demographic and clinical data, transmission method, concurrent ARV treatment, OI's drugs, and baseline CD4 count. The primary outcome measure was the onset of cutaneous adverse reaction within the first 90 days of NVP-containing therapy.

A total 130 patients were eligible for this study. 43 patients (33.1%) developed rash within 3 months of treatment. One of them developed Stevens Johnson syndrome. 67.6% of them had to discontinue NVP therapy, and 36% patients changed to efavirenz due to financial constraint. Median onset of developing rash was 14 days (minimum-maximum 2-70 days). History of drug allergy was the only risk factor associated with NVP-rash.

The incidence of NVP-rash in this study (33.1%) was high. An intriguing finding, contrast with other study, female sex was not a predictor of developing rash. Chinese ethnic in this study didn't show increasing risk for developing rash, even Ho(1998) reported very high incidence of rash (62.5%) in HIV-infected chinese. Since the significant risk factor was the history of drug allergy, it is plausible that allergy is one of the mechanism.

PARAMETRIC MODELS TO PREDICT IMMUNOLOGICAL FAILURE IN THAI PATIENTS RECEIVING ANTIRETROVIRAL TREATMENT

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Patients on antiretroviral therapy (ART) receive frequent monitoring of CD4 and HIV RNA. Models developed using existing data may help rationalise ART monitoring.

Parametric models to predict immunological failure in Thai HIV-patients receiving antiretroviral treatment (ART) were developed using HIV-NAT clinical data. Separate models for CD4 return to baseline and CD4<200 were developed with and without HIV load (VL) for application to situations in which VL is unavailable. Significant variables from multivariate Cox models were included. To find the best distribution for predictive models several survival models and complementary log-log transformation models were fitted to the data and compared. Model fit was assessed by comparing the estimated number of failures at week 24 (calculated as the sum of the week 24 predicted failure probabilities) with the number of observed failures.

The number of observed failures for CD4 return to baseline were 32, 23 and 17 on the 1st, 2nd and 3rd (ART) respectively. Summations of estimated probabilities of failure were: 26.7. 17.3 and 12.8 for the Weibull survival model. Results from other distributions for 1st, 2nd and 3rd ART were: Gompertz; 26.09, 14.99 and 10.51, Log-Normal 32.15, 19.22 and 14.02 and Log-Logistic 30.61, 19.30 and 14.43. When patients' 12-weekly visit scheme was considered as an interval survival time, applying a complementary log-log transformation, expected numbers of events were 38.7, 19.3 and 14.4 respectively. The number of observed failures for CD4 < 200 were 7, 3 and 2 on the 1st, 2nd and 3rd ART respectively. Summations of estimated probabilities of failure using the complementary log-log transformation were 7.4, 3.2 and 1.5 respectively if VL was not included in the model, and 7.6, 3.1 and 1.6 respectively if VL was included.

The results suggest that the complementary log-log transformation provides a better prediction of immunological failure on ART than other models. In future analyses the models will be used to determine whether it is reasonable to defer regular monitoring of CD4 in patients predicted to be at low risk of failure. This may lead to less frequent monitoring, increased capacity, and cost savings.

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CAN RETROVIRAL PARTICLE-ASSOCIATED UNG AND DUTPASE COUNTERACT APOBEC MEDIATED INNATE IMMUNITY?

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Incorporation of uracil into DNA by either misincorporation of deoxyuridine triphosphate (dUTP) or cytidine deamination results in the production of single base mutations in retroviral genomic DNA. The virally encoded Vif protein controls cytidine deamination of viral DNA by preventing incorporation of the host cell derived cytidine deaminases APOBEC3G and APOBEC3F into viral particles. Although Vif is essential for the replication of many viruses there are examples, such as EIAV and MLV, of viruses that do not contain a viral Vif protein but seem unaffected by host cell APOBEC proteins. As Vif is not uniformly expressed in all retroviruses it is unknown whether other viral factors can complement or substitute for Vif to neutralize APOBEC mediated innate immunity. A number of viruses encode or package two key enzymes that function in tandem to prevent the incorporation and retention of uracil residues in DNA, deoxyuridine triphosphate nucleotidohydrolase (dUTPase) and uracil-DNA glycosylase (UNG). Recent reports have indicated that virally encoded dUTPase and UNG plav a role in reducing G-A hypermutation during viral replication. In this study we aim to investigate whether virally encoded dUTPase can functionally substitute for HIV-1 virion associated host cell UNG and to investigate whether retroviral particle-associated UNG and dUTPase can substitute for the viral Vif protein to counteract APOBEC induced hypermutation of HIV-1. Using a Vpr-dUTPase fusion protein to allow packaging of viral dUTPase into HIV-1 virions we have found that retroviral dUTPase from both EIAV and FIV cannot rescue viral infectivity of Vif- HIV-1. Using a UNG packaging deficient HIV-1 mutant we have also demonstrated that retroviral dUTPase partially rescues the viral infectivity of UNG negative HIV-1 and that not all retroviral dUTPases are functionally equivalent. In order to determine whether the enzymatic activity of UNG is required for its effects on retroviral replication infections were also carried out in the presence of the UNG inhibitor UGi. Our results suggest that retroviral particle-associated UNG and dUTPase are likely to have overlapping functional roles in viral replication and that retroviral dUTPase and virionassociated UNG are unlikely to have a role in the prevention of APOBEC meditated innate immunity.

TERMINAL INTERACTIONS OUTSIDE THE SIX-HELIX BUNDLE CORE DOMAIN OF HIV-1 GP41 ARE ESSENTIAL FOR ITS MEMBRANE FUSION FUNCTION

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HIV-1 gains entry into its cellular targets via membrane fusion, a process that is mediated by the viral gp120gp41 glycoprotein complex. Infection is initiated when gp120 binds to cell-surface CD4 and then to a chemokine receptor, CCR5 or CXCR4. These events initiate conformational changes in gp120-gp41, triggering the refolding of gp41 into a trimer of hairpins. Trimer of hairpins formation leads to the destabilisation, apposition and fusion of virus and cell membranes, leading to viral entry. X-ray crystallography has revealed that the core region of the trimer of hairpins is a 6helix bundle, however, structural and functional information for conserved sequences that are located outside the core is currently lacking. Here we report that conserved hydrophobic residues located at the N- and C-terminal ends of the gp41 ectodomain contribute to fusion function by forming a stabilizing interaction in the trimer of hairpins. HIV- 1_{AD8} Env mutants bearing single Ala substitutions in the N-terminal flexible segment (L535A) and in the C-terminal membrane-proximal segment (W664A, W670A, F671A, D672A and I673A) retained normal levels of membrane fusion function. However, simultaneous substitution of the N-terminal residue, Leu-535, together with a C-terminal residue, Trp-664, Trp-670 or Phe-671, resulted in between 80 and 45 %-reductions in fusion competence. The L535A/W664A double mutation, which blocked cell-cell fusion activity by ~ 80 %, also blocked the transfer of lipophilic fluorescent dyes, DiI and DiO between Env expressing effector cells and CD4/CCR5-expressing targets, indicating that the early lipid mixing phase of fusion was blocked. The L535A/W664A double mutation also increased the chymotrypsin sensitivity of a maltose-binding protein (MBP)/gp41 chimera, which models the gp41 trimer of hairpins conformation. These data indicate that Leu-535 and Trp-664 cooperate in stabilizing the membrane-interactive end of the fusion-activated trimer of hairpins conformation of gp41, and in driving the early lipid stage of fusion. The functional interaction identified in this study serves as a new target of fusion inhibition.

MOLECULAR ANALYSIS OF HIV-1 EARLY EVENTS DURING CELL INFECTION: PROSPECTS TOWARDS NOVEL ANTIVIRAL DRUG TARGETS AND STRATEGIES

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Early replication steps of HIV-1 include: binding to cell surface receptors, fusion of the viral membrane with the cellular plasma membrane, entry and uncoating, and concomitant reverse transcription. During reverse transcription, the viral genomic RNA is copied into DNA that can be integrated into the host genome. HIV is expressed as other cellular genes using RNA polymerase II. Our research has focused on these early events and revealed that these processes are regulated by both viral and cellular factors. For example, we have shown that the HIV-1 Tat protein is a critical regulator of reverse transcription in addition to is better understood role during HIV-1 transcription by RNA polymerase II and also. These diverse functions are mediated by different protein:protein interactions which can be genetically segregated by specific point mutations in Tat which are essential for one or the other function. For example our research shows that Tat can interact with reverse transcriptase in reverse transcription, while Tat interacts with many cellular protein to affect transcription including cyclin T1. Recently, we have performed *in vitro* experiments that duplicate our previous cell complementation studies, and heralds the possibility that Tat function in reverse transcription may be developed as a viable antiviral drug target. In addition, we have investigated how RNA structures regulate early reverse transcription. TAR RNA is a short stem loop structure composed of the first 57 nucleotides of the HIV-1 RNA genome. We have shown that, like Tat, TAR influences the efficiency of early reverse transcription. Exactly how this occurs is not known but two possibilities include novel RNA interactions, or TAR interactions with reverse transcriptase. Next, we have compared the reverse transcription process that occurs within intact virus, a process called natural endogenous reverse transcription (NERT), to infection following cell infection. We previously reported differences in the efficiency of reverse transcription in the two systems suggesting that a cellular component is required for efficient and complete synthesis of double strand HIV-1 DNA, which becomes the integrated proviral DNA. We have profiled the effect of numerous kinase inhibitors/activators both on intact virus undergoing NERT, and during cell infection. Curiously, one class of compound had the ability to block HIV-1 replication in peripheral blood mononuclear cells. Finally, we have looked at whether protein modification pathways influence HIV-1 infectivity. Our preliminary study shows that protein arginine methyltransferase activity is important for HIV-1 infection in tissue culture cell lines, and we are trying to determine if some viral proteins are methylated.

HIV-1 drug resistance to current therapies will create future problems to manage patient therapy. Long term new drug targets and drugs will be required. The research described in this abstract is aimed at identifying new viable drug targets. Our goal is to define these targets so that small compounds can be identified using an appropriate high through-put screening assay.

IMPACT OF SIMIAN IMMUNODEFICIENCY VIRUS INFECTION IN THE MALE GENITAL TRACT OF JUVENILE MACAQUES

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Reproductive organs contribute infected cells and free viral particles to semen in Human Immunodeficiency type-1 (HIV-1) infected individuals, increasing the risk of infection from the HIV-1 positive male to the mother and ultimately to the offspring. Little is known about the progression and pathogenesis of the infection within male genital tract. Investigating the mechanism of the spread of HIV-1 in the cells and tissues of the MGT, particularly during the asymptomatic stage, remains a critical task.

Infection of macaques with simian immunodeficiency virus (SIV) is a useful animal model for studies of mucosal transmission and viral transmission via breast-feeding. In this study 6 juvenile macaques (2.5-4 yo) were infected with SIV/251mac for a period of 23 weeks and testis and epididymis tissue were collected at the time of termination (postacute stage of infection). To determine SIV progression and pathogenesis in the MGT we have used light microscopy, electron microscopy, immuno-histochemistry, and real-time PCR.

Light microscopy and EM data show that out of six animals tested, only three animals had reached puberty, as indicated by the presence of spermatozoa in the epididymis. In these three animals EM revealed scattered viral-like SIV particles in the testis (Sertoli cells) and epididymis (principal cells). This was associated with disorganization of the seminiferous epithelium and the presence of immature, round germ cells in the lumen of the epididymis.

SIV RNA real time PCR analysis of lymph nodes and epididymis showed correlation with plasma viral loads, whereas viral loads in the testis were undetectable. In an attempt to identify cells that are a target for SIV and HIV-1 in the human and monkey testis, we performed IHC using a range of myeloid cell markers. We report, for the first time, the presence of a dendritic cell population in the testis of both species. Macrophages were identified using CD11c and CD68 antibodies. We are in the process of determining whether these cells are specifically targeted by SIV, via combined insitu hybridization and IHC. The data indicate that SIV infected juvenile macaques are a potential model for studying HIV-1 pathogenesis and its effect in spermatogenesis as well as the immune response of testis.

DISSECTING THE CONTRIBUTION OF CHOLESTEROL IN VIRAL ENTRY: A POTENTIAL ROLE IN FUSION PORE FORMATION

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Human Immunodeficiency Virus type 1 (HIV-1) virion membranes are rich in sphingolipids and cholesterol due to their budding through lipid raft domains in host cells. Like lipid rafts, these virion membranes are highly structured, and it has been shown that removal of cholesterol from virion membranes abrogates viral infectivity. Previous work in our lab has shown that removal of raft-promoting properties of virion cholesterol inhibits viral infectivity, but the mechanistic contribution of cholesterol in this process is unknown. The potential contribution of virion cholesterol to mediate viral entry is currently being examined via the Vpr-Blam entry assay. The most likely role of cholesterol in HIV-1 infection is the interactions with their adjacent lipid molecules to facilitate the formation of the fusion pore during viral entry. It is known that the carbon side chain of cholesterol interacts with the acyl group of sphingolipids to stabilize the membrane structure. To evaluate the importance of this interaction in HIV-1 replication, we have altered the length of the cholesterol carbon side chain and have observed that a dynamic interaction is critical for virus function. The mobilisation of cholesterol within the virion membrane is being evaluated further using a synthetic cholesterol that can be crosslinked with its neighbouring molecules. Different classes of entry inhibitors (such as co-receptor binding inhibitors and fusion inhibitors) will also be used to determine whether virion cholesterol acts prior to or during fusion pore formation.

THE PHOSPHORYLATION OF HIV-1 NEF BY PKC

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The Nef protein of HIV-1 is important for efficient viral replication and for disease development. In rare instances when people have been infected with HIV-1 containing mutations and deletions within the *nef gene*, progression to AIDS has been severely delayed. Precisely how Nef aids HIV-1 infection is not well understood but it has been shown to have numerous functions, all of which may contribute to viral pathogenesis. Nef is able to down-regulate cell surface receptors such as CD4 and MHC I, increase virion infectivity and control signalling pathways in HIV-1 infected cells. These functions are likely to facilitate efficient viral replication, release and immune evasion.

Nef appears to mediate its effect by manipulating cellular pathways involved in receptor down regulation, cell activation and apoptosis signalling as it is able to interact with various proteins integral to these pathways. However, it remains unclear how Nef function is regulated. One possible explanation is the phosphorylation of Nef by Protein Kinase C (PKC). Nef has previously been shown to be phosphorylated by PKC in vitro, in Nef-expressing cells and during HIV-1 infection. We show that Nef is phosphorylated by PKC on serine residues 6, 8 and 9, preferentially by PKC theta. Mammalian expression vectors and full-length HIV-1 molecular clones expressing mutant Nef proteins in which S6, 8 and 9 were replaced with alanine residues or aspartic acid residues to mimic constitutively phosphorylated serine residues were constructed to further examine the effects of phosphorylation on Nef function. Phosphorylation is shown to inhibit Nef's ability to down-regulate cell surface receptors and enhance viral replication and infectivity. We also show that phosphorylation alters Nef localisation, suggesting a mechanism by which these functions of Nef are regulated.

CONCURRENT SESSION – COMMUNITY – PLWHA IN THE COMMUNITY – PHILLIP MEDCALF MEMORIAL SESSION – 1.30 pm – 3.00 pm

RULES OF RESCUE: HOW CAN WE DO THINGS BETTER FOR OUR HIGHLY TREATMENT-EXPERIENCED POPULATIONS?

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Australia has a high proportion of people with HIV who are highly treatment-experienced: many are resistant to multiple drugs, and have a continuing need for new drugs and treatment strategies: so-called 'salvage therapy'.

This is a clinically complex and often vulnerable group of people. This paper explores how advocates for people with HIV/AIDS can better work with governments, clinicians, the pharmaceutical industry and researchers to develop appropriate and comprehensive strategies for highly treatment-experienced people.

The paper is based on material developed at a workshop convened by the Treatments Policy Group of the National Association of People Living with HIV/AIDS (NAPWA). At this workshop, invited community representatives and clinicians discussed what is at stake for this group of HIV positive people. Leading US HIV researcher Dr Cal Cohen was also able to attend and share his views.

The workshop looked at:

- how we define and understand so-called 'salvage therapy';
- the epidemiological context in Australia;
- ethical and conceptual issues in designing and conducting clinical research in highly treatment-experienced people;
- how we maintain viable Special Access Schemes and preserve early access to important new treatments in a changed industry environment;
- making access to clinical trials of new treatments more equitable;
- options for improving networks and the sharing of information between community advocates, clinicians and industry;
- the role of community-developed education and information for those in need of new options or strategies.

Following from the workshop, a discussion paper was developed. NAPWA hopes that this paper and its recommendations, which will be the basis for this presentation, will help drive a more strategic approach to salvage therapy, which will encourage research, improve outcomes and create more options for people with multiple treatment exposure and resistance. It is no longer enough to see salvage as simply just about 'holding the line' and waiting for something better to come along.

RISK FACTORS AND CAUSES OF DEATH IN THE AUSTRALIAN HIV OBSERVATIONAL DATABASE

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Mortality rates in HIV-infected people remain high in the era of highly active antiretroviral treatment. The objective of this paper was to examine causes of deaths in the Australian HIV Observational Database (AHOD), and compare risk factors for HIV-related and HIV-unrelated deaths.

Data from AHOD, an observational study of people with HIV attending medical sites between 1999 and 2004 were analysed. Primary and underlying causes of death were ascertained by sites completing a standardised cause of death form. Causes of death were then coded as HIV-related or HIV-unrelated. Risk factors for HIV related and unrelated deaths were assessed using survival analysis among patients who had a baseline and at least one follow-up CD4 and RNA measure.

AHOD had enrolled 2329 patients between 1999 and 2004. During this time, a total of 105 patients died, with a crude mortality rate of 1.58 per 100 person years. Forty two (40%) deaths were HIV-related (directly attributable to an AIDS event), 55 (52%) HIV-unrelated (all other causes), and 8 had unknown cause of death. The most common cause of non-HIV related deaths were: lung cancer (13%), suicide (11%) and myocardial infarction (9%). Independent risk factors for HIV-related deaths were low CD4 count and receipt of a larger number of antiretroviral treatment combinations. Among HIV-unrelated deaths low CD4 count and older age were independent risk factors.

In AHOD in the HAART era, mortality in people with HIV remains around ten-fold higher than in the general population. In our analyses, HIV-unrelated deaths were associated with more advanced HIV disease in a similar way to HIV-related deaths.

HIV TREATMENT LITERACY IN PEOPLE WITH HIV/AIDS IN 2005

Gallagher S1

¹AIDS Council of NSW, Sydney, NSW, Australia

This paper explores the changed social environment and information needs of PLWHA brought about by second generation HIV treatment.

At the end of the first decade of effective HIV treatment, what are the information needs for those diagnosed post-1996? What assumptions do we make about HIV treatment engagement and knowledge for those whose experience of HIV is as a chronic illness? The places they get their treatments information has changed. Those diagnosed and who commenced treatment before 'the protease moment' are faced with long term chronic and potentially disabling illness. What information and support resources assist these two quite different groups of people? How do practitioners better determine disparate levels of knowledge among the distinct groups and respond to information needs? Side effects are better managed and may not be as severe now, but has this filtered through to people who are contemplating treatment and how do side effects impact upon the social and sexual lives of people living with HIV/AIDS?

This paper explores some of the disparate treatment information needs of PLWHA through an analysis of issues discussed with ACON's Treatment Information Service.

INTERNET CHATROOMS: KNOWING YOUR ENVIRONMENT AND COMMUNITY BEFORE OUTREACHING

Brown G1, Maycock B1

¹WA Centre for Health Promotion Research, WA, Australia

The Internet is a popular method for gay men to socialise and meet sexual partners.

The rapid growth of the internet as a venue or space for communication, particularly on-line chat rooms and networks, demonstrates new ways in which personal or community links can occur or marginalised people can interact, providing new opportunities for health promotion and outreach to occur.

This presentation will draw on internet related data from on a quantitative (n=1014) and qualitative (n=25) study of gay men in Perth, Western Australia conducted between 2002 and 2004. It examines gay men's usage patterns of the chat rooms and other social aspects of the Internet to meet sexual partners, and compares this to other social settings. Rather than a single setting, the Internet is a range of venues, each possibly developing its own cultural rules and norms amongst very specific sub cultures and groups. The presentation will then briefly review the meanings gay men have for the various Internet environments, and the range of relationship, casual, or esoteric sex seeking goals.

The research found that Perth gay men engage with the internet differently from how they engage with other more traditional social spaces, and are experiencing stronger feelings of anonymity, safety and convenience than other spaces. A range of unique interaction methods has developed within the Internet environments, involving their own etiquette, norms and assumptions. This has implications for health promotion outreach interventions and the appropriate role and relationship interventions have with these online social spaces. Health promotion initiatives need to approach the Internet in a similar community grounded approach that has been utilised in other community outreach settings. This presentation will look at how the results were used to develop a partnership for a community based peer outreach initiative (CyberReach) that was subsequently funded.

POSITIVE LIVING CENTRES: "THEIR ROLE IN HEALTH PROMOTION"

<u>Allan, B.</u>¹ Feeney, L.² ¹Victorian AIDS Council/Gay Men's Health Centre, ²ACON HIV Living

This presentation describes the evolution and service changes within two Positive Living Centres (PLC) based in Melbourne and Sydney. Positive Living Centres were established in the late 1980s and early 1990s. At a time when a HIV diagnosis was a 'unifying' factor and equated to an average time to death of ten years, the focus for PLC's was on healthy living aimed to produce collective improvements in long-term health.

PLC's continue to provide a safe, health-promoting environment, where people with HIV/AIDS can maximise their quality of life. Some PLC's managed to build and sustain such a supportive environment while others often became places that service providers referred some of their most complicated clients without the service structure to support these clients. Service users, volunteers and staff at PLC's continue to struggle to create a relevant, inclusive and healthy atmosphere in the face of increasingly complex client presentations.

While providing an invaluable community care option for people who struggle with psychosocial aspects of living with HIV, they also provide opportunities for HIV+ people from outside this group to access programs and information and to become involved across a range of roles. Complex presentations can generate tensions around "peer" and "professional" affiliations. It is the increasing plurality of the HIV positive experience, which provides a challenge to continually develop relevant options of engagement for the diversity of 'the body positive'.

What is uncovered through those tensions is an increasing plurality of the lived experience of HIV positive people, questions of class, 'peer identity' and the balance of "peer" and "professional" interventions. This session will articulate the changing response and models developed, as well as identify some of the successes and challenges for "peer based" organisations delivering programs to promote health and empowerment to individuals with radically different experiences of living with HIV.

SUSTAINING THE GAIN

Feeney L¹, Tripp R¹

¹AIDS Council of New South Wales, Sydney, NSW, Australia

In 2000, the ACON positive men's health promotion unit developed a program aimed at improving the health and wellbeing of Sydney gay men with HIV. Healthy Life + was a free twelve week program including individualised gym training routines, weekly health improvement seminars, peer motivation techniques and before and after body measurement monitoring.

Designed specifically for HIV+ gay men on limited incomes, who had experienced significant weight loss and reduced levels of social and sexual engagement associated with lipodystrophy, the program was realised in partnership with Gold's Gym, the Albion Street Centre and other specialised key professionals.

During 2004, participant adherence with the training program was identified as a

significant issue. Most of those who commenced the program didn't complete it. A range of factors were identified including, the lack of 'Relapse Prevention' strategies, information overload, inappropriately tailored exercise regimes and the need for appropriate peer support provision. It was also noted that participation rates in most exercise programs generally falls sharply after initial engagement.

In order to achieve sustained engagement – and maximise beneficial effect - strategies were developed in consultation with exercise physiologist Chris Tzar and other health professionals. This presentation outlines the model developed, its implementation, and the resulting significant improvement in participant adherence levels. It will also track the progress as individuals journey though the program and describe improved health outcomes including changes to body measurements, blood chemistry and levels of social engagement.

CONCURRENT SESSION – POLICY – CALD SESSION – 1.30 pm – 3.00 pm

ACCESS TO HIV PREVENTION INFORMATION AMONG CULTURALLY AND LINGUISTICALLY DIVERSE (CALD) COMMUNITIES IN VICTORIA

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Australia has seen significant increases in migration since the 1990's from a range of countries that are currently experiencing high levels of HIV. The most notable increases in migration have been from the Horn of Africa (Sudan, Somalia, Ethiopia and Eritrea). Over five percent of HIV/ AIDS diagnoses in Australia between 1993 and 2002 were from Africa and the Middle-East.

With increased flows of people coming to Australia or undertaking return journeys to high prevalence countries, the provision of culturally appropriate information about HIV prevention has been necessary. Members of emerging communities whose first language is not English may be missed by English-language services or by language-specific services that target the 'mainstream' within their community.

The paper is based on the findings of a 12-month study conducted in 2004-2005 in Victoria with the following communities; Arabic-speakers, Horn of Africa, Vietnamese, and Thai. Over 25 key informant interviews were held with service providers, in addition to 12 focus groups from a wide range of people within the four main communities. Some of these sub-groupings include:

- Iraqi men from Shepparton
- Lebanese & and Iraqi mothers of teenage children
- Thai overseas students
- South Sudanese men from the Dandenong area
- Vietnamese men who regularly travel back to Vietnam

This paper reports on the availability of HIV prevention information for these communities, and specifically on how appropriate the information is to their cultural background and their needs. The paper also outlines channels of communication for HIV prevention considered the most appropriate for each of the communities.

TRAVELLING "HOME": A REAL HIV RISK FOR AUSTRALIAN-VIETNAMESE INJECTING DRUG USERS?

<u>Nguyen O</u>¹, Higgs P¹, Guy, R¹, Hellard M¹ ¹Centre for Epidemiology & Population Health Research, Macfarlane Burnet Institute for Medical Research & Public Health, Melbourne, VIC, Australia

Travel and migration have been a source of international concern for the transmission of HIV across country boarders. Some of this concern relates to the increase in numbers of people from ethnically diverse backgrounds requiring treatment for HIV.

In Australia, there has been a disproportionate increase in Australian-Vietnamese injecting drug users (IDUs) with newly diagnosed HIV. Given that HIV prevalence among IDUs in Vietnam is up to 65%, this study aimed to gain information about travel patterns, injecting behaviour and BBV prevalence among Australian-Vietnamese IDUs.

A cross-sectional survey of Australian-Vietnamese IDUs was undertaken across three areas in Melbourne. Participants were asked about their drug use and injecting behaviours, and travel to Vietnam in the past five years. A venous blood sample was also taken and tested for HIV.

Fifty-nine (47%) of the 127 study participants travelled to Vietnam in the past five years. Thirty-six participants (61%) had used drugs in Vietnam, of whom 24 (67%) injected heroin. More than half of these 24 participants (58%) injected on a daily basis. Of the 59 participants who travelled to Vietnam, 15 went solely for drug-related reasons, that is, as a way to get away from their drug-using environment in Australia and detoxify; five solely due to family pressure; and 16 for both of the above reasons.

Of the three HIV cases in the study, two had travelled to and injected in Vietnam.

Nearly half the Australian-Vietnamese IDUs study participants returned to Vietnam and 61% injected whilst there. This is despite the fact that more than half travelled to Vietnam in order to detoxify, either by choice or due to family pressure. Appropriate education and prevention measures need to be put in place in order to effectively reduce the number of people exposing themselves to HIV and other BBV infections each time they travel "home."

THE FEMINISATION OF HIV: CHALLENGING THE STEREOTYPES IN HIV/AIDS PREVENTION AND TREATMENT IN AUSTRALIA

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¹Multicultural HIV/AIDS and Hepatitis C Service, NSW, Australia

Increasingly the response to HIV/AIDS in Australia is being challenged by issues around mobility and migration. Recent national and NSW surveillance data show that 21% of HIV notifications were among people born in non-English speaking regions of the world - up from 15% in the late 1990s. More alarming has been the increasing number of notifications among heterosexual women. Recent NSW surveillance data has shown that, in the last year, there has been a significant increase in the number of notifications among heterosexual women. The largest proportion of these was recorded among women from culturally and linguistically diverse (CALD) backgrounds.

This trend has interesting implications for the HIV sector. Access to health services and information are critical challenges for individuals from CALD backgrounds . These challenges are compounded by being a woman in a context where HIV prevention and treatment efforts have typically operated within a different philosophical and gender-based framework.

The paper will explore the challenges and highlight the opportunities for an effective response to this trend, based on the experience and work of the Multicultural HIV/AIDS and Hepatitis C Service.

CULTURAL COMPETENCE: IT'S DEVELOPMENT IN RELATION TO PRODUCING HIV AND HEPATITIS C RESOURCES FOR PEOPLE FROM CULTURALLY AND LINGUISTICALLY DIVERSE BACKGROUNDS

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Resources for Culturally And Linguistically Diverse (CALD) communities are usually developed using similar criteria to those for developing mainstream health promotion resources. However, the process for developing resources in community languages is one with challenges over and above the mainstream model. Additionally, HIV and hepatitis C resources pose another set of particular problems. For example how does 'coming out of the closet' translate in Chinese? And more importantly, do members of the Chinese community understand the concept?

Two key factors in providing HIV and hepatitis C resources for CALD communities are:

- To prioritise the specific communities (e.g. language, culture)
- To assess the priority populations within each community (e.g. youth, injecting drug users, older people)

Mainstream health agencies often leave the development of multicultural resources to translation agencies, which may develop the resources without cultural nuances in mind. Therefore, a translated resource may not be a culturally appropriate resource.

Language itself is a representation of culture; therefore CALD resource development cannot take place in just a language context. The cultural norms and constraints of the particular community, as well as the role of cultural influence on making health choices, must be understood within the organisations producing these resources. This understanding can only be achieved if the organisation is culturally competent.

To develop cultural competency, organisations should consider becoming more proactive in their CALD activities. CALD resources and services are not the single responsibility of multicultural organisations, and mainstream agencies should work in partnership with multicultural health organisations to understand the needs of those CALD communities that they aim to work with.

This workshop will pose the question 'what is cultural competence?' - and will use two current MHAHS HIV and hepatitis C projects to highlight how cultural competency can be applied to multicultural resource development in Australia's multi-layered CALD communities.

We will discuss the challenges that developing resources for CALD communities might bring, for example gathering community members for focus testing, and will discuss possible alternatives. THURSDAY 25 AUGUST 2005: 1.30 PM – 3.00 PM

CONCURRENT SESSION – CLINICAL MEDICINE – HEPATITIS – 3.30 pm – 5.00 pm

HIV-HBV CO-INFECTION: ANALYSIS OF RESISTANCE MUTATIONS IN THE HEPATITIS B VIRUS POLYMERASE SELECTED DURING THERAPY IN TWO PATIENTS WITH FULMINANT LIVER DISEASE WHILE RECEIVING TENOFOVIR

 $\underline{Singh} \ K^{1}, \ Sasadeusz \ J^{1,2}, \ Torresi \ J^{1}, \ Lewin \ S \ R^{2,3}, \ Ayres \ A^{4}, \ Thompson \ G^{4}, \ Locarnini \ S^{4}, \ Bartholomeusz \ A^{4}$

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Co-infection with HIV and Hepatitis B (HBV) results in more rapid liver disease progression than HBV mono-infection. Both Lamivudine (LMV) and tenofovir (TDF) are used to treat HIV but are also active against HBV. Resistance to LMV occurs rapidly when used as HBV monotherapy, resulting in 90% prevalence at 4 years in patients co-infected with HIV. This is mediated by mutations in HBV polymerase at positions rtM204 V or I +/- rtL180M. TDF has potent HBV activity against both wild type and LMV-resistant HBV.

Two patients co-infected with HIV and HBV developed decompensated liver disease whilst on treatment with Lamivudine (LMV), Tenofovir (TNF) and Efavirenz. Both patients demonstrated very high levels of HBV DNA. No other cause of liver disease was identified. Both patients had a fatal outcome.

The HBV pol gene from both patients was amplified preand post-treatment by PCR and sequenced using specific primers. SeqHepB, an HBV resistance database, was used to analyse unique mutations.

Unique HBV mutations were detected in one patient during antiviral treatment. This patient initially selected a mutation at rtQ215S. Subsequently, a further mutation at rtV214A was detected in the absence of the rtQ215S. Functional analysis shows that these mutations demonstrate multi-drug resistance to LMV and also to Adefovir. Antiviral sensitivity testing to TDF is in progress. No unique HBV reverse transcriptase mutations were detected in the second patient but prolonged HIV suppression suggests adherence to medication and likely TDF/LMV resistance. Full genome analysis is in progress.

In conclusion, we have demonstrated for the first time the potential of patients receiving TDF to develop severe HBV flares, which can be fatal. We have also demonstrated HBV polymerase mutations selected out by LMV and TDF, which may result in resistance to both drugs. The emergence of multi-drug resistance highlights the need for more effective HBV therapies with higher genetic barriers to resistance.

AUSTRALIAN TRIAL IN ACUTE HEPATITIS C (ATAHC): BASELINE CHARACTERISTICS AND EARLY VIROLOGICAL RESPONSE

<u>Dore G¹</u>, Hellard M¹, Haber P¹, Marks P¹, Matthews G¹, Yeung B¹, Nguyen O¹, Pan Y¹, Ffrench R¹, McCaughan G¹, White P¹, Rawlinson W¹, Lloyd A¹, Kaldor J¹ for the ATAHC Protocol Steering Committee ¹National Centre in HIV Epidemiology and Clinical Research, NSW, Australia

Recent evidence suggests that treatment of acute hepatitis C (AHC) with interferon monotherapy for 24 weeks can achieve sustained virological response rates above 90%. However, previous studies have been small in size, have generally treated acute clinical hepatitis cases, and have included few individuals with injecting drug use (IDU)-acquired infection.

The Australian Trial in Acute Hepatitis C (ATAHC) study is examining natural history and treatment efficacy among predominantly IDU-acquired AHC. Subjects are eligible if they have seroconversion from negative to positive anti-HCV antibody within 24 months, or acute clinical hepatitis C and are enrolled within 6 months of anti-HCV antibody positive result. A total of 240 subjects will be recruited from primary care sites and tertiary hospitals across Australia. Eligible subjects are offered pegylated interferon α -2a (PEG-IFN), with both treated and untreated subjects followed for a median of 3 years.

Preliminary data is available on 20 subjects recruited from 5 centres in Sydney and Melbourne. In 16 (80%), IDU was the likely mode of HCV acquisition. Eleven (55%) had symptomatic acute hepatitis, with peak alanine aminotransferase (ALT) greater than 1,000 in 8 (40%). HIV coinfection was present in 3 (15%). Eight (40%) subjects have commenced PEG-IFN, including 2 with HIV coinfection. Both HIV/ HCV coinfected individuals were HCV RNA positive at week 12. In contrast, of the 6 HCV mono-infected individuals receiving treatment 4 were HCV RNA negative at week 12.

Preliminary data suggests that individuals with IDU-acquired AHC are able to be recruited and followed within a longitudinal cohort, and can be assessed for HCV treatment. PEG-IFN monotherapy may be ineffective for AHC treatment within the setting of HIV coinfection.

ESTIMATING THE IMPACT OF ANTIVIRAL TREATMENT ON HEALTH BURDEN OF HCV IN AUSTRALIA

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At the end of 2001, it was estimated that 210,000 individuals had been exposed to hepatitis C virus (HCV) in Australia. Treatment-induced sustained virological response (SVR) is associated with improved health-related quality of life (HRQOL). In Australia, current levels of treatment uptake are low due to barriers to HCV treatment including requirement of a liver biopsy to access government funded HCV treatment. The objectives of this study were to examine the impact of current HCV treatment levels and increased uptake on HCV-associated morbidity in Australia over the period 2004 to 2020.

HCV-associated QALYs were estimated based on mathematically modelled distributions of individuals by HCV disease stage. Their community-weighted utilities were taken as 0.87 (SVR), 0.81 (liver fibrosis stage 0 to 3), 0.76 (compensated cirrhosis), 0.69 (liver failure), and 0.67 (hepatocellular carcinoma). Various treatment scenarios were considered: (1) current levels (2,000 per year); (2) mid 1 - maintenance of liver biopsy and treatment of abnormal alanine aminotransferase (ALT) levels and (3) mid 2 - removal of liver biopsy and treatment of normal ALT (annual increase of 1,000, then maintained at 6,000 per year from 2008); and (4) optimistic treatment (removal of liver biopsy and treatment of normal ALT (annual increase of 2,000, then maintained at 10,000 per year from 2008).

Current treatment levels will reduce projected number of individuals with advanced liver disease by approximately 25% at 2020. Even with optimistic treatment, advanced liver disease numbers will continue to increase through 2020 but will be reduced by approximately 50% compared to no treatment. Over the period 2004 to 2020, there was an estimated annual increase in QALYs lost of 2.2% to 4.3% with current rate, 1.7% to 3.6% with mid treatment, and <1% to 2.9% with optimistic treatment.

A five-fold increase in HCV treatment is required to halve the advanced liver disease numbers at 2020. Targeted treatment through maintenance of liver biopsy and abnormal ALT will have a greater impact on advanced liver disease numbers, but no greater impact on QALYs. Both clinical and public health strategies that may have potential impact on treatment uptake such as exclusion of liver biopsy from the treatment eligibility criteria, expansion of treatment services to previously considered difficult to treat populations, and HCV treatment-specific education are required to reduce future health burden of HCV in Australia.

HEPATITIS C TREATMENT DISCONTINUATION AND RESPONSE: IMPROVED MANAGEMENT OF MORBIDITY

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Hepatitis C treatment response rates have improved considerably since the advent of combination interferon and ribavirin therapy. However, toxicity remains a barrier to both initiation and maintenance of treatment. Discontinuation rates due to virological failure and toxicity in many largescale randomized trials have been 30-50%. Recent improvements in management of treatment-related toxicity and improved virological efficacy may have reduced discontinuation rates.

Treatment response and discontinuation rates were examined among patients with chronic hepatitis C commenced on interferon-based therapy since 2000 at St Vincent's Hospital Hepatitis Clinic. Sustained virological response (SVR) was assessed 6 months post-treatment and as intention-to-treat. Discontinuation was categorized as virological failure and toxicity-related. Treatment commencements over the period 2000-2002 were compared to 2003 to assess potential change in discontinuation.

Over the period 2000-2003 a total of 84 patients with chronic hepatitis C commenced interferon and ribavirin therapy, including 29 (35%) with HIV/HCV coinfection. HCV genotype distribution was 57% genotype 1/4 and 43% genotype 2/3. Over the period 2000-2002 (n=52), SVR was 46% (47% HIV/HCV; 46% HCV), and discontinuation was 31% due to virological failure and 13% due to toxicity. In contrast, for patients commenced on treatment during 2003 (n=32), SVR was 59% (HIVHCV 64%; HCV 56%) and discontinuation was 13% due to virological failure and 6% due toxicity. Overall discontinuation rate was lower in 2003 (19%) compared to 2000-2002 (44%)(p=0.02). Discontinuation rate was also lower in HIV/HCV coinfection (17%) compared to HCV monoinfection (44%)(p=0.01).

Treatment discontinuation rates appear to have declined, due to a combination of improved virological efficacy and decreased toxicity. Factors that may have reduced treatmentrelated toxicity include earlier detection and management of treatment-related depression, and improved general support for patients receiving treatment. HIV/HCV coinfected patients are at no greater risk of discontinuation than HCV monoinfected patients, and have similar efficacy.

THE PREVALENCE AND CORRELATES OF DEPRESSIVE SYMPTOMS DURING PEGYLATED INTERFERON-ALPHA AND RIBAVIRIN THERAPY IN HCV MONOINFECTION AND HIV-HCV COINFECTION

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Interferon (IFN)-alpha based treatment is associated with a high rate of depression in chronic hepatitis C virus (HCV) infection. The objectives were to examine the prevalence of depressive symptoms during pegylated IFN-alpha and ribavirin therapy in both HCV monoinfection and HIV-HCV coinfection and to explore correlates of on-treatment severity of depressive symptoms.

Self-reported perceived hepatitis C-related symptoms were sought using questionnaire, the Depression Anxiety Stress Scale (DASS) and Visual Analogue Scale (VAS) prior to pegylated IFN-alpha and ribavirin combination therapy, at weeks 18 and 42 on-treatment, and 24 weeks following completion of treatment. The SF-36 Health Survey was used to measure health-related quality of life.

The HIV-HCV coinfected group (n=15) was significantly younger (36 vs. 43 years, p=0.004) than the HCV monoinfected group (n=19), with a shorter estimated duration of HCV infection (median: 5 years vs. 14.5 years, p=0.02), but more likely to report injecting drug use in the previous year (53%) vs. 5%, p=0.003). Prior to HCV treatment, 68% of HCV monoinfected and 53% of HIV-HCV coinfected reported depression. One (5%) and four (27%) respectively were taking antidepressant medication. The prevalence of moderate to severe depressive symptoms increased from baseline to week 18 on-treatment, then decreased at 24 weeks following completion of treatment (HCV: 16% to 40% to 0%, p=0.04; HIV-HCV: 20% to 60% to 33% to 13%, p=0.2). One (7%) HCV monoinfected and two (17%) HIV-HCV coinfected individuals commenced antidepressant medication during HCV treatment. Sixty percent and 70% respectively achieved a sustained virological response (p=0.7). Baseline DASS anxiety score (r=.61, p=0.002), mental component summary score (r=-.56, p=0.004), physical component summary score (r=.42, p=0.04), perceived hepatitis C-related symptoms (r=.42, p=0.04) and moderate DASS depression score (r=.41, p=0.04)p=0.04) significantly correlated with on-treatment severity of depressive symptoms. Increased anxiety levels and impaired mental health summary measure predicted increases in depressive symptoms during pegylated IFN-alpha and ribavirin therapy (R^2 =.50). There were no significant differences in depression scores between the two groups at each time point.

Our results suggest that the prevalence of pre- and postpegylated IFN-alpha and ribavirin treatment depressive symptoms were similar between HCV monoinfected and HIV-HCV coinfected individuals. A larger prospective study is needed to evaluate the relationship between pre- and ontreatment depression scores to guide decisions regarding prophylactic antidepressant medication.

AN INTERIM ANALYSIS FROM A SINGLE-ARM, OPEN-LABEL, MULTICENTER PILOT STUDY EVALUATING THE EFFICACY AND SAFETY OF PEGASYS RBV (PEGINTERFERON ALFA-2A PLUS RIBAVIRIN) IN PATIENTS WITH CHRONIC HEPATITIS C (CHC) ATTENDING A METHODONE (OR DRUG DEPENDENCY TREATMENT PROGRAM) CLINIC

<u>Sasadeusz J¹</u>, Dore G², Kronborg I³, Barton D⁴, Weltman M^5 .

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Background and Objectives: The majority of cases of CHC in Australia are related to Injecting drug use (IDU.¹ An estimated 37,000 people receive drug dependency treatment in Australia ¹ Despite advances in treatment of CHC, the removal of an active IDU-based treatment exclusion since May 2001, and the large number of HCV-infected active IDU and drug dependency treatment clients, HCV treatment uptake has been limited in these populations within Australia.¹ This pilot study aims to determine the safety, efficacy, and tolerability of peginterferon alfa 2a (40KD) and ribavirin among people with CHC receiving drug dependency treatment (methadone, buprenorphine or naltrexone).

Methods: Patients with CHC on drug dependency treatment received standard regimens of peginterferon alfa-2a and ribavirin: genotype (Gt) 2 or 3 received 180 μ g once weekly plus 800 mg/day of ribavirin for 24 weeks and patients with genotype 1 received 180 μ g once weekly plus 1000-1200 mg/day of ribavirin for 48 weeks. Standard HCV RNA assessment of treatment response were undertaken at week 12 (EVR), endof-treatment (ETR) and 24 weeks post-treatment (SVR). The psychological impact of therapy was assessed using the Beck Depression Index (BDI II), MINI International neuropsychiatric interview (MINI) and State Trait Anxiety Index (STAI) prior to, during and after treatment.

Results: Thirty one patients had been screened of which 23 patients had commenced treatment (13 Gt 2/3 and 10 Gt 1). Of these 10 had completed treatment, 8 continue on treatment and 5 had discontinued treatment. Eight Gt2/3 had reached week 24 of which 7 had an on-treatment ETR and 1 had reached end of follow up (1 SVR) while 6 Gt1 achieved an EVR and 2 patients have reached week 48 (1 ETR). Data available that measures the psychological impact of therapy is presented in the table below.

| | Genotype 2 or 3 – 24 weeks treatment | | Genotype 1 – 48 weeks treatment | |
|---------|---|------------------|------------------------------------|------------------|
| Measure | Screening (n=18) | Week 24 (n=8) | Screening (n=13) | Week 24 (n=7) |
| BDI | 10.00 | 5.63 | 9.17 | 12.71 |
| STAI | 56.33 | 39.38 | 57.17 | 40.43 |

Conclusions: These interim results suggest that efficacy and safety of Pegasys RBV when used in a patient population receiving drug dependency treatment are similar to non-IDU populations. Further, although data on the psychological impact of therapy is limited, it suggests treatment does not have a negative psychological impact on this group of patients.

CONCURRENT SESSION – EPIDEMIOLOGY – OVERVIEW – 3.30 pm – 5.00 pm

TRENDS IN NEWLY ACQUIRED AND NEWLY DIAGNOSED HIV INFECTION IN AUSTRALIA, 1995 – 2004

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Increases in the rate of HIV transmission in Australia have recently been suggested following increases in the number and rate of diagnosis of newly acquired HIV infection. National surveillance data on newly acquired and newly diagnosed HIV infection was analysed to ascertain if the extent of ongoing HIV transmission.

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 and date of first HIV diagnosis in Australia, exposure to HIV and evidence of the recency of infection. Cases with a negative test or a diagnosis of HIV seroconversion illness within 12 months of HIV diagnosis were defined as cases of newly acquired HIV infection. Trends over time were tested by negative binomial regression.

In 1995 – 1999 and 2000 – 2004, a total of 4,114 and 4,115 cases of newly diagnosed HIV infection, respectively, were notified to the National HIV Database. The annual number of new HIV diagnoses declined from 927 in 1995 (5.13 per 100,000 population) to 713 in 1999 (3.77 per 100,000 population) and then increased to 886 in 2004 (4.40 per 100,000 population). Diagnoses of newly acquired HIV infection declined from 219 in 1995 (1.2 per 100,000 population) to 171 in 1999 (0.90 per 100,000 population) and then increased to 253 in 2004 (1.26 per 100,000 population). Median age at new HIV diagnosis and at diagnosis of newly acquired HIV infection increased over time from 34.4 years and 31.8 years, respectively, in 1995 - 1999 to 35.6 and 34.1 years, respectively, in 2000 - 2004. Median CD4+ cell count at newly acquired HIV infection was similar among cases diagnosed in 1995 – 1999 (572/µl) and in 2000 – 2004 (576.5/µl) whereas median CD4+ cell count among cases without evidence of recent infection increased from 382/µl in 1995 – 1999 to 439/ μ l in 2000 – 2004 (p<0.0001). Among homosexually active men, new HIV diagnoses and diagnoses of newly acquired HIV infection declined (p<0.0001) in 2,870 cases in 1995 - 1999 and then increased (p<0.0001) in 2,774 cases in 2000 -2004.

National HIV surveillance indicates ongoing HIV transmission in Australia, primarily among homosexually active men. The increase in CD4+ cell count among cases without evidence of recent HIV acquisition suggests a shift toward earlier presentation or diagnosis.

WOMEN AND HIV IN NSW – AN INCREASE IN CASES IN 2004

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In NSW all people who are diagnosed with HIV are, by law, notified to the NSW Health Department. Through 2004 a significant increase in the number of notifications of HIV in women was noted. We compare the characteristics of HIV notifications in women in NSW for 2004 with those for the period 2000 to 2003.

In the period 2000 to 2003 there were 1494 new notifications of HIV in NSW, 123 (8%) of these were in women (an average of 31 notifications per year). In 2004 there were 58 HIV notifications in women (an 87% increase on the mean for the same period in the previous 4 years) (X_1^2 =7.2, p=0.007). Of women notified in 2004 71% reported heterosexual sex and 10% IDU as the exposure (compared to 78% and 8%, respectively, for 2000-2003). 66% of women were born overseas, 44% of these women were from a non-endemic country (compared to 64% and 25%, respectively for 2000-2003) (X_1^2 =4.0, p=0.04).

The significant rise in notifications of HIV in women in 2004 contrasts with the overall reduction in notifications. A review of the routinely collected HIV surveillance data shows that the increase in women is not isolated to an identifiable age or risk group. However, the proportion of women notified in 2004 and born overseas in a non-endemic country was greater than in the previous 4 years.

ANTIBODY HIV AND HCV PREVALENCE AND RISK BEHAVIOURS AMONG INDO-CHINESE INJECTING DRUG USERS IN THE NATIONAL NSP SURVEY

Maher L

Outbreaks of HIV infection among injecting drug users (IDU) have occurred rapidly throughout the world and there is concern about the potential for a sudden and significant increase in HIV among Indo-Chinese IDUs in Australia, particularly among ethnic Vietnamese.

All clients attending selected Needle and Syringe Programs (NSP) throughout Australia were asked to complete a brief, self-administered anonymous questionnaire and provide a capillary blood sample for HIV and HCV antibody testing. Indo-Chinese (n=146) were compared with non Indo-Chinese (n=2491) IDUs participating in the 2003 survey in relation to demographic and behavioural variables and antibody HIV and HCV prevalence.

Indo-Chinese participants were significantly more likely to report being male (88% vs. 65%, p<0.001), heterosexual (97%) vs. 75%, p<0.001) and younger (median age: 26 vs. 32 years, p<0.001). Median duration of injecting was shorter (6 vs. 11 years, p<0.001) and the proportion injecting for less than three years was significantly higher (16% vs. 8%, p<0.001) in Indo-Chinese participants. Indo-Chinese were significantly more likely than non-Indo-Chinese to report last injecting heroin (94% vs. 32%, p<0.001), not using sterile needles and syringes for all injections (28% vs. 23%, p=0.04), and recent imprisonment (37% vs. 15%, p<0.001). Needle and syringe sharing was marginally higher among Indo-Chinese participants (18% vs. 14%, p=0.2). Indo-Chinese were significantly more likely than non-Indo-Chinese to report never being tested for HIV (19% vs. 10%, p=0.005) and HCV (20% vs. 11%, p=0.003) but there were no significant differences in HIV (0.7% vs. 1.1%, p=0.9) or HCV (64% and 58%, p=0.1) prevalence between the two groups. HCV prevalence was significantly higher among Indo-Chinese IDUs who were male (66% vs. 56%, 0.04), aged 25 or more years (80% vs. 62%, p=0.001) and injecting for three or more years (71% vs. 62%, p=0.04).

We found low HIV prevalence among Indo-Chinese and non-Indo-Chinese participants in the national NSP survey. HCV prevalence was marginally higher in Indo-Chinese IDUs overall, but significantly higher among males, older IDUs and those with longer duration of injecting. Higher levels of risk behaviours confirm the vulnerability of this group to blood borne viral infections and indicate a need for culturally appropriate interventions.

QUEENSLAND SURVEY OF ABORIGINAL AND TORRES STRAIT ISLANDER MEN WHO HAVE SEX WITH MEN

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Information about sexual behaviours, HIV testing and recreational drug use among Aboriginal or Torres Strait Islander (ATSI) background men who have sex with men (MSM) is limited. To explore some of these issues, we conducted a survey among this population in Queensland during 2004.

160 ATSI MSM, including fifteen sistergirls (Transgender), completed short self-administered questionnaires at gay events and venues and at ATSI community events, services and networks throughout Queensland.

These 160 respondents had a mean age of 33yrs. Half (51.9%) lived in Brisbane and about as many (52.5%) did not complete high school. While most were gay identified and had many gay friends, 53.8% indicated some experience of racial discrimination from other gay men.

One quarter (25.7%) indicated they had not been tested for HIV and 43.5% had been tested in the previous year; 8.1% reported being HIV-positive, a similar rate to that found in the Queensland Gay Community Periodic Surveys. 41.3% indicated they had been tested for a sexually transmissible infection in the previous year.

18.1% reported alcohol consumption at levels determined to be high risk by the National Heart Foundation. While illicit drug use was high (61.9% in previous six months), it was comparable with other populations of MSM. 8.8% had injected drugs in the previous six months.

Among the 145 non-transgendered (sistergirls) MSM, 44.1% reported having a regular partner in the previous six months, while 73.8% had sex with casual partners. 29 (45.3%) of those with a regular partner had engaged in unprotected anal intercourse (UAI) with that partner, and only fourteen of these were known to be seroconcordant. 46.7% of those who had sex with casual partners, reported engaging in UAI with any of those partners.

This survey suggests that ATSI MSM in Queensland are tested for HIV and other STIs relatively infrequently, despite engaging in sexual behaviour that indicates increased risk. They also use legal and non-legal drugs at high rates. Further investigation is required to identify possible reasons why ATSI MSM are at increased risk.

PATTERNS OF HIV TESTING IN VICTORIA

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In Victoria, diagnoses of HIV have increased markedly since 1999, and in 2004 the majority were reported among men who have sex with men (MSM) (73%) and individuals reporting heterosexual contact (21%). 40% of heterosexually acquired infections were among individuals born in high prevalence countries (HPCs) with a disproportionate increase among females.

Testing ensures that individuals are aware of their HIV status which allows for change in their behaviour and the introduction of timely treatment, and interventions to prevent further transmission. This paper aims to describe HIV testing patterns and testing behaviour in these high risk groups.

Data was extracted from the passive HIV surveillance registry and the HIV testing surveillance database which are managed by the Burnet Institute on behalf of DHS.

Of 883 new HIV diagnoses among MSM between 2000 and 2004 only 30% reported having an HIV test in the previous 12 months and 40% reported no previous HIV test. In comparison, of the 97 diagnoses among heterosexuals from HPCs, just 5% reported a HIV test in the past year, and 65% reported no previous HIV test. Between 2000 and 2004, individuals from HPCs were more likely to present with AIDS at the time of their first HIV test, compared to those from non-HPCs (16% vs. 10%, p < 0.03).

The number of HIV tests performed annually in Victoria increased from 2,879 in 1984 (when testing was first introduced) to 196,215 in 2004. Over 75% of testing is now conducted by private laboratories. Testing has increased markedly among both males and females, with the ratio of females to males rising from approximately 1:1 in 2000 to 1.25:1 in 2004. Since 2000, the number of HIV tests performed for antenatal screening has increased by 10% and immigration screening by 85%. The number of HIV tests conducted at four clinics who see a high caseload of MSM has remained relatively unchanged since 2000.

These data have shown that there is a worrying proportion of MSM who do not regularly test for HIV; we therefore recommend ongoing HIV and STI testing campaigns in this group. Furthermore, individuals from HPCs are often marginalised, and enhanced efforts need to be made to ensure these people are tested, especially at opportunistic times such as antenatal and immigration screening.

MONITORING THE COMPLETENESS OF NOTIFICATIONS TO THE NATIONAL AIDS REGISTRY VIA LINKAGE TO THE NATIONAL DEATH INDEX

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Following the introduction of highly active antiretroviral treatment (HAART) for HIV infection in mid-1996, AIDS incidence in Australia dropped substantially among cases for which HIV infection was diagnosed at least three months prior to AIDS. However, the completeness of AIDS notification has not been assessed since the introduction of HAART. We assessed completeness of AIDS notification in Australia by linking deaths registered with the National Death Index (NDI) with an HIV/AIDS cause of death to AIDS cases notified to the National AIDS Registry (NAR).

All deaths following an illness associated with HIV/AIDS in Australia that occurred between 1997 and 2002 and reported to the NDI by December 2004 were linked to the NAR, using information on namecode, date of birth, sex and date of death. In cases where a death had not previously been notified to the NAR a match was only confirmed when their identifiers matched exactly and the date of death was later than the last date of contact recorded on the NAR. The number of matched and unmatched deaths was then analysed by State/Territory and year.

There were 1,035 unique deaths following an HIV/AIDS related illness registered with the NDI for the years 1997 to 2002 that contained enough information for linkage to the NAR. Eight hundred and nine deaths were matched to cases recorded on the NAR, of which 14 (1.7%) had not been previously notified. One hundred and thirty-eight of the 226 deaths not matched to a case on the NAR followed a confirmed AIDS diagnosis, and 88 deaths followed an HIV diagnosis only and were excluded from further calculations. The proportion of the 947 deaths following AIDS that was not reported to the NAR increased from 8.4% in 1997 to 18.6% in 2002, suggesting some delayed reporting of AIDS and death following an AIDS-related illness. Over 90% of AIDS-related deaths in Victoria and Queensland, but only 81% of AIDS-related deaths in New South Wales, had been notified to the NAR.

Linkage of AIDS cases to deaths following an AIDS associated illness suggests some underreporting of AIDS in Australia, resulting in an overestimate of the impact of HAART in delaying progression to AIDS.

CONCURRENT SESSION – INTERNATIONAL – IMPLEMENTING TREATMENT – 3.30 pm – 5.00 pm

INCREASED ACCESS TO HAART IN RESOURCE-POOR SETTINGS IN MEDECINS SANS FRONTIERES PROGRAMS: CURRENT STATUS AND CHALLENGES

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MSF, a medical humanitarian NGO, started to provide HAART to HIV patients in resource poor settings in 2001. Free-of-charge comprehensive care includes counselling for adherence, treatment of opportunistic infections (OIs) and HAART, mostly through HIV clinics. Patients are treated according to WHO guidelines and the vast majority of eligible patients receive WHO pre-qualified generic Fixed Dose Combinations (FDCs).

As of March 2005, MSF provides HAART to more than 25,000 patients in 37 countries. In order to respond to needs in our respective settings we adapted our strategy to the context: we simplified the inclusion process, simplified treatment protocols by using generic FDCs, decentralised and improved adherence counselling and trained staff by involving the community.

Ongoing program monitoring is done through FUCHIA (follow-up and care of HIV infection and AIDS/ Epicentre, France). Treatment and safety outcomes were analysed in March 2004 on 12,058 patients on HAART: our data suggests that immune restoration is as effective in our population as it is in clinical trials in Europe and the US. Where virological data is available, we have observed a high rate of virological suppression.

Our experience shows us that many challenges still need to be addressed effectively: medical challenges include the need for a robust, non toxic and easy-to-take first line; the possibility to diagnose failure and to have access to an alternative treatment; paediatric diagnosis and treatment is difficult, and access to feasible PMTCT is still an issue in most places. Programmatic (lack of qualified and adequately paid health personnel, cost-sharing schemes), and political issues (political commitment, access to good quality generics) still remain largely unsolved.

Large-scale implementation of HIV treatment programs through public services is highly insufficient in most resource poor settings. The need of skilled human resources is a key issue. Funding mechanisms should take this into account when budgeting for HIV/AIDS programs. Many fundamental medical questions remain unanswered. Last but not least, the responsibility for adequately responding to this huge epidemic lies in the hands of national and supra-national bodies.

SPECTRUM OF OPPORTUNISTIC INFECTIONS AMONG HIV-INFECTED PATIENTS IN JAKARTA

Wigati¹, Karjadi T H¹, <u>Yunihastuti E¹</u>, Imran D¹, Rohmi S¹, Kusbiantoro H¹ and Working Group on AIDS team Ciptomangunkusumo Hospital

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In the last few years there are rapid increase of HIV-infected cases in several places in Indonesia attributed to injecting drug users. Previous report of opportunistic infection in Jakarta was made mostly from patients who got infected from sexual transmission. There is a need to outline trends observed in opportunistic infections in HIV-infected patients, to improve diagnostic and care treatment for HIV-infected patients before starting antiretroviral therapy. A retrospective study was conducted of new HIV-infected patients, attending Pokdisus Clinic Ciptomangunkusumo Central Hospital in 2004. All patients were antiretroviral naïve. A total 698 patients were eligible in this study of which majority were males (86.5%). Sixty five percents of them were injecting drug users. At the time of HIV diagnosis the mean CD4 count was 187± 220.3 cells/µL (range 1-1200), but high proportion of the patients (41.2%) had CD4 cell count below 50 cells/µL. Distribution of opportunistic infections by rate of their occurrence was as follows: candidiasis (oropharyngeal and esophageal candidiasis) (40%), pulmonary tuberculosis (37.1%), chronic diarrhea (27.1%), bacterial pneumonia (16.7%), toxoplasma encephalitis (12%), extrapulmonary tuberculosis (11.8%), herpes zoster (6.3%), and bacterial endocarditis (5.7%). Cryptococcal meningitis, CMV retinitis, Pneumocystis pneumonia, Mycobacterium avium complex lymphadenitis, malignant lymphoma, genital warts, were observed in less than 2% of the patients.

THE ASIA PACIFIC NEUROAIDS CONSORTIUM: PARADIGM'S PROGRESS

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The burden of HIV-related neurological disease in the 8.2 million HIV positive children and adults living in the Asia Pacific (AP) region is largely unknown. Prompt diagnosis and treatment of and prioritized research initiatives into HIV-related neurological diseases within the AP region may mitigate their potential individual and subsequent societal/economic impact. For these reasons the Asia Pacific NeuroAIDS Consortium (APNAC) was established in 2002. APNAC is comprised of physicians, scientists, psychologists and social scientists working in the fields of HIV medicine and neurology, neuropathology, neuropsychology, neuroscience, infectious diseases, pediatrics, microbiology and epidemiology. APNAC is represented by Fiji, Papua New Guinea, Indonesia, Malaysia, Singapore, Hong Kong, Thailand, India, Cambodia, China, Myanmar and Australia. At APNAC's inaugural meeting four key aims were developed. The objective of this review is to describe how those aims have been met.

The four key aims were to: (i) develop an AP network of practitioners interested in HIV-related neurological disease, (ii) determine the extant health infrastructure, service and treatment provisions within APNAC countries relative to HIV-related neurological diseases, (iii) develop diagnostic and management algorithms and disease case definitions apposite to the needs of resource poor settings within the AP region, (iv) determine the research priorities of practitioners in the AP region in relation to HIV-related neurological disease. A retrospective review of APNAC's work since its inception was undertaken. APNAC's inaugural aims have been met: (i) APNAC has a growing membership that communicates and shares complex diagnostic cases via a moderated email forum; (ii) a detailed review of APNAC's health infrastructure has been undertaken and presented at regional fora; (iii) APNAC has met annually and developed consensus diagnostic/management algorithms and disease case definitions relevant to the AP region; (iv) disease prevalence was the key research priority identified therefore APNAC has undertaken a study of the cross-sectional prevalence of HIV-related neurocognitive impairment, peripheral neuropathy, HIV dementia and CNS diseases in patients within ten APNAC countries.

APNAC serves as a cohesive, multidisciplinary paradigm that has been able to focus productively upon HIV-related neurological disease within the AP region.

HOW QUALITY MANAGED LABORATORY SERVICES CAN SUPPORT HIV CARE IN A RESOURCE LIMITED SETTING.

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Recent years have seen global efforts to improve access in resource poor countries to treatments for endemic and epidemic infectious diseases– notably HIV/AIDS, tuberculosis and malaria. However, together with an increasing availability of lower-cost pharmaceuticals has come the realization that the laboratory capacity to monitor the safety and efficacy of treatments is often critically lacking in these same environments. As different models for expanding treatment access are explored, including building the capacity for clinical research in developing countries, the importance of access to quality-controlled laboratory services is becoming apparent.

The Social Health Clinic (SHC) is an out patient HIV clinic in Phnom Penh established by NCHADS in 2004. Laboratory testing services for the SHC are provided by the National Institute of Public Health, National Laboratory of Public Health (NLPH), which is an organ of the Cambodian Ministry of Health. The NLPH is divided into six functional units responsible for testing in hematology, clinical chemistry, immunology, and microbiology, as well as an outpatient clinic and a Quality Assurance Unit. The laboratory is committed to providing quality-controlled testing services, as well as participating in international and national programs of research and public health training.

Since the commencement of clinical services, staff at the NLPH and SHC have collaborated in developing systems for quality-managed specimen transport, processing and tracking and information management. The report presents the challenges and lessons learned and their general applicability to the development of quality-managed laboratory services for HIV treatment sites in resource-poor settings.

AN ELECTRONIC MEDICAL RECORD SYSTEM FOR AMBULATORY CARE OF HIV-INFECTED PATIENTS IN KENYA.

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The Institute of Medicine has described the computerbased patient record as an essential technology for health care and a necessary tool for improving patient safety and the quality of care. To date, comprehensive computer-based patient records that serve these functions are rare to non-existent in the developing world. This gulf has been termed the "digital divide" where even the simplest technology is not available to promote health care delivery, patient outcomes, and public health.

Administering and monitoring therapy is crucial to the battle against HIV/AIDS in sub-Saharan Africa. Electronic Medical Records (EMR) can aid in documenting care, monitoring drug adherence and response to therapy, and providing data for quality improvement and research. Faculty at Moi University in Kenya and Indiana and University in the USA opened adult and pediatric HIV clinics in a national referral hospital, a district hospital, and nine rural health centers in western Kenya using a newly developed EMR to support comprehensive outpatient HIV/ AIDS care. [AMPATH-Academic Model for the Prevention And Treatment of <u>H</u>IV/AIDS].

As of June 2005 the EMR record for HIV contains records on 12,129 patients (children and adults), with 5,281taking antiretroviral drugs. We describe the development and structure of this EMR and plans for future development that include wireless connections, tablet computers, and migration to a Web-based platform.

The EMR consists of paper-based encounter forms and an electronic relational database. (Both software and encounter forms are available for free download at www.regenstrief. iupui.edu/mmrs.)

CONCURRENT SESSION – ISSUES IN HIV NURSING AND ALLIED HEALTH

– 3.30 pm – 5.00 pm

HIV/AIDS, DEPRESSION AND ADHERENCE TO HAART

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Estimates of the prevalence of depression in HIV-infected individuals range between 10% and 50%. Depression has been shown to have a negative impact on adherence to medication in chronic illness. Highly Active Antiretroviral Therapy (HAART) has resulted in a significant decline in HIV-related disease progression and mortality. To achieve the maximum benefit from HAART, patients must adhere to antiretroviral regimens for at least 95% of the time. These regimens are often complex and associated with significant side-effects. The aim of this study was to investigate the prevalence of depression in HIV infected individuals compared to HIV negative controls and the association with depression and adherence to HAART. It was hypothesised that higher rates of depression would be found in people with HIV infection relative to controls, and that increased depression scores would be associated with reduced adherence to HAART.

HIV positive (n = 80) and HIV negative (n = 20) participants were assessed for depression using the Beck Depression Inventory (BDI) and the Structured Clinical Interview for DSM-IV (SCID). Participants were identified as nonadherent if they reported less than 95% adherence to HAART (self-report).

Overall, 14% of the HIV positive group met the criteria for SCID current mood disorder compared to 5% of controls. Similarly, 39% of HIV infected participants met the criteria for a past depressive episode compared to 15% of controls. HIV positive participants scored significantly higher on the BDI than controls (p < .05). Nonadherence to HAART was reported by 30.5% of those prescribed HAART. Multivariate analysis revealed that nonadherence to HAART was significantly associated with limited social support (living alone and not in a relationship) (p < .05) but not depression scores (p > .05).

A higher prevalence of depression and past depressive episodes was identified in the group with HIV infection indicating the presence of compromised psychological health in people living with HIV infection. This study also found lower adherence to HAART in people living alone and not in a relationship. Health professionals should monitor and treat depression and should be particularly vigilant of adherence rates amongst those with limited social support.

WE ARE ALL GETTING OLDER!

Trotter G1, Cummins D2

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A questionnaire was developed relating to ageing issues and HIV which was distributed over a one month period in the HIV outpatient clinics at Royal Prince Alfred Hospital, Sydney Australia. HIV clinical issues and social issues related to ageing were examined in the questionnaire.

So far we have analysed the data from 42 questionnaires with an age range from 29-70 yrs. The respondents thought that middle age was between 40-70 years & old age was between 50-100 years. 54% of the respondents were concerned about getting older & being HIV positive. 43% thought they may not be able to afford the cost of the drugs and it would influence their ability to keep on taking them as they get older.

The respondents thought numerous conditions were related to ageing: prostate cancer (86%), memory deterioration (67%), cancer (88%), sleep disorders (58%), osteoporosis (91%), and heart disease (74%); whilst they thought fatigue (66%) and liver problems (51%) were related to HIV.

52% were concerned about lifestyle changes as they got older. Although only 26% were concerned about becoming socially isolated 50% were concerned about the availability of social supports as they got older. 48% were concerned that as they got older there would be changes in their financial status. 76% were concerned about ever having to be placed in a nursing home. Some of the concerns were nursing homes not being gay friendly, discrimination relating to HIV and the nursing staff level of HIV knowledge.

This presentation will further discuss client's responses on HIV disease and ageing, what issues clients thought were important, for example, how others will perceive them as they age, risks of heart disease and strategies to provide improved outcomes for clients of this health service.

RESPONSES TO THE MENTAL HEALTH NEEDS OF PLWHA

Hill C1

¹The Alfred Hospital, Melbourne, VIC, Australia

People living with HIV/AIDS (PLWHA) have experienced a range of mental health issues, some of these are considered premorbid, others are a result of the HIV virus or treatment side effects. In the early years of HIV, medical and life expectancy issues were the predominant themes in HIV care and, as a result, responses to mental health and behavioural issues were often a secondary consideration. With the introduction of HAART life expectancy for PLWHA has increased. It is now estimated that approximately 1/3 to 1/2 of all people living with HIV/AIDS meet the criteria for at least one current mental illness. Predominantly those illnesses are depression, behavioural problems, schizophrenia, bipolar affective disorder, personality disorders along with the more specific HIV related psychosis and mania, cognitive impairment and HIV dementia.

Overall there is an increasing population of people in Victoria with HIV and mental health issues. The Victorian HIV Service recognised that this group of individuals required greater attention, different responses (given the change in life expectancy) and increased resources.

This specific group of PLWHA are recognised as having complex care needs and to this end the Victorian HIV Service established an HIV Psychiatric Liaison position in February 2003. This psychiatric liaison position recognised and responds to the need for increased psychiatric assessment, intervention and management for PLWHA who have a comorbid mental health and/or cognitive impairment. These needs have been recognised within the acute and sub acute sector as well as within the wider general community. This presentation will describe the establishment of the position and outline the role of HIV Psychiatric Liaison Nurse both through the acute hospital areas and community sectors. It will also provide service data and a general overview of mental health issues faced by people living with HIV/ AIDS in Victoria.

ROUGHLY RIGHT RATHER THAN PERFECTLY WRONG

Thompson J

The HIV epidemic was first recognised in Australia in the early 1980s. The Australian government quickly authorised the adoption of a pragmatic approach to HIV prevention, through health promotion and harm minimisation strategies. As a consequence the impact of HIV in Australia has been significantly less than in many other Western Countries. HIV infections in Australia peaked in 1994 and then fell steadily. However in 2002 and 2003 the number of new infections began to rise.

The concept of HIV risk, and the expectation that individuals will manage the risks they take in a rational and objective fashion has become part of ongoing HIV discourse. It is often assumed that individuals will make considered choices in relation to HIV risk taking behaviour. However, this assumption does not take into account the many complex variables involved in sex and substance abuse.

Over the years a small number of people have been brought to the attention of the health authorities for 'high risk behaviour'. The use of public health orders in regard to people with HIV/AIDS is often problematic. It has been said, that while the majority of new HIV infections are due to men who have not used condoms, those that have come to the attention of authorities are the much smaller number of people with HIV who are either sex workers or who have a developmental or intellectual disability or severe social problems. On very rare occasions individuals are subject to criminal law for knowingly infecting others.

This paper will discuss the management framework that has been employed in New South Wales to promote behavioural change in the least restrictive manner. Attention will be given to the role of the law in HIV prevention. It will be argued that criminal sanctions may be counterproductive and that other less punitive strategies tend to be more effective when looked at from a broad perspective. The private and sometimes illegal nature of HIV risk behaviour does not allow for perfection in HIV prevention. Realistically we must be satisfied with being roughly right rather than perfectly wrong.

STRENGTHS SKILLS, RESOURCES INSPIRATION: THE SSRIS OF LIVING WITH HIV OR HEPATITIS C

Bourne A F¹, Price P², Thomas M³, Vermeeren D⁴, ¹Relationships Australia (SA), Adelaide, SA, Australia; ²Women's Health Statewide, Adelaide, SA, Australia; ³AIDS Council of South Australia, Adelaide, SA, Australia; ⁴People Living with HIV/AIDS (SA), Adelaide, SA, Australia

There are a multitude of issues that undermine the mental health of positive people – struggles with secrecy and stigma; sexuality and intimacy; depression, anxiety, grief and loss; isolation and changed sense of identity. However, despite the difficult patches, most of the time people manage to get on with their lives and more or less "live well" with HIV or hepatitis C.

When positive people are struggling with the challenges of living with HIV or hepatitis C they may experience themselves as being "out of their depth", unprepared or unable to rise to the emotional, psychological and practical challenges they are facing. There may be a mismatch between the complexity of the challenges and issues they are confronting and their ability to access their SSRIs, their "Strengths, Skills, Resources and Inspiration". Working with clients to redress that imbalance – to increase access to resources that will support them through the crises and to reconnect with their existing strengths and skills and a renewed sense of hope – can have a profound impact on emotional and mental health and well being.

This lively interactive workshop will provide participants with an opportunity to deepen their understanding of the challenges confronting people affected by HIV or hepatitis C and to explore the strengths - the "survival" mechanisms - that support them through the tough times. It will also showcase the benefits that arise when workers collaborate to increase their own Strengths, Skills and Resources and connect with those Inspiring moments that sustain us in our work.

FUTURE SHOCK: A HYPOTHETICAL ABOUT HIV IN AUSTRALIA IN TEN YEARS'TIME

– 5.30 pm – 7.00 pm

FUTURE SHOCK: A HYPOTHETICAL ABOUT HIV IN AUSTRALIA IN TEN YEARS' TIME

Daye J, Whittaker B, Machon K¹

¹National Association Of People Living With HIV/AIDS, NSW, Australia

What *will* HIV look like in Australia in ten years' time? Is there a cure? Do we have a vaccine? Has a dreaded 'second wave' of super-infections taken off? What drugs are *you* on and do they actually work? Who is Generation PREP? And where is David A. Cooper amidst all this?

Welcome to the future, as hyptoethically imagined by a panel with wide-ranging expertise – a witty, charming and adaptable ensemble of doctors, positive community types, epidemiologists, policy wonks, dinosaurs and new kids in town.

NAPWA will construct a formal story line and design the hypethical format, looking at specific areas of the current HIV/AIDS epidemic in Australia and discussing projected movements and trends. There will be particular focus on HIV treatments, clinical management, and care and support options in the future.



ORAL PRESENTATION ABSTRACTS

FRIDAY 26 AUGUST 2005



FRIDAY 26 AUGUST 2005

MEDICAL CASE PRESENTATION

BREAKFAST – 7.30 am – 8.30 am

PRIMARY HIV INFECTION – DIAGNOSIS AND MANAGEMENT IN 2005

Chih D T¹, Speers D², Mclellan D¹, Dyer J¹

¹Infectious Diseases Department, Fremantle Hospital, Fremantle, WA, Australia: ²Division of Clinical Microbiology and Infectious Diseases, PathCentre, Nedlands, WA, Australia

We present 2 cases that highlight some current problems in diagnosis and management of primary HIV infection.

A 53-year-old man presented with fever, headaches, diarrhoea, and diffuse maculopapular rash 25 days after an unprotected sexual encounter in Thailand. He had been treated 11 days earlier for gonococcal urethritis. Primary HIV infection was considered likely on clinical grounds, and a fourth generation HIV Ag/Ab Combo test was reactive. Repeat HIV Ag/Ab test 5 days later, however, was non-reactive, while a further test 12 days later again showed reactivity. This case shows that a second diagnostic window may occur when using the new generation HIV Combo Ag/Ab tests for diagnosis of acute infection. Although rarely reported up to now, this phenomenon may be commoner than recognised in clinical practice, and highlights the importance of careful follow-up with repeated or appropriate supplemental testing in individuals at risk of HIV infection.

A 66-year-old man presented with fevers and delirium and was diagnosed with acute meningo-encephalitis. He had recently returned from some months' work in West Africa. CSF examination showed mononuclear pleocytosis, raised protein, normal glucose, and negative bacterial cultures and viral PCR. Further inquiry revealed high risk behaviour while in Africa, and EIA and Western blot assays for HIV antibody indicated acute infection. He was discharged 5 days later having improved without specific therapy. Four weeks later he re-presented with bilateral lower motor neuron pattern facial and lower limb weakness and dysaesthesia in the feet. Following initiation of lopinavir/ritonavir plus lamivudine/zidovudine his neurological signs stabilised, and 4 weeks later he had recovered without any additional therapy. Possible neurological diagnoses in this case will be discussed followed by brief review of the current status of antiretroviral therapy in early HIV infection.

HIV ENCEPHALITIS: A CASE, ITS TREATMENT AND COMPLEXITIES

Skinner M J¹, Hutton E², Day B², Vujovic O^{1, 4}, Woolley I^{1, 3}, ⁴, Hoy J F^{1, 4}, Wright E J^{1, 4}

¹Infectious Diseases Unit, Alfred Hospital, Melbourne, VIC, Australia; ²Neurology and Stroke Unit, Alfred Hospital, Melbourne, VIC, Australia; ³Infectious Diseases Unit, Monash Medical Centre, Melbourne, VIC, Australia; ⁴Monash University, Department of Medicine, Melbourne, VIC, Australia.

A 43-year-old Lebanese-born woman presented to an outer metropolitan hospital with acute confusion. No other focal signs were present. Her husband reported a subtle deterioration in cognition with accompanying agitation in the preceding month. Antibody tests for HIV were positive (no previous negative HIV ELISA available, husband known to be HIV infected) with a mature Western blot. Her CD4 count was 84 cells/ μ L (15%). Increasing delirium with psychotic phenomena, despite psychotropic and antibiotic therapy, necessitated transfer to the Alfred Hospital.

Upon presentation, she was febrile and evinced marked limb rigidity with spasmodic limb contractions. Intubation was required for airway protection. Magnetic resonance imaging (MRI) of the brain demonstrated bilateral, symmetrical, T2-weighted white matter hyperintensities compatible with HIV encephalopathy; MRA was unremarkable. Differential diagnoses included: (1) acute HIV encephalitis occurring in the context of undiagnosed HIV dementia, complicated by neuroleptic malignant syndrome; (2) progressive encephalopathy with rigidity and reflex myoclonus syndrome (PERMS); and (3) other viral/bacterial pathogens. Antipsychotic medications were ceased. The patient was commenced on highly active anti-retroviral therapy (HAART), aciclovir, broadspectrum antibiotics, corticosteroids and intravenous immunoglobulin with significant improvement. A discrepancy between plasma and CSF HIV viral load (35300 versus 201000 copies/mL) was noted. CSF viral PCR assays, and fungal and bacterial cultures from blood and CSF were negative.

A month after commencing HAART, and while still in hospital, she had a relapse of her initial presenting symptoms. At this time, there was a significant reduction in both plasma and CSF HIV viral load (2900 versus 3200 copies/mL), and improvement in CD4 count (112 cells/ μ L or 18%). Repeat MRI demonstrated occasional T2-weighted signal abnormalities only. Intravenous immunoglobulin for presumed immune-mediated CNS dysfunction was repeated with marked improvement. She was discharged 2 months after admission. There has been no subsequent recurrence of initial presenting symptoms over a 3-month follow up period.

This patient's clinical features, MRI findings, markedly high CSF HIV viral load and response to HAART are compatible with the rare presentation of encephalitic HIV disease occurring on a background of probable undiagnosed HIV dementia. It highlights our limited understanding of the complex effects of HIV and the immune response on the CNS.

MYASTHENIA GRAVIS IN AN HIV INFECTED PATIENT

<u>Chua K</u>¹, Ratnam I¹, Tay V¹, Storey E¹, Mijch A¹, Wright E¹

¹The Alfred Hospital, Melbourne, VIC, Australia

A 33 year old man with HIV (CD4 count 636 cells/µL, HIV viral load <50copies/mL) presented with a three-month history of slurred speech, right hand weakness and more recent onset of dysphagia for solid foods associated with a 2kg weight loss. His weakness had a clear diurnal variation being more pronounced later in the day. His plasma HIV viral load had been undetectable for 24 months on a stable regimen comprised of lamivudine, tenofovir and nevirapine. He had no prior AIDS defining illnesses and past medical history included migraine, perianal herpes simplex and recurrent tonsillitis.

Examination findings were remarkable for ptosis, fatigability and diplopia on sustained upward gaze. He had extensive facial weakness in his orbicularis oris and oculi resulting in decreased facial expression. He also had tongue weakness, dysarthria and a degree of dysphonia with nasal escape. His peripheral nervous system examination was unremarkable.

Investigations to confirm the suspected diagnosis of myasthenia gravis revealed a positive Ice test with resolution of ptosis. Electromyography (EMG) showed a decremental response to neuromuscular stimulation at 3Hz and acetyl-choline receptor antibodies were >8.00nmol/L. A CT scan of the chest showed thymic hyperplasia. He had markedly reduced maximum expiratory pressure of 43% anticipated and a maximum inspiratory pressure of 38% anticipated. A video fluoroscopic swallow showed mild to moderate pharyngeal dysfunction but no aspiration. CT and MRI of the brain were normal.

The patient was commenced on pyridostigmine and intravenous immune globulin with prompt symptomatic improvement in his dysarthria and dysphagia.

This is one of the few reported cases of myasthenia gravis occurring in the setting of HIV infection. The pathogenic relationship between the two entities is unclear.

A COMPLICATED CASE OF PJP

 $\underline{Iles}\ S^{_1},$ Skinner M $J^{_1},$ Lewin S $R^{_{1,\,2}},$ Vujovic $O^{_{1,\,2}},$ Wright E $J^{_{1,\,2}},$ Hoy J $F^{_{1,\,2}}$

¹Infectious Diseases Unit, Alfred Hospital, Melbourne, VIC, Australia; ²Monash University, Department of Medicine, Melbourne, VIC, Australia

A 51-year-old man with HIV infection presented with 6 weeks of progressive dyspnoea and cough. This followed a 6-month treatment interruption of his antiretroviral (ARV) therapy. His CD4 count was 95 cells/µL (25%) and HIV viral load >100000 copies/mL on presentation. A diagnosis of *Pneumocystis jiroveci pneumonia (PJP)* was suspected on clinical symptoms and chest x-ray later confirmed on bronchoscopic sputum examination. Because of a previous reaction to co-trimoxazole, he was managed with supplemental oxygen, parenteral pentamidine and corticosteroids.

On day 4 of treatment, there was clinical deterioration and radiological progression necessitating transfer to the intensive care unit for invasive ventilation. An urgent 6-hour desensitisation to co-trimoxazole was performed allowing a change in therapy from pentamidine. He was subsequently commenced on ARV therapy (didanosine, lamivudine, and ritonavir-boosted fosamprenavir and atazanavir) based on available genotype analysis. Following 28 days of ARV therapy, his CD4 count was 345 (22%) and HIV viral load 65000 copies/mL.

Four weeks following presentation, he developed acute dyspnoea and a left-sided pneumothorax was confirmed. An intercostal catheter was inserted. Over the next 6 weeks, he had issues of persistent pneumothorax despite a thoracotomy and pleurodesis, placement of a long-term intercostal catheter with unidirectional valve, nosocomial sepsis and malnourishment. At ten weeks, there was a persistent air leak and a minimal residual basal pneumothorax. The intercostal catheter was removed, and no further intervention was required. He was discharged after 12 weeks in hospital.

The case highlights the complications of ARV treatment interruption, urgent desensitisation for optimal therapy, and the management of late complications associated with severe PJP.

PLENARY: CONTEMPORARY CHALLENGES – 9.00 am – 10.30 am

TRIM5 - A MEDIATOR OF INTRINSIC IMMUNITY TO RETROVIRUSES

Bieniasz P

Many organisms have evolved activities that fall outside the conventional definitions of the innate and adaptive immune systems, but nevertheless provide potent protection from viral infection. Such activities can be constitutive and do not require any virus-triggered signaling or intercellular communication in order to inhibit virus replication. Therefore, one might consider these activities as comprising the front line of host defense against viral infection because they are active and perhaps most effective in the context of the very first virus:cell interaction(s) that herald the transmission of a virus to an immunologically naïve host. The ability of retroviruses to avoid these 'intrinsic immune' activities is a major determinant of their tropism and likely has a major impact on their ability to cross from one species to another. Much of what we know about intrinsic immunity stems from studies on retroviruses in general and HIV-1 in particular.

One major cellular defense against infection by retroviruses is the product of the TRIM5 gene. The TRIM5a protein resides in the cytoplasm of target cells and appears capable of recognizing incoming retroviral capsids, shortly after they have entered the cell. By mechanisms that are currently not well understood, TRIM5(recognition results in the irreversible inactivation of incoming viral capsids, thereby preventing reverse transcription. The TRIM5 gene may be unique to primates, is composed of several characteristic protein domains. Species-specific variation in one of these protein domains appears partly responsible for determining the spectrum of retroviruses to which each primate species, including humans, is susceptible. Indeed, while human TRIM5(is ineffective against HIV-1, it can provide potent defense against certain other retroviruses, notably those found in mice and horses. Some TRIM5(variants are capable of apparently remarkable feats of pathogen recognition and can confer resistance to a broad array of retroviruses whose capsids share very little sequence homology. Indeed, the failure of HIV-1 to infect primate species commonly used in biomedical research is, in part, due to resistance conferred by their TRIM5(proteins. It is conceivable that TRIM5 variants could one day be used in a gene therapy setting to provide protection from HIV-1 infection. However a more likely practical consequence of research on this and other intrinsic immune activities is that that resistant viral strains could beO derived that form the basis of an animal model of HIV-1 infection in nonhuman primates.

UNDERSTANDING LIPIDS: DOCTOR-PATIENT COMMUNICATION IN THE CHANGING CONTEXT OF LONG TERM HIV CARE

Patton C¹

Simon Fraser University, Vancouver, British Columbia, Canada

In the early years of the HIV epidemic, gay men struggled with media representations of them as "wasting". With the advent of HAART, countless men were able to live far longer and with fewer symptoms than in the 1980s. However, some of the combination therapies caused metabolic changes, resulting in both visible body-fat redistribution and invisible changes in their cardiovascular systems. Expert in the language and concepts of HIV diagnosis and treatment, these patients had to adapt to new concepts related to endocrinology. This paper analyzes the acculturation of gay male HIV patients to the "new language" of cholesterol scores and the new means of addressing lipodystrophy through experimental means like growth hormone, and through surgery. Based on ethnographic work as a specialized clinic for HIV metabolic disorder, this paper examines the micro-context of doctors and patients coming to grips with changing understandings of the body-subject-to-HIV.

HIV/HCV COINFECTION: TO TREAT HCV FIRST, HIV FIRST, OR BOTH AT ONCE?

<u>Torriani F J</u>1

¹Department of Medicine, Division of Infectious Diseases, University of California San Diego Infection Control/ Epidemiology Unit, University of California San Diego, San Diego, USA.

Due to shared modes of transmission, coinfection with hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV) is common. In recent years, the availability of potent antiretroviral therapy has led to the dramatic decrease of morbidity and mortality secondary to opportunistic infections. In parallel, HCV related hepatic complications have emerged as one of the most frequent causes of hospital admissions and deaths in HIV infected patients. While liver disease is more severe and progression due to chronic HCV infection is unequivocally accelerated in HIV coinfection, the effects of HCV on HIV progression are less established. The higher HCV viral burden and lower sustained virologic rates after treatment with peginterferon alfa and ribavirin observed in HIV/HCV coinfected patients, could be secondary to blunted immune responses to potent antiretroviral therapy and impaired ability to eradicate HCV virus. Consensus guidelines have suggested that early treatment of HCV at high CD4 counts should be considered. However, there is no consensus on whether starting antiretroviral therapy at CD4 counts above the current guidelines of 350 cells/ mm3 leads to improved HCV specific immune responses and thus clearance of HCV. The discussion will focus on the rationale and available data regarding these strategies.

SYMPOSIUM – INTERNATIONAL – POLICY – 11.00 am – 12.30 pm

THE CARTOGRAPHY OF HIV: DIVIDING LINES AND SHARED BORDERS

Patton C1

¹Simon Fraser University, Vancouver, British Columbia, Canada

Using historical and media analysis of the "story of AIDS," the paper outlines the role of geographical thinking in framing a global and regional understanding of the AIDS epidemic. Focusing in particular on the "geographical imaginary" of two styles of medical thought, this paper suggests that the policy solutions to AIDS differ in different regions for social and political rather than scientific reasons.

MAINSTREAMING AND THE HIV EPIDEMIC

<u>Reid, E¹</u>

¹Australian National University, Canberra

The concept of mainstreaming appears in various contexts, often contexts of political dissonance. Gender mainstreaming, mainstreaming HIV service delivery, indigenous programmes and the new mainstreaming, each provides an example.

The call for mainstreaming in the context of the HIV epidemic is gathering strength in multilateral and bilateral donor institutions, and international and regional HIV fora. But the voicing of the call is discordant: multiple voices demand action in diverse and often conflicting ways. Definitions flow without converging and the calls for mainstreaming confuse rather than mobilise. The discourse of mainstreaming moves edgily amongst terms such as development actors, levels, scaling-up, development planning, impacts, SWAps, PRSPs, comparative advantage, core business, multi-sectoral responses, coping strategies, corporate social responsibility, integration and more. The policy and programmatic responses are similarly divergent.

This paper sketches the different ways in which the term mainstreaming is conceptualised in its uses in the context of the HIV epidemic. It shows that each conceptualisation brings with it different policy and programmatic priorities, different challenges, and different domains of action. It argues that the relationship between these understandings occurs in their spheres of implementation.

As calls for mainstreaming increasingly dominate the HIV agenda, there is a need for clarification to precede action if the effectiveness of outcomes is to be achieved.

MAKING THE INVOLVEMENT OF POSITIVE PEOPLE MEANINGFUL: PUTTING GIPA INTO PRACTICE

Rock J1

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

Australia has historically had a relative success in implementing the principle of the Greater Involvement of Positive People (GIPA) in its responses to HIV. Building on this experience, NAPWA works internationally to assist PLWHA to achieve full involvement in responses to HIV in their own countries. In too many cases, only lip service to GIPA is paid, with tokenistic involvement of positive people. This not only does not serve the positive community well, but it impedes progress in responding generally to HIV.

This paper looks at the ways in which GIPA principles ought to be implemented in areas such as treatment preparedness, access to treatment, Country Coordinating Mechanisms of the Global Fund, Human Rights, stigma and discrimination and policy making. It then examines some of the specific challenges that exist in many developing countries in making GIPA work, despite the commitments of governments to it. The paper draws on NAPWA's experiences working in the Asia Pacific region and with a special focus on PNG. It looks at where there have been some successes and it looks more particularly at where the barriers exist and suggests ways in which they might be broken down.

Above all, the paper makes the point that GIPA is not just a nice idea. It is an urgent and critical mindset which needs to be developed in all countries, by all players, in all projects, work and policy making, if as an international community we are going to address the HIV epidemic.

SYMPOSIUM - CLINICAL MEDICINE -**HEP B: DEVELOPMENT OF RESISTANCE/ COMBINATION THERAPY** – 11.00 am – 12.30 pm

SUBSIDISED MEDICINES - THE PBAC AND ITS PROCESSES

 $\frac{Sansom \ L \ N^{1}}{^{1} Chair, \ Pharmaceutical \ Benefits \ Advisory \ Committee}}$

The increasing cost of pharmaceuticals places considerable pressure on both the budgets of individuals and other payers including governments. It is essential therefore that new technologies be evaluated not only for safety and efficacy but also for cost effectiveness in order to ensure that there is value for money in the context of limited budgets. The Pharmaceutical Benefits Advisory Committee makes recommendations on the basis of health outcomes and attempts to identify those patients who are likely to benefit most in order to ensure cost effectiveness. Many of the new technologies offer the potential for considerable advances in pharmacotherapeutics but for some those benefits are small yet potentially significant. Under these circumstances their cost effectiveness can be considered unfavourable because of the high cost. This is just one of the many issues confronting the PBAC as it attempts to ensure the equity of access for pharmaceuticals across the whole population. Cost effectiveness analysis based on relevant clinical evidence must continue to be a major activity in the evaluation of new drugs

ashm2005hobart

SYMPOSIUM – COMMUNITY – HIV RESEARCH COMMUNITY PERSPECTIVES – 11.00 am – 12.30 pm

THE HIV RESEARCH PROGRAM - ASSESSING ITS VALUE AND ADDRESSING CURRENT

Baxter D¹

CHALLENGES

¹Australian Federation of AIDS Organisations, NSW, Australia

Australia's HIV Research Program has under-pinned a successful clinical, prevention and policy response and is widely recognised as world's best practice. However, its value and key dynamics are seldom articulated and analysed - and it faces three emerging, serious challenges.

Don Baxter's presentation sets the program in the context of Australia's overall research program, identifies the key factors in its success and compares it with the relative failures in comparable countries and in other communicable disease in Australia. He then analyses two current challenges: pressures to extend its scope without additional funds, and macro-level research program decisions by government which may effectively, albeit inadvertently, destroy the HIV programs very success factors.

"NEW DRUGS AND NEW KNOWLEDGE" - CHALLENGES FOR HIV/AIDS CLINICAL RESEARCH AND TREATMENT

Whittaker B1

¹NAPWA Health and Treatments Portfolio, NSW, Australia

Community input has been central to Australia's outstanding record in HIV/AIDS clinical and basic science research, from advocacy for funding to involvement in the organisation, planning and conduct of research. The community also plays a key role in the development of care models and negotiating access to new treatments and tests, including industry negotiation and advocacy to governments.

Currently, the new HIV treatment "pipeline" is very promising, with new drugs likely to add to the treatment armatarium. However this development, together with new scientific knowledge about HIV/AIDS, will add to the complexity of research organisation and clinical management, as well as raise policy and access challenges.

This presentation will discuss the implications of these developments for Australian HIV/AIDS research, clinical care and treatment, particularly focusing on:

- Organisation and conduct of HIV clinical research, noting trends to more studies in general practice, in addition to NCHECR led trials.
- 2. Community input, transparency and ethical considerations in this changing research and treatment landscape.
- 3. Timely access to new treatments, particularly "compassionate access", given the new drug "pipeline" and the increasing number of pharmaceutical companies involved in HIV.
- Training, accreditation and ongoing support for clinicians working in HIV/AIDS, especially general practitioners, in an environment of new drugs and new knowledge.

Options for meeting these challenges will be explored with the aim of strengthening the partnership between community, governments, researchers, clinicians and industry in what is a complex but nonetheless optimistic time for HIV research and treatment.
CONSTRUCTING KNOWLEDGES ABOUT LIVING WITH HIV/AIDS

<u>Hurley M¹</u>, Machon K², Rule J², Watson J².

¹Australian Research Centre in Sex Health and Society (ARCSHS), Melbourne, VIC, Australia; ²National Association of People Living with HIV/AIDS (NAPWA), NSW, Australia

This panel discussion will be moderated by NAPWA and focus on potential new models for the interaction between researchers and HIV-affected communities, which may better help meet the needs and interests of researchers, community and policy-makers. Claims for community to be present inside of research, research design, and building up of the picture of what is known about living with HIV/AIDS is one part of this story.

Using the possibility of further research into practices of care of the self and others, the panel will address some of the following questions. What would be the features of this community/researcher interaction, and what might they offer? How could research, differently conceived and practised, be strategically applied in policy and advocacy? How can ongoing research projects help build new knowledge -- rather than simply reflect or re-state what is already known? How can diversity, inclusion and transparency be maintained as principles in this process?

RELATIVE MERIT: KEEPING THE RESEARCH PROGRAM REAL

Machon K1

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

"Research into HIV is valuable and important". This is a statement with which few would argue at face value. But in this paper, Kirsty Machon makes a case that we need to move beyond motherhood claims and rhetorical calls for "more research", and ask some focused questions about the relevance, merit, social responsibility and utility of individual research projects, whether in the clinic, the laboratory or in social or cultural studies. In a complex clinical, economic and socio-cultural environment, the value of research can and should be tangible and measurable, and able to be communicated to populations being researched.

ashm2005hobart

SYMPOSIUM – BASIC SCIENCE – NEW PROSPECTS FOR ANTIVIRALS

– 11.00 am – 12.30 pm

APPEARANCE, PERSISTENCE AND DISAPPEARANCE OF DRUG RESISTANT MUTATIONS IN NNRTI-TREATED INDIVIDUALS.

<u>Coffin J¹</u>, Palmer S¹, Boltz V¹, Maldarelli F¹, Martinson N^{2,4}, Gray G², McIntyre J², Morris L⁵, Mellors J³

¹HIV Drug Resistance Program, NCI, NIH, Frederick, MD, USA; ²Perinatal HIV Research Unit Chris Hani Baragwanath Hospital and University of the Witwatersrand, Johannesburg, South Africa; ³University of Pittsburgh, Pittsburgh, PA, USA; ⁴Johns Hopkins University, Baltimore, Maryland, USA; ⁵National Institute for Communicable Diseases, Johannesburg, South Africa;

Mutations conferring resistance to NNRTIs such as nevirapine (NVP), efavirenz (EFV) or delavirdine (DVD) can arise rapidly even after a single dose, for example in pregnant women treated to prevent mother to child transmission (MTCT). To measure the frequency of some of these mutations, we developed an allele-specific RT-PCR assay that quantifies NNRTI-resistant variants at frequencies < 0.1%. This assay was applied in two studies.

First, we tested longitudinal samples from HIV-1 subtype C infected women who received single dose NVP to prevent MTCT. Patient samples were separated into two groups based on detection of NNRTI resistance mutations by standard genotyping. Group 1 (8 women) had NNRTI resistance mutations detected at six weeks and six months (all 103N) but not at 12 months after sdNVP. Group 2 (9 women) had NNRTI resistance mutations detected at six weeks (8 with K103N and 2 of these 8 with Y181C) but not at six months after sdNVP. In the 12-month follow-up samples from Group 1 (negative by standard genotype), allelespecific RT-PCR detected 103N or 181C mutants in 7 of 8 (88%) samples with frequencies ranging from 0.25% to 16%. Similarly, in the 6 month samples from Group 2 (negative by standard genotype), 103N mutants were detected in 7 of 9 (78%) samples with frequencies ranging from 0.9% to 10%. Fewer of these were still positive at 12 months. Thus, even a single dose of nevirapine can lead to induction of NNRTIresistant virus that can persist at detectable levels for a year or more. The impact of this persistent low-level resistance on subsequent therapy remains to be determined.

In a second study, we examined the appearance and persistence of K103N mutant virus in patients initiating, failing, and discontinuing NNRTI-containing therapy. In all patients, mutant virus appeared rapidly after initiation of treatment; however, the dynamics of decline after discontinuation differed dramatically from one patient to the next, ranging from long term persistence for up to 6 years, to rapid loss. In two cases, a switch in the codon used for 103N (AAT or AAC) was observed, apparently resulting from linkage to an M184V mutation encoding resistance to 3TC.

In addition to the potential value of this information in understanding and designing therapeutic strategies, these result provide useful insight into the nature of the host-virus relationship itself.

RECEPTOR ACTIVATED CONFORMATIONS OF HIV GP120 – GP41: NEW TARGETS FOR ANTIVIRALS

Poumbourios, A

1Virus Fusion Laboratory, Macfarlane Burnet Institute for Medical Research and Public Health, Prahran, VIC, Australia

HIV-1 gains entry into cellular targets via membrane fusion. A cascade of structural changes induced in the viral glycoprotein gp120-gp41 complex by receptor binding drives the fusion mechanism. Interaction between gp120 and the viral attachment receptor CD4, leads to the creation of the binding site for chemokine receptors, CCR5 and/ or CXCR4. Chemokine receptor engagement by gp120 in turn triggers the refolding of gp41 into a membrane fusion active state. Advancements in the understanding of the fusion mechanism have facilitated the development of novel inhibitors targeting specific stages of the fusion cascade. For example Fuzeon, a peptidic inhibitor of the membrane fusion-inducing 6-helix bundle conformation of gp41, represents the first viral entry inhibitor approved for therapeutic use. Several classes of agents inhibiting interactions between gp120, CD4, CCR5 and CXCR4 also show promise in clinical trials. However, resistance to such inhibitors develops readily in vitro and/or in vivo, therefore further elucidation of the fusion cascade is essential for the identification of new inhibitor targets. We are investigating how structural signals are transmitted from receptor-bound gp120, to trigger the refolding of gp41 into a fusion-active state. Various approaches are being used to locate structural determinants within gp120-gp41 that contribute to the fusion activation of gp41 with the aim of identifying new inhibitor targets.

ROLE OF HIV-1 REVERSE TRANSCRIPTASE DIMERIZATION IN ENZYME FUNCTION AND MATURATION

Wapling J¹, Moore K¹, Radzio J², Sluis-Cremer N², Sonza S^{3,4}, Mak J⁵, Tachedjian $G^{1,4,6}$

¹Molecular Interactions Group, Burnet Institute, Melbourne, VIC, Australia; ²Department of Medicine, University of Pittsburgh, Pittsburgh, PA, USA; ³HIV Regulation Lab, Burnet Institute, Melbourne, VIC, Australia; ⁴Department of Microbiology, Monash University, Clayton, VIC, Australia; ⁵HIV Assembly Group, Burnet Institute, Melbourne, VIC, Australia; ⁶Department of Medicine, Monash University, Prahran, VIC, Australia

The human immunodeficiency virus type 1 (HIV) reverse transcriptase (RT) is an asymmetric dimer formed by the association of p66 and p51 polypeptides. In this study we have investigated the relationship between the heterodimeric structure of the HIV RT and its enzymatic properties by introducing mutations at RT codon W401 that inhibit formation of p66/p51 heterodimers. Furthermore, we introduced these mutations in an infectious molecular clone of HIV-1 to determine their impact on RT maturation and HIV infectivity.

Recombinant RT expressing codon W401 mutations demonstrated a striking correlation between abrogation of both HIV-1 RT dimerization and DNA polymerase activity. In contrast the p66 monomers exhibited only moderately slowed catalytic rates of DNA polymerase dependent and independent RNase H cleavage activity compared to the wild-type (wt) enzyme. We observed no unique cleavage patterns between the mutant and wt enzyme for the different substrates used in the RNase H cleavage assays. RT expressing W401 mutations that abrogate RT dimerization demonstrated no significant changes in secondary structure by circular dichroism analysis. Based on these data and our current understanding of the HIV RT structure we propose that formation of inter-subunit interactions in the HIV-1 RT regulates the establishment of a functional DNA polymerase active site.

Introduction of the RT dimerization inhibiting mutations W401A/L into HIV resulted in the formation of non-infectious virus, with reduced levels of both virion-associated and intracellular RT activity compared to wt and the W401F mutant, which does not inhibit RT dimerization in vitro. Steady-state levels of p66 and p51 RT subunits in viral lysates were reduced for the W401A/L mutants however, no significant decrease in Gag-Pol was observed compared to wt. We observed decreased processing of p66 to p51 in cell lysates for the dimerization defective mutants. Treatment of transfected cells with indinavir, suggested that the HIV-1 protease contributed to degradation of virion associated RT subunits. These data demonstrate that mutations near the RT dimer interface that abrogate RT dimerization in vitro result in the production of replication impaired virus. Inhibition of RT activity is most likely due to a defect in RT maturation, suggesting that RT dimerization represents a valid drug target for chemotherapeutic intervention.

SELECTION OF HIV-1 R5 VARIANTS WITH AUGMENTED INFECTIVITY AND REDUCED SENSITIVITY TO ENTRY INHIBITORS AT TIME OF SEVERE IMMUNODEFICIENCY

<u>Repits J¹</u>, Öberg M¹, Karlsson A², Albert J³, Fenyö E M¹ and Jansson M^{1,3}

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Early in HIV-1 infection CCR5 is the dominating coreceptor. With disease progression approximately 50% of infected individuals develop virus variants with ability to use CXCR4. In this project we have examined the evolution of HIV-1 biological properties in patients that do not develop CXCR4 using virus but retain R5 viruses despite AIDS onset.

We examined a panel of primary HIV-1 R5 viruses, sequentially isolated at an asymptomatic stage and after AIDS diagnosis. Viruses were selected on our previous observation that R5 HIV-1 with reduced sensitivity to RANTES inhibition may appear with disease progression. Virus infectivity was examined in cultures of U87.CD4.CCR5 and PBMC, and replication capacity by p24 antigen monitoring in infected PBMC cultures. Sensitivity of R5 viruses to inhibition by the entry inhibitors T-20 and TAK-779 were also evaluated with PBMC as target cells.

Parallel to reduced sensitivity to RANTES inhibition, R5 viruses isolated after AIDS onset displayed elevated replicative capacity and enhanced infectivity. Late R5 viruses were less dependent on cationic polymer assistance during infection, and were also less sensitive to inhibition by entry inhibitors T-20 and TAK-779. In addition, CD4⁺ T-cell counts at time of isolation correlated with infectivity, replicative capacity and sensitivity to inhibition by RANTES and entry inhibitors.

Our results imply that R5 HIV-1 variants with elevated replicative capacity, enhanced infectivity and resistance to entry inhibitors may be selected for during severe immunodeficiency when numbers of CD4⁺

T-cells are limited. At a time when entry inhibitors are considered for clinical use, our observation could play an important role in optimal design of such treatment.

This work was supported by the Swedish research Council and the Swedish International Development Cooperation Agency/Department for Research Cooperation (SIDA/ SAREC).

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SYMPOSIUM/OPEN FORUM – CLINICAL MEDICINE & POLICY – HIV AND MIGRATION – 1.30 pm – 3.00 pm

AUSTRALIA'S IMMIGRATION RESPONSE TO HIV/ AIDS

Szaraz L S

In 1989 Australia introduced mandatory HIV testing of all persons wishing to permanently migrate to Australia. A positive test result does not of itself lead to a rejection of a permanent visa. However, almost all permanent visas have a 'health requirement' which must be satisfied before the visa is granted. Invariably persons testing HIV-positive will not satisfy the health requirement because HIV disease is considered, as a matter of policy, to result in *significant cost* to the Australian community in the areas of health care and community services.

Australia's immigration program permits the health requirement to be waived for a small number of permanent visas where the applicant has either close ties to an Australian citizen or permanent resident, or compelling compassionate or humanitarian factors warrant the granting of a permanent visa. This is known as the 'health waiver'. The health waiver may be approved where the granting of the visa is *unlikely to result in undue cost* to the Australian community.

The application of the health waiver involves a balancing exercise which looks at both the compassionate circumstances of the HIV-positive applicant, and the need to protect the integrity of Australia's health care system. In practice DIMIA (Department of Immigration and Multicultural and Indigenous Affairs) initially rejects an overwhelming majority of applications in which the health waiver could be applied. This practice is probably the result of a lack of understanding between the significant cost test for the purpose of determining the health requirement, and the undue cost test for the purpose of determining the heath waiver.

The undue cost test requires an examination of a number of factors pertaining to the applicant and this is where the treating doctor's medical evidence is crucial because the decision-maker must consider the actual needs and prognosis of the applicant.

Engaging a lengthy, costly and stressful appeal process is undesirable for a HIV-positive applicant, but at the moment this appears to be the only way to have the health waiver correctly applied to their application for permanent residence.

THE EFFECT OF MIGRATION ON THE HIV EPIDEMIC IN NEW ZEALAND

Pithie A

Persons born in Africa account for increasing numbers and proportions of newly diagnosed HIV infections in New Zealand. In the past 12 months heterosexually acquired infections have, for the first time, outnumbered newly diagnosed infections in MSM. Of the heterosexual group greater than 90% of infections have been in persons born in Sub-saharan Africa [SSA], or in sexual partners of persons from SSA.

Immigration from SSA to New Zealand has increased dramatically in the past 5-7 years. This has been particularly so from Zimbabwe, largely as a consequence of eased immigration restrictions to persons from this country in response to ongoing difficulties there. Immigration statistics show that over 8000 Zimbabweans have entered NZ. It is not clear what proportion is white and what black, but most estimates suggest a roughly 50/50 split.

Visas to work or study in New Zealand, and for permanent residence, have to date not required HIV testing. New screening tests, which included HIV testing, were to be introduced in April this year, but have been shelved for the time being. Therefore a large proportion of Zimbabweans and others from high HIV prevalence countries who are currently living in NZ have not been HIV tested.

HIV prevalence in adult blacks in Zimbabwe approaches 30% [the rate in white Zimbabweans is similar to Europeans elsewhere]. There is no reason to believe that the HIV prevalence in black Zimbabweans living in NZ is any different. By these estimates there are likely to be between 500-1500 HIV positive Zimbabweans, mostly unaware of their status. Most of those without permanent residence do not currently qualify for subsidised health care. More work is required to clarify the situation.

This presentation will discuss the potential personal and public health, and social implications of these findings.

HIV-INFECTED MIGRANTS: CLINICAL & PUBLIC HEALTH ISSUES

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In the last two years, 20 HIV-infected migrants without access to Medicare have been seen at Parramatta Sexual Health Clinic. Of these, 14 (70%) originated from sub-Saharan Africa, and "skilled independent" was the most common visa type among the group. 55% were males and 45% females, and 6 people had 11 dependent children between them. Most frequent reason for HIV testing in 65% was application for permanent residency in Australia. HIV testing occurred on average 4.5 years after entering Australia (median & mode 3 years). Risk for HIV acquisition was heterosexual contact in 85%, and only 1 person had been previously diagnosed. There was evidence on medical history that 3 people had acquired HIV since first migrating to Australia, most likely during visits back to their countries of origin, suggesting that migrants from high-prevalence countries may have a continuing increased risk of acquiring HIV infection. Available HIV subtype data for these patients will be presented, and clinical and public health management issues discussed.

A SNAPHOT SURVEY OF MEDICARE INELIGIBILITY AMONG PLWHA IN NSW

McMahon T¹, Luisi B¹, Das R¹

¹Multicultural HIV/AIDS and Hepatitis C Service, Sydney, NSW, Australia

There are a range of public health implications surrounding people living with HIV/AIDS (PLWHA) who are ineligible for Medicare in Australia. Changes to the rules governing subsidised medicines have meant that since 2002 all prescriptions for subsidised medicines, including HIV treatments, cannot be filled without a Medicare card.

In late 2004 NSW Health commissioned the Multicultural HIV/AIDS and Hepatitis C Service (MHAHS) to carry out a survey to estimate the number of Medicare ineligible PLWHA in NSW. A survey protocol was developed in consultation with key stakeholders.

35 publicly funded HIV and STI specialist services – mainly sexual health clinics and hospital-based services - in NSW along with seven high caseload HIV private practices and five statewide services participated in the survey carried out over five weeks in May and June 2005.

The survey resulted in three key estimates of Medicare ineligible PLWHA in NSW: the number who had accessed services in the period January 2004 – May 2005; the number currently accessing services in May 2005; and the number currently being prescribed antiretroviral treatment.

Services surveyed also reported a range of public health concerns around Medicare ineligibility which will be summarised in this paper.

While the snapshot had a number of limitations which will also be explored in the paper it has contributed to quantifying the extent of Medicare ineligibility among PLWHA in NSW at this time.

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PROVISION OF ANTIRETROVIRAL THERAPY (ART) TO INDIVIDUALS NOT ELIGIBLE FOR MEDICARE BENEFITS: THE CLINICIAN'S RESPONSE.

Kelly M1

¹AIDS Medical Unit, Brisbane, QLD, Australia

Access to ART is difficult for patients without Medicare entitlements who can not afford these expensive medications. Such patients do not have access to a broad range of health services including inpatient services and primary health care. Clinicians encounter undue clinical, ethical and professional dilemmas when they provide care for patients who are not entitled to Medicare benefits. These patients include women of reproductive potential; persons at risk of reactivation of tuberculosis; persons at high risk of HIV disease progression and persons at risk of HIV transmission. The clinical and public health arguments to treat such individuals will be discussed. The ethical dimensions of this problem have recently been discussed in the British medical literature and articulate the moral problems of deferring ART and the limited cost of providing immediate ART. It is timely to review this issue in Australia. The limited capacity to provide health care to patients who fall outside the traditional health care funding mechanisms in Australia places these patients, their carers and the general public in a difficult predicament.

CONCURRENT SESSION – SOCIAL RESEARCH – WORKFORCE QUALITATIVE – 1.30 pm – 3.00 pm

ACCOUNTING FOR 'WELLNESS' IN INTERVIEWS ON ILLNESS: NOTES FROM A SOCIAL RESEARCH PROJECT WITH ABORIGINAL PEOPLE IN WESTERN AUSTRALIA WHO ARE HIV-POSITIVE

<u>Newman C E¹</u>, Bonar M², Greville H S³, Thompson S C⁴, Bessarab D⁵, Kippax S C¹

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This paper draws on the first research study to investigate the experiences of Aboriginal people in urban, rural and remote areas of Western Australia who are HIV-positive, providing a unique opportunity to hear their largely untold stories. In 2003 twenty people took part in qualitative interviews, describing their experiences of initial diagnosis, coping strategies, social support, disclosure, discrimination, pregnancy, access to health and HIV services, and the physical, emotional, psychological, social and economic impact of HIV. Although the interview questions were focused on the experience of illness, the responses included descriptive narratives of how 'wellness' was achieved in everyday life. This paper will examine these 'wellness narratives' as distinct modes of communicating the experience of HIV in an interview context. Three genres of wellness narrative will be distinguished and described as 'rationality', 'sociality' and 'functionality' narratives. Rationality narratives deal with conceptual strategies for achieving wellness such as taking it day by day or thinking positive. Sociality narratives are concerned with meeting social expectations through getting back to normal and looking healthy. And functionality narratives depict everyday practices such as keeping busy and doing the right thing. These wellness narratives shift the focus away from the problem of illness and suggest that, in the contemporary context of Aboriginal people's lives, HIV may be less important than the many other factors that contribute to wellness, such as emotional health, social connectedness, and everyday routines. This has implications for the development of health promotion and support services to address the needs of Aboriginal people who are HIV-positive.

CONTEMPORARY MEANINGS OF RISK AMONG GAY MEN RECENTLY INFECTED WITH HIV IN MELBOURNE

Slavin S1

¹Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, VIC, Australia

This paper explores contemporary meanings of risk among gay men recently infected with HIV. It draws on 11 in depth interviews conducted within one year of the risk incident that purportedly led to infection. The sample included men who intentionally took risks by "barebacking" and others for whom volition was not a feature, as with accidents or sexual assault.

Risk was a term and a concept commonly referred to and discussed by all participants. These discussions referenced public health meanings of the term, however native meanings varied significantly. Rather than seeing these variations as evidence of pathology, irrational or misguided thinking this paper examines the social and affective meanings and consequences of risk thinking and risk behaviors. It is argued that while these men may be regarded as risk aware and averse, such awareness has been ineffectual in averting danger.

Inspired by Geertz's treatment of the concept "deep play", the paper argues that unsafe sex serves various purposes, including the playing of confidence and competence games in which, individuals test and extend themselves. Such games further the development of affective alliances among gay men through shared experiences of illicit activity or participation in the identity category of "HIV positive". The desire for such connections must be understood in a broader context that takes account of ongoing homophobia and stigmatization of HIV. These games are also, for some men, highly pleasurable, in so far as they seem to be an opportunity to exercise skill and control.

The paper concludes that barebacking is a cultural practice that should not be understood through risk. Furthermore it questions whether risk may lead individuals to believe they can control the danger of HIV to a far greater extent than is actually the case.

THE MEANING OF COMPLEMENTARY AND ALTERNATIVE MEDICINE PRACTICES AMONG PLWHA

McDonald K M¹, Slavin S¹

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The use of complementary and alternative medicine (CAM) is widespread among PLWHA. The Futures 4 survey found that 73% of the total sample used some form of CAM. A significant majority (76%) believe such therapies can increase well being and half (50%) believe they can delay the onset of illness due to HIV. While scientific evidence for the effectiveness of many CAM is sketchy, this does not appear to impact on its popularity.

In 2004 a qualitative research project conducted in Melbourne collected data from 10 HIV positive men and women who were using CAM and four key informants. This project focused on the cultural beliefs and practices that differ from, contest and employ the discourses of western medical science. This project also explored the meaning and nature of western medical practices to users of CAM, seeking to understand how CAM practices impact on engagement with clinical monitoring and antiretroviral treatment.

This paper will explore the meaning and significance of CAM practices in relation to the world views of those who use it as well as the meaning and nature of western medical practices to users of CAM, seeking to understand how CAM practices impact on engagement with clinical monitoring and antiretroviral treatment. This may assist in developing knowledge about the experience of HIV, and in some cases the limits of western medicine to address particular aspects of HIV.

THARANBAN-CONNECTING ACADEMIA WITH ABORIGINAL COMMUNITIES AND CONNECTING ABORIGINAL COMMUNITIES WITH ACADEMIA

 $\label{eq:combo} \frac{Combo}{T^{l}}, \ Ellard \ J^{l}, \ Newman \ C^{l}, \ Pearson \ A^{l}, \ Rawstone \ P^{l}, \ Ward \ J^{l}$

¹Aboriginal Health, NSW, Australia

The Aboriginal Health & Medical Research Council of NSW (AH&MRC) is the peak Aboriginal health organisation in NSW representing Aboriginal Community Controlled Health Services. The AH&MRC and the Consortium for Social and Policy Research on HIV, Hepatitis C and Related Diseases are working collaboratively on a unique research program titled *Tharanban* (a Gamiloroi Language Northern NSW word meaning connecting / pathways) which aims to increase the amount of culturally appropriate sexual health research in NSW.

It is well documented that;

- Aboriginal and Torres Strait Islander communities experience a disproportionate burden of morbidity associated with sexual health.
- Aboriginal research should be conducted within a community controlled health model ensuring Aboriginal custodianship and stewardship of research.

Tharanban will exemplify how community-based research can be used as a tool for empowerment and advocacy for communities and researchers. The overall aims of the project are to:

- Build capacity of the Aboriginal sexual health workforce in NSW regarding research models and practices both from western and Aboriginal community perspectives.
- Ensure that the collection, use, dissemination and publication of sexual health data is consistent with appropriate cultural and ethical principles and standards as enunciated within relevant Aboriginal Health Information and Research Guidelines.
- Develop a research project in NSW driven by the Aboriginal community that may be applied to other settings across Australia.
- foster working relationships between NCHSR and Aboriginal Community in NSW
- develop a better understanding of Aboriginal Sexual Health in NSW both epidemiologically and socially and apply this understanding to the development of sexual health policy.

Furthermore, *Tharanban* will assist in building an evidence base in regards to HIV, Hepatitis C and related diseases in NSW.

This presentation will explore the processes of developing such a project, the dichotomy and tension of health workers becoming researchers, the outcomes to date and the future directions for this project so that it can be modelled in other states and territories.

DEVELOPING A CHARTER FOR COMMUNITY ENGAGEMENT

Salter M A1

¹National Centre in HIV Social Research, Sydney, NSW, Australia_

Community consultation and partnership are instrumental to the research of the National Centre in HIV Social Research. Community stakeholders provide expertise and assistance in recruitment, data collection, analysis and dissemination, and a dynamic and evolving model of social diffusion and knowledge transfer is a key goal of the Centre.

The NCHSR is developing a Charter for Community Engagement to consolidate and strengthen our current relationships with affected communities and stakeholders. The Charter will articulate the principles and processes that constitute authentic community partnership, and outline implementation strategies and benchmarks.

This workshop will form a crucial stage in the community consultation phase of the development of the Charter. We are looking to our community partners, as well as researchers and interested practitioners, for direct advice and innovation in formulating the Charter. The workshop is designed to collate advice, recommendations and feedback on the preliminary Charter framework, and explore alternative approaches.

INFECTION CONTROL COMPLIANCE IN TWO GROUPS OF AUSTRALIAN HEALTH PRACTITIONERS

<u>Jenkinson K M¹</u>, Temple-Smith M¹, Lavery J¹, Gifford S M^2 .

¹Australian Research Centre in Sex, Health and Society, LaTrobe University, Melbourne, VIC, Australia; ²Refugee Health Research Centre, LaTrobe University, Bundoora, VIC, Australia

Standard Precautions for infection control were first introduced by the Centre for Disease Control (USA) in the late 1980's to prevent HIV/AIDS transmission in health care settings. In 2003, 13,630 Australians were living with HIV/ AIDS and approximately 242,000 with hepatitis C. The prevalence of both blood borne viruses (BBV) continues to increase in Australia, as does the need for vigilant infection control practices. Despite this, there is evidence that some Australian health practitioners demonstrate poor compliance with recommended infection control practices. This paper reports on part of a broader study of health practitioners experiences of, and attitudes to infection control, patients with BBV, and related matters. The perspectives of 25 dentists and 16 nurses regarding infection control and the risk of occupational exposure to BBV were explored in semi-structured interviews. The majority of interviewees expressed knowledge of and compliance with Standard Precautions, however many admitted to changing their routine infection control practices upon learning that a patient had a BBV. Approximately half disclosed minor changes, such as double gloving, under these circumstances. A small minority of dentists reported that, in the past, they have specifically treated people with BBV at the end of a session, whereas only anecdotal evidence was provided of health practitioners refusing to treat such patients. Further analysis of interviews suggested such non-compliance was based on specific concerns. The majority of interviewees experience significant apprehension about the risk of occupational exposure to BBV and admitted that this was the reason for changes in their usual infection control practices. Other interviewees suggested that such apprehension may result from health practitioner ignorance regarding either the effectiveness of Standard Precautions or the mechanisms of transmission for BBV. Small numbers of other interviewees suggested that some non-compliance might be due to resistance to change, or to confusion and frustration about certain infection control recommendations that were considered to be inappropriate, inadequate or impractical. The implications of these findings are discussed from the perspectives of both dentists and nurses.

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CONCURRENT SESSION – CLINICAL MEDICINE – CARDIOVASCULAR AND LIPODYSTROPHY – 1.30 pm – 3.00 pm

CARDIOVASCULAR COMPLICATIONS OF HIV

Cotter B R¹

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Since the introduction of potent antiretroviral therapy (ART), a sharp decline in mortality and morbidity has been observed. Cardiac manifestations of HIV have also been profoundly altered. In the area prior to the use of ART, the most common cardiac manifestations were dilated cardiomyopathy, endocarditis and pericarditis. The use of ART has been associated with the development of metabolic complications, which include dyslipidemia, insulin resistance and lipodystrophy. Reports of myocardial infarctions in young HIV-infected patients on ART have raised concerns about premature coronary disease. Although small not controlled studies have suggested an increased rate of coronary events in individuals on ART therapy, retrospective studies evaluating the risk of cardiovascular disease in relation to ART have yielded conflicting results.

The largest prospective study of cardiovascular risks with antiretroviral therapy is the Data Collection on Adverse Events of Anti-HIV Drugs (DAD), which showed an incidence of first myocardial infarct of 3.5 per 1000 personyears and that the incidence of coronary events was directly related with longer exposure to ART. The risk of myocardial infarction was significantly related to the duration of ART but it remained relatively low when adjusted to other cardiovascular risk factors. This suggests that metabolic abnormalities induced by ART may have contributed to the increased morbidity.

The mechanisms of cardiovascular disease in HIV-infected patients remain unknown, but may be related to dyslipidemia, insulin resistance, diabetes mellitus, inflammation, factors specific to antiretroviral medications, or combinations of these factors. Endothelial dysfunction has been identified as a key step in the development of atherosclerosis and has been reported in HIV-infected patients on protease inhibitors. Increased carotid intima-media thickness, which is associated with traditional cardiovascular risk factors, has also been reported in HIV-infected patients.

Although ART may cause premature coronary disease, current data do not support a drastic change in the timing of antiretroviral therapy nor a modification of the available HIV regimens. More importantly, HIV clinicians need to assess the presence of traditional cardiovascular risk factors for coronary disease in their HIV infected patients.

THE SMART (STRATEGIES FOR MANAGEMENT OF ANTI-RETROVIRAL THERAPY) STUDY – ENROLMENT UPDATE, RISKS FOR CARDIOVASCULAR DISEASE AND ADHERENCE TO STRATEGY

<u>Drummond F^1 </u>, Neuhaus J^2 , and Hoy $J^{1,3}$, on behalf of the SMART Protocol Team.

¹National Centre in HIV Epidemiology and Clinical Research, and University of NSW, Sydney, NSW, Australia; ²CPCRA Statistical and Data Management Center/CCBR, University of Minnesota, USA, ³Infectious Diseases Unit, Alfred Hospital, and Department of Medicine, Monash University, Melbourne, VIC, Australia

The SMART Study is an international, randomised, clinical endpoint trial studying the long-term effects of two strategies for antiretroviral treatment (ART) in patients with CD4 T-cell counts > 350 cells/mm³ at enrollment The two strategies are Viral Suppression (VS) strategy aimed at suppressing viral load through the use of continuous ART irrespective of CD4 count; and Drug Conservation (DC) strategy, aimed at conserving drugs by using ART episodically to maintain a CD4 count >250.

As of May 4th, 2005, 3373 patients have been enrolled into the study. Of these 5% were ART naïve and the median time on ART for the remainder is 6 years. 70% of patients have received a protease inhibitor, 62% a NNRTI with 42% having received both these classes of drug. 24% of patients have a prior AIDS notification and 38% had an HIV-RNA < 50 copies/mL. The median baseline CD4 T-cell count is 592 cells/mm³ (462, 791) with the median CD4 nadir of 260 cells/mm³ (155, 377).

At baseline, cardiovascular disease risk factors included: 42.3% of patients were smokers, 8.4% had history of diabetes mellitus, 1.8% history of MI, 1.7% a prior stroke, 1.6% history of peripheral vascular disease, 2.4% of patients had coronary artery disease, 1.0% had a diagnosis of congestive cardiac failure, 8.8% had a major ECG abnormality, 22.6% were taking antihypertensive drug therapy and 24.3% either had a cholesterol level of > 6 mmol/L or were receiving lipid lowering drugs.

Of the 1557 patients randomised to the VS strategy, 180 patients have stopped ART for > 4 weeks since randomisation for various reasons. An estimate of the percentage stopping treatment by Month 12 is 11.4% with 95% confidence intervals of 8.7 - 13.3%. Of the 1578 patients randomised to the DC strategy, 617 have restarted ART and of these 118 (19.1%) have done so for non-protocol specified reasons, an estimated percentage of non-protocol initiations at 12 months is 10.0% with 95% confidence intervals of 8.0 - 12.0%.

Reasons for this non-adherence to treatment strategy and adherence rates for patients enrolled in Australasia will be presented.

A RANDOMISED, PLACEBO-CONTROLLED TRIAL OF PRAVASTATIN FOR THE TREATMENT OF PROTEASE-INHIBITOR-INDUCED HYPERCHOLESTEROLAEMIA IN HIV-INFECTED MEN.

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Use of protease inhibitors (PI) has been associated with hypercholesterolaemia. We aimed to examine the effect of the HMG-CoA reductase inhibitor, pravastatin in HIV-infected men with hypercholesterolaemia associated with PI therapy.

We completed a randomised, placebo-controlled, 16-week study examining the effect of pravastatin 40mg daily on serum cholesterol in 33 HIV-infected men on stable PI therapy (HIV RNA <400 copies/mL). Following baseline dietary assessment and a 4 week dietary intervention period, subjects were randomised to pravastatin or placebo for 12 weeks. Primary endpoint was time-weighted change (AUC) in serum cholesterol from baseline. Secondary endpoints included change in low density lipoprotein (LDL) cholesterol and high density lipoprotein (HDL) cholesterol, triglycerides, glucose and insulin, total and regional body fat (measured by whole-body DEXA scanning), and endothelial function (measured by flow mediated dilatation [FMD]). Non-parametric analyses were applied.

33 men (pravastatin n = 16, placebo n = 17) were enrolled of which 31 completed all 16 weeks follow-up. Although groups were matched for baseline cholesterol (median [IQR] cholesterol 7.6 [1.7] pravastatin vs. 7.6 [1.4] placebo), CD4 count and HIV RNA, the pravastatin group was older (52 [12] vs. 43 [9] years) with lower baseline triglycerides (3.8 [4.1] vs. 4.9 [7.8] mmol/L). At 16 weeks, both groups experienced a significant decrease in serum total cholesterol compared to baseline (pravastatin -1.0 [1.0] mmol/L vs. -0.7 [1.5] mmol/ L decrease from baseline, both P = 0.01) although there was no significant difference in AUC cholesterol between randomised groups (pravastatin -0.6 [1.0] mmol.L⁻¹/wk vs. placebo -0.4 [1.0] mmol.L⁻¹/wk, P = 0.8). There were no significant differences in changes in HDL cholesterol, triglycerides, glucose, insulin, FMD or regional and total body fat between randomised groups.

In HIV-infected, PI-treated male subjects with hypercholesterolaemia, although dietary intervention does significantly lower cholesterol, the addition of 12 weeks treatment with pravastatin 40mg daily offers little benefit over placebo.

COMBINED ANALYSIS OF TWO RANDOMIZED TRIALS: MITOX AND ROSEY TO DETERMINE THE FACTORS ASSOCIATED WITH CHANGES IN BODY COMPOSITION PARAMETERS AND THEIR RESPECTIVE RELATION TO METABOLIC CHANGES AT WEEKS 24, 48 AND 72

Wand H¹, Law M G¹, Emery S¹, Cooper D^{1,2}, Carr A², for the MITOX and ROSEY Study Group.

¹National Centre in HIV Épidemiology and Clinical Research, University of New South Wales, Sydney, NSW, Australia; ²St Vincent's Hospital, Darlinghurst, Sydney, NSW, Australia

The changes in, and associations between, body composition parameters, and their respective relation to metabolic changes from baseline to weeks 24, 48 and 72 were further investigated in the combined data of two randomized trials : MITOX and ROSEY.

A total of 219 participants, 111 MITOX and 108 from ROSEY were included in this study. All subjects were recruited with moderate or severe peripheral lipoatrophy in at least one region (face, arms, legs, buttocks) on physical examination. Patients in MITOX who were receiving stavudine (n=85) or zidovudine (n=26) were randomly assigned to switch from stavudine or zidovudine to abacavir, 300 mg twice per day for 24 weeks. Patients in ROSEY were randomized to receive rosiglitazone 4 mg twice daily (n=53) or matching placebo for 48 weeks. Both study participants were followed up at least 72 weeks.

The primary focus of this study was to correlate the changes in limb fat mass, measured by dual-energy x-ray absorptiometry with the changes in abdominal fat, measured by computed tomography. There was a significant positive correlation between the change in limb fat (kg) and visceral fat (cm²) at weeks 48 and 72 (ρ =0.18, p-value=0.02 and ρ =0.23, p-value=0.004 for weeks 48 and 72 respectively). Changes in subcutaneous L4 abdominal fat also showed positive association with the increased limb fat at weeks 48 and 72 (ρ =0.19, p-value=0.01 and 0.24, p-value=0.001 respectively.

Of metabolic parameters, only early change in HDL-cholesterol was significantly associated with improved limb fat at study weeks 48 and 72. Change in HDL-cholesterol from baseline to week 24 negatively correlated with the change in limb fat from baseline to week 48 (ρ = -0.25, p-value=0.005). A similar negative association was observed between the change in HDL-cholesterol from baseline to week 48 and change in limb fat from baseline to week 72 (ρ = -0.19, pvalue=0.04).

In this sample of HIV-infected adults who reported moderate or severe lipoatrophy, increases in limb fat were positively associated with increases in central fat.

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CONCURRENT SESSION – BASIC SCIENCE – SIX DEGREES OF INVESTIGATION

– 1.30 pm – 3.00 pm

RESITANCE OF PLASMACYTOID DENDRITIC CELLS TO HERPES SIMPLEX VIRUS 2 INFECTION IN VITRO

Donaghy H¹, Bosnjak L¹, Cunningham A L¹ ¹Westmead Millennium Institute, Sydney, NSW, Australia

Herpes Simplex virus-2 (HSV-2) is a common sexually transmitted disease with up to 80% seroprevalence in sub-Saharan Africa. Infection with HSV confers 2 to 3 fold increase in the risk of HIV infection. Equally, HIV infection results in increased frequency and magnitude of HSV-2 recurrence.

Dendritic cells (DC) are the only cells that have been shown to be permissive to HIV and HSV infection. They are important in the initiation of an adaptive immune response. Previous studies from our laboratory have shown that HSV infection of monocyte derived DC results in productive infection followed by cell death by apoptosis.

We are currently studying a different DC population, the plasmacytoid DC (pDC), which is found circulating in the blood and has a role in controlling viral infections by release of the antiviral agent interferon alpha. We have isolated pDC from blood using BDCA-4 beads. These isolated pDC were exposed to HSV-2 (186) for 1 hour, cells were washed and cultured for further times in the presence of IL3. After 24 hours there was little or no productive infection of pDC, even at high virus titers. Cells were assessed for their viability, and exposure to live HSV-2 actually prevented cell death, in sharp contrast to other DC populations studied. In addition, assessment of the co-stimulatory molecule expression of HSV-2 exposed pDC revealed rapid maturation of these cells.

These cells, although not normally found at mucosal surfaces, have been shown to be found in the skin during an inflammatory response. We propose that pDC are found in HSV-2 lesions, and they are likely to be responsible for high levels of interferon alpha found in HSV-2 lesions. The reduced numbers of pDC found during HIV infection may impact the ability of the patient to resolve HSV-2 recurrence. Further studies will focus on the impact of HIV and HSV co-infection on other DC subsets.

IMMUNOGENICITY OF DHBV VLPS CARRYING THE HCV E2 ECTODOMAIN

Grgacic E V L, Anderson D A

Macfarlane Burnet Institute for Medical Research and Public Health, Melbourne, VIC, Australia; Select Vaccines

Introduction: VLPs have proven to be promising candidate vaccines since they are: (i) non-infectious and therefore safe to produce and use, (ii) more immunogenic than subunit vaccines because they provide the necessary spatial structure for display of epitopes, and (iii) elicit humoral, cell-mediated and importantly, mucosal immunity.

We have chosen to use the subviral particles of duck hepatitis B virus (DHBV), which naturally consists of both a large (L) and small (S) envelope protein. Our studies indicated that L has a different, more flexible structural arrangement in the SVP and as such has the capacity to accommodate large foreign sequences substituted in the N terminal preS domain. Previously we have shown the potential of these VLPs as a vaccine delivery vehicle through the successful assembly of VLPs following substitution of part or all of the preS domain of L with: the entire 277 a.a. ectodomain of HCV E2 (E2.661); the 163 a.a. HBV preS domain (HpreS); the 230 a.a. MSP2 protein of Plasmodium falciparum; and the 538 a.a. measles virus H protein. Following initial expression and analysis of these constructs in a chicken hepatoma cell line we have used a yeast inducible expression system to produce chimeric VLPs for immune reactivity studies. In this study we have characterised the HCV E2 VLPs and analysed the immune response to these VLPs in Balb/c mice.

Most of the pres domain of L was substituted with the ectodomain sequence of E2 (E2.661) in an L expression construct containing an N terminal Signal sequence allowing cotranslational translocation across the ER. SigLE2.661 VLPs were expressed in a yeast inducible expression system. S. cerevisiae was co-transformed with yeast expression plasmids for chimeric L and DHBV S, which is essential for particle formation. Protein expression was induced with galactose and VLPs extracted from yeast and analysed by sedimentation in a sucrose step gradient and by transmission electron microscopy. Exposure of E2 to the particle surface was assessed by VLP ELISA using a monoclonal to HCV E2. Groups of 6 Balb/c mice were immunised with SigLE2.661VLPs i.m. with and without the adjuvant, Alum and immune responses assessed by ELISA, immunofluorescence to HCV E2 in cells following transfection with an E2 expression plasmid and ELISPOT.

SigLE2.661VLPs exhibited a similar sedimentation profile as wild type VLPs and particle formation was confirmed by TEM and negative staining. The E2 sequence was shown to be exposed on the particle surface by binding of a monoclonal to E2 specifically to SigLE2.661 VLPs and and not w.t. VLPs. All mice reacted strongly to E2 by ELISA (O.D. range between 1.3 and 3.9). The SigLE2.661VLPs elicited a strong antibody response to recombinant E2, primarily of the IgG2b isotype while the antibody response of the Alum group was primarily of the IgG3 isotype. 10/12 mice were positive by immunofluorescence.

Conclusions: The DHBV VLPs are a promising vaccine delivery vehicle as demonstrated by their ability to assembly large sequences from a wide range of human pathogens. Our study with the SigLE2.661VLPs showed that these VLPs are able to induce a strong antibody response without the need for adjuvant.

THE SPECIFICITY AND PHENOTYPE OF INTRAHEPATIC AND CIRCULATING HBV-SPECIFIC T-CELLS DIFFER IN CHRONIC HBV INFECTION

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HIV-HBV co-infection is common and is associated with higher HBV DNA viral loads, lowers ALT but enhanced rates of liver disease progression. In HBV mono-infection, HBV-specific T-cells play a key role in clearance of HBV and in the pathogenesis of liver disease. We therefore aimed to characterise the specificity and phenotype of circulating and intra-hepatic HBV-specific T-cells in individuals with liver disease secondary to HBV mono-infection and HBV-HIV co-infection.

An overlapping peptide library to the whole HBV genome (genotype Å) consisting of 15-mer peptides overlapping by 11 amino acids was synthesised. Peripheral blood and liver biopsies were collected from HBV-infected (n=5) individuals who had not received HBV-active therapy, had an HBV viral load >100,000 copies/ml, were HBeAg positive and had an ALT>2xULN. Fresh blood was stimulated with 6 HBV peptide pools (50-100 peptides per pool) and production of IFN- γ , TNF- α , IL-2 and IL-10 was detected by flow cytometry. Isolation of liver infiltrating lymphocytes (LILs) from liver biopsies was performed using a glass homogeniser. LILs were non-specifically expanded using anti-CD3 and IL-2 stimulation and HBV-specific responses were determined using HBV peptide pools as described for whole blood. PBMC from the same individual were also stimulated and cultured in parallel and the specificity of the HBVspecific response compared.

Both intrahepatic CD4⁺ and CD8⁺ T-cells were successfully expanded using anti-CD3 and IL-2 stimulation with at least 2×10^7 cells cultured after 3-4 weeks of stimulation. In untreated HBV mono-infection, the specificity and frequency of IFN- γ or TNF- α production differed in blood and expanded LILs. HBV-specific CD4⁺ and CD8⁺ T-cells that produced both TNF- α and IFN- γ were detected in fresh blood. However, in expanded LILs, only TNF- α but not IFN- γ production was detected following stimulation with all HBV peptide pools. The expanded PBMC and LILs responded to different peptide pools suggesting circulating and LILs may target different HBV epitopes.

We have established a method for examining HBV-specific responses using a multi-parameter cytokine assay for both PBMC and expanded LILs. The specificity and cytokine profile of HBV-specific intrahepatic LILs differs to circulating HBV-specific T-cells. Identification of the immuno-dominant epitopes recognised by LILs may improve our understanding of HBV-related liver disease.

RAPID ESCAPE AND REVERSION AT AN IMMUNODOMINANT SIV GAG EPITOPE IN PIGTAIL MACAQUES: EFFECTIVE CD8+ T CELLS AND BIG FITNESS COST?

 $\begin{array}{l} \underline{Smith}\ M\ Z^{\underline{1}}, \ Fernandez\ C\ S^1, \ Dale\ C\ J^1, \ De\ Rose\ R^1, \ Stratov\\ I^1, \ Lin\ J^1, \ Brooks\ A\ G^1, \ Krebs\ K^2, \ Watkins\ D\ I^2, \ O'Connor\\ D\ H^2, \ Davenport\ M\ P^3, \ Kent\ S\ J^1 \end{array}$

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The pigtail macaque (*Macaca nemestrina*) is a common animal model for evaluating candidate HIV vaccines. The pigtail macaque MHC class I allele *Mane-A*10* restricts an immunodominant SIV Gag epitope (Gag₁₆₄₋₁₇₂KP9) which rapidly mutates to escape CD8+ T cell recognition following acute SHIV infection.

We have developed techniques for the detection of Mane-A*10 in outbred pigtail macaques: reference strand-mediated conformational analysis (RSCA) and PCR with sequence-specific primers (PCR-SSP). In addition, a Mane-A*10/KP9 tetramer has been developed to enable quantification and phenotypic analysis of KP9-specific CD8+ T cells.

Viral escape rapidly occurs at the KP9 epitope in animals with the Mane-A*10 allele, with a T cell escape variant (K165R) becoming the dominant quasispecies 3-4 weeks following infection. This rapid and complete selection of the T cell escape mutant suggests a high rate of killing by KP9-specific CD8+ T cells, with the mutant virus having a growth advantage over wild-type virus of ~0.59 per day in KP9-responding animals. Interestingly, infection of macaques with a 'pre-escaped' SHIV $_{mn229}$, which contains the K165R muta-tion in the KP9 epitope, results in rapid reversion (within 2 weeks of inoculation) to wild-type sequence in macaques not responding to KP9. The K165R mutation is maintained in Mane-A*10 positive animals. The rapidity of reversion to wild-type sequence suggests a significant fitness cost of the K165R escape mutation. These calculations enable quantification of the immune pressure applied by CD8+ T cell responses directed to the KP9 epitope, and the fitness cost associated with escape.

The study of the dynamics, phenotype and viral escape of this immunodominant response in pigtail macaques will facilitate better comprehension of the role of CD8+ T cells in controlling SHIV infection. This in turn can lead to a clearer appreciation of effective immune responses against SHIV, and ultimately inform the development of better vaccines.

CONTROL OF HIV-1 BY NON-CODING RNA

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Melbourne, Parkville, VIC, Australia;

HIV-1 Env is expressed from a 4kb mRNA that retains an intron that is removed from 2kb mRNA for Tat, Rev and Nef. Despite the obvious need to retain this intron for sequence integrity of 4kb *env* mRNA, we observed that efficient Env expression from *env* cDNA clones required active and accurate splicing to remove this intron. In the context of the recent discovery of *trans*-acting non-coding RNAs such as siRNAs and microRNAs we hypothesized that the intron may act *in-trans* to support Env expression. This was tested using an assay in which splice mutants were complemented with an intron expressed *in-trans*.

An HIV-1 env cDNA expression construct was mutated at the splice acceptor site for 2kb mRNA (env Δ 7) and produced an aberrant spliced env-lariat intron that rapidly decayed compared to wildtype env-lariat intron. The Rev coding frame of $env\Delta7$ was also mutated to allow assessment of the aberrant splice event independent from Rev activity. In addition, GFP was fused to the end of Env gp160 in $env\Delta7$ so that Env expression from the unspliced 4kb env mRNA could be quantified by FACS analysis of GFP fluorescence. A 2.5-fold reduced Env expression was observed from this $env\Delta7$ splice mutant. When increasing levels of the relatively stable wildtype env-lariat intron was supplied in-trans from non-fluorescent env cDNA plasmids lacking splice site mutations the expression of Env-GFP from the env Δ 7 reporter construct was increased by up to 7.2-fold. This increase in Env-GFP reporter expression was also obtained when intron-supply plasmids contained Env mutations to prevent expression of non-fluorescent Env. Together these results provide strong evidence that the wildtype env-lariat intron is a relatively stable RNA that acts in-trans to support Env expression.

The *env*-lariat intron RNA may be processed into micro-RNA that inhibits translation of cellular proteins that limit HIV-1 Env expression. Alternatively the intron may act as decoy RNA for cellular antiviral mechanisms that target HIV-1 mRNA. Recently, some of the hundreds of micro-RNAs expressed by human cells were found to inhibit virus replication by this mechanism. Our *env*-intron assay will help to elucidate whether microRNA-mediated mechanisms underpin this novel control of HIV gene expression.

PROMOTER-TARGETED DSRNAS INDUCES HIV-1 GENE SILENCING AND *DE NOVO* CPG METHYLATION

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Short double stranded RNA (dsRNA) targeting structural and regulatory genes of HIV-1 induce RNA interference acting via a specific mRNA degradation pathway, resulting in post-transcriptional-gene-silencing (PTGS). In certain systems dsRNA can also induce transcriptional-gene-silencing (TGS). RNA directed DNA methylation of the promoter region is thought to be essential for this process. We focused effect induced by dsRNA targeting HIV-1 promoter region. We used four dsRNAs targeting different sequences within HIV-1 promoter region (HIV-prom-A, B, C, D) and a dsRNA targeting *gag* (HIV-gag), which is known to act by PTGS, were chemically synthesized. A CCR5-CXCR4-CD4+ expressing Hela cell line was infected with NL4-3. dsRNAs were transfected into cultures 6 days after infection and the culture continued until day 38.

HIV-prom-A-D suppressed HIV infection to different extents. HIV-prom-A and B induced 1000 fold reductions in NL4-3 production at day 18. This suppression lasted until at least day 38. HIV-prom-C was able to suppress HIV-1 transiently until day 15. HIV-prom-D failed to show any viral suppression. HIV-gag also induced transient suppression until day 15. HIV provial DNA was detected at day 38 in all cultures. Methylation status of provial DNA was determined by methylation sensitive restriction enzyme (Hap II) digests and bisulfite sequencing for DNA extracted from dav-38 culture. DNA methylation analysis of 7 CpG sites within the HIV-1 promoter showed that HIV-prom-A and B induced intensive complete de novo methylation at 6 and 5 of these sites respectively. HIV-prom-C, induced partial DNA methylation at 4 CpG sites and HIV-prom-D induced partial DNA methylation at only 2. HIV-gag did not induce any significant DNA methylation at any of these CpG sites. The methylation inhibitor, 5-aza-C, reversed the dsRNA induced silencing effect by HIV-prom-A. The nuclear run-off assay revealed dsRNA HIV-prom-A specifically inhibited transcription of HIV genes. Suppression induced by HIVprom-A was very specific: HIV-2 infection could not be suppressed. TGS of HIV expression can be achieved via a dsRNA targeting the HIV promoter region. The efficacy of silencing depends on the sequences targeted. CpG methylation patterns correlate with the extent of viral suppression. TGS induces prolonged HIV-1 suppression compared with dsRNA inducing PTGS.

CONCURRENT SESSION – CLINICALMEDICINE – ADVANCES IN THERAPY – 3.30 pm – 5.00 pm

TIME TO COMMENCE LONG-TERM ANTIRETROVIRAL THERAPY, FOR PATIENTS WHO WERE TREATED AT PRIMARY HIV INFECTION (PHI), ACHIEVED VIROLOGICAL SUPPRESSION, AND THEN FOLLOWED A STRUCTURED INTERRUPTION STRATEGY (STI).

<u>Grey P</u>¹, Smith D¹, Bloch M², McFarlane R³, Finlayson R⁴, Doong N⁵, Chuah J⁶, Carr A⁸ Cooper D A¹, Kelleher A⁷ and the Pulse Study Team.

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Eradication of HIV appears increasingly unlikely with the current therapeutic approaches. The idea of people remaining on therapy for many years is a daunting one, with serious side effects already showing up with current regimens. Therefore it seems essential that strategies whereby treatment can be suspended for extended periods of time be evaluated.

One of these strategies is the use of STI to stimulate virological control.

To determine whether STIs would be beneficial, the Pulse study enrolled a group of patients identified at PHI and commenced on antiretroviral regimen (ARV) of (indinavir 800mg bd, ritonavir 100mg bd, didanosine 400mg od, and either stavudine 40 mg bd or lamivudine 150 mg bd) they were randomized 1:1 to hydroxyurea 500mg bd or not. ARVs were administered for 24 to 52 weeks followed by up to 3 STI. Therapy was reinitiated during STI if viral load reached >5000copies/mL.

68 male patients median age 35.5 commenced protocol treatment during acute or early PHI 43% acute and 57% early. These patients had a baseline median of 4 Western Blot bands and 5 PHI symptoms. 92% had at least one PHI symptom, 67% had 5 or more symptoms. Baseline median viral load and CD4 were 605,200 copies/mL and 513 cells/ µl respectively. Patients were followed for a median of 150 weeks (range 70-255 weeks), and treated on protocol ARVs for a median of 48 weeks. 25 had one interruption, 6 had 2 and 37 patients had 3. Hydroyurea in a previous analysis was found not to influence virological control. 22 patients (after a median of 97 weeks from baseline) commenced long term treatment (LTX). Last median viral load before instigation of LTX was (33,100 copies/mL). Median viral load and CD4 at last f/u for 66 patients was 11,630copies/mL and 494cells/ul. Over the median f/u time of 150 weeks (range 70-255 weeks) since baseline patients spent a median of 74 weeks off ARV's.

During the first 3 years of HIV infection following PHI one third of the patients initiated LXT after a STI strategy. Median time to commencement of this therapy for these patients from baseline was 97 weeks.

THE ROLE OF HYDROXYUREA IN ENHANCING THE VIROLOGICAL CONTROL ACHIEVED THROUGH STRUCTURED TREATMENT INTERRUPTION (STI) IN PRIMARY HIV INFECTION (PHI): FINAL RESULTS FROM A RANDOMIZED CLINICAL TRIAL (PULSE)

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Structured treatment interruptions (STIs) have been postulated to improve virological control in PHI by stimulating HIV-specific immunity. Virological control may be enhanced using hydroxyurea (HU), an immuno-modulator which suppresses T-lymphocyte activation.

To determine whether virological control could be enhanced through the addition of hydroxyurea to an STI regimen commenced during primary infection, patients received a standardized ARV regimen: (indinavir 800mg bd, ritonavir 100mg bd, didanosine 400mg od, and either stavudine 40mg bd or lamivudine 150mg bd) and were randomized 1:1 to HU 500mg bd or not in an open-label clinical trial. ARV therapy was administered for up to 12 months followed by up to 3 STIs. Re-initiation of ARV after each interruption was determined by virological rebound to >5000 RNA copies/ml. The primary endpoint was virological control (HIV-RNA consistently <5000 copies/ml) at 2 years after initiation of ARV.

68 homosexual males (mean age 35 years) were randomized, 35 to ARV + HU and 33 to ARV alone. Therapy was commenced during acute primary infection (<4 bands on Western Blot (WB)) in 42.7% and during early (positive WB with negative HIV antibody test within previous six months) in the remainder. Median baseline HIV-RNA was $\log_{10} 5.73$ copies/ml and median CD4 T-lymphocyte count was 517 cells/ul.

There was no significant difference in the number of patients achieving virological control between those receiving and not receiving HU, with 9 (25.7%) and 9 (27.3%) respectively suppressed in each group, (p=0.88).

Virological control was achieved by 11/59 (19%) after one STI, 1/41 (2%) of those remaining after two STIs, and 6/36 (17%) after the third STI.

Serious adverse events (SAEs) were recorded for 9/35 (25.7%) of patients using HU and 3/33 (9%) in the ARV only group. CD4 cell increases were significantly blunted for the HU group compared to the ARV alone group during the initial treatment phase (+ 100 cells vs +195 cells respectively, p=0.007).

Hydroxyurea was not beneficial when used in association with STIs in patients during PHI. However, it contributed substantially to a reduction in CD4 recovery and more SAEs.

FINAL RESULTS FROM THE ALLIANCE STUDY (ML16992) - A 96 WEEK, OPEN-LABEL STUDY TO DESCRIBE THE EFFICACY AND SAFETY OF ENFUVIRTIDE IN PATIENTS CHANGING THERAPY TO AN NRTI-SPARING REGIMEN

<u>Dwyer D E¹</u>, Workman C², Amin J³, Connor S³, Emery S³, Hales G⁴, Miller J⁴ and Cooper D A³ on behalf of the Alliance Study investigators

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NRTI adverse effects restrict their long term use in HIV-1 therapy. Enfuvirtide (ENF) may be useful in NRTI-sparing treatment regimens.

HIV positive, triple-class experienced patients were enrolled to receive enfuvirtide (90mg sc bd) plus optimised NRTIsparing antiretroviral therapies for 96 weeks. The primary endpoint was change in plasma HIV load (VL) to 96 weeks. Secondary endpoints included changes in CD4+ T-cell count, body imaging (DEXA) studies, metabolic parameters and safety. Primary analyses were performed by intention to treat. We examined whether baseline variables were associated with virologic outcomes at week 96 and injection site reactions (ISR) at week 48 regression analyses on available data.

59 subjects were enrolled and 46 completed assessments at week 96 (9 withdrew consent, 3 died and 1 was lost to follow-up). Mean age was 46.9 years, 97% were male and 58% were classified as CDC-C. Mean duration of antiretroviral (ARV) therapy was 9 years with mean exposure to 9 ARVs. Twenty-four patients recommenced NRTIs over 96 weeks. During 96 weeks there was a mean decrease in VL of 1.36 log copies/mL (p<0.001) and an increase in CD4+ T-cell count of 67 cells/µL (p=0.0019). At week 96, 44% of patients had a VL <400 copies/mL (95% CI =31.2-57.6). Body fat and lean mass increased (0.2 Kg, p<0.65 and 2.6Kg, p<0.001 respectively). There were no clinically relevant changes in laboratory metabolic and safety parameters. Fifteen (25 %) patients permanently discontinued ENF. On available data, baseline genotypic sensitivity score (GSS) >1 was significantly associated with an undetectable VL at week 96 (OR 13.2, p<0.001). During the first 48 weeks we observed significant associations for ISR with both baseline peripheral lipodystrophy (p=0.014) and CD4+ cell count (p<0.001).

Heavily pre-treated patients experienced significant decreases in VL and increases in CD4 + T-cell counts following commencement of study therapy. More than half of the cohort maintained undetectable VL levels to 96 weeks. These data suggest that low CD4+ cell count and severe peripheral lipoatrophy are associated with increasing ISR frequency and severity respectively.

CYCLING WITH RECOMBINANT INTERLEUKIN-2 (RIL-2) IN ESPRIT AND SILCAAT

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Predicted differences in clinical disease progression rates are based upon CD4+ T-cell differences of ≥ 200 and 150 cells/ μ L between the rIL-2 and non-rIL-2 arms in ESPRIT and SILCAAT respectively. After rIL-2 induction in year one, rIL-2-cycles are given to achieve/sustain the protocol specified CD4+ T-cell goals. rIL-2 toxicities may be contributing to the lower than expected rIL-2 uptake during the maintenance period.

The cycling initiative was undertaken in ESPRIT and SILCAAT to assess the use of rIL-2, factors associated with rIL-2 cycling and opportunities for interventions to increase rIL-2 uptake. Results of the cycling initiative were summarised.

Between 16-34% (ESPRIT) and 41-70% (SILCAAT) rIL-2 patients were at or above their CD4+ T-cell goal, with marked geographical differences. Of those rIL-2 participants not cycling with rIL-2 (in both studies), 10% had medical contraindications to further rIL-2 receipt. Using the pooled data from rIL-2 patients in SILCAAT and ESPRIT, 41% (665/1625) indicated they would cycle again with rIL-2 and 59% (950/1625) would not. Those indicating they would cycle again (n=665) had lower median baseline CD4+ T-cells (395 vs. 409 cells/µL), had received more prior rIL-2 cycles (5 vs. 3), more rIL-2 per cycle (61.6 vs. 58.6 MIU), experienced less dose-modifying toxicity (43.6 vs. 48%) and had a greater median change in CD4+ T-cells from baseline $(180 \text{ vs. } 134 \text{ cells}/\mu\text{L})$ than those who would not cycle again. Reasons for non-cycling were "patient wish", CD4+ T-cells "high enough", previous rIL-2-toxicity, cycling fatigue and small CD4+ T-cell response. Only, 66% and 34% in ESPRIT and SILCAAT respectively adhered to the prophylactic use of protocol-specified adjunctive agents (paracetamol plus a non-steroidal antiinflammatory agent) to reduce rIL-2 toxicity.

In both studies, appreciable numbers of rIL-2 patients are not currently at CD4+ T-cell goal. Moreover, levels of repeat cycling are insufficient to achieve/maintain the CD4+ at levels recommended by both protocols and non-adherence with toxicity management is common. rIL-2 toxicity probably underlies most of the cited reasons for non-cycling. Ongoing receipt of rIL-2 is critical for the success of both studies. Encouraging adherence to current toxicity guidelines and exploring even better ways to control toxicity are essential.

ATAZANAVIR PLASMA CONCENTRATIONS VARY SIGNIFICANTLY BETWEEN PATIENTS AND CORRELATE WITH INCREASED SERUM BILIRUBIN CONCENTRATIONS

Smith D¹, <u>Sarangapany J¹</u>, Ray J² ¹Albion Street Centre, Sydney, NSW, Australia; ²St. Vincent's Hospital, Sydney, NSW, Australia

Introduction: Atazanavir (ATV) is a relatively new protease inhibitor, that is recommended to be dosed at 300mg daily coadministered with 100mg ritonavir (RTV). Target ATV trough concentrations to suppress HIV have been estimated to be around 100-150ng/mL.

Methods: All patients receiving an ATV/RTV containing combination for more than 2 weeks had ATV concentrations measured by HPLC. Repeated samples were taken if dose adjustment occurred. ATV concentrations were adjusted to obtain a 24-hour trough level using a population decay curve model. A concentration of 150 ng/mL was considered optimal. Total serum bilirubin concentrations were measured contemporaneously.

Results: 31 male subjects with a mean age of 49 years were studied. The mean duration of HIV infection was 14 years and duration of prior ART was 9.3 years. Twenty-six samples were taken on patients receiving 300mg ATV, 6 with 200mg, 3 with 400mg and 2 with 150 mg; all with 100mg RTV. The median adjusted 24 hour ATV concentration was 630 ng/mL with a large interpatient variation (IQR 702). Median serum bilirubin concentrations were 34 IU/L (IQR 24; normal range <25 mmol/L). High ATV concentrations were significantly correlated with increased serum bilirubin concentrations (correlation rho=0.54, p<0.01).

Conclusions: ATV concentrations vary considerably between patients, with the majority above the target trough concentration. Total serum bilirubin concentrations may be an indicator of high ATV concentrations. TDM may prove to be a useful tool to adjust ATV dose, however further evidence is needed.

ATAZANAVIR TROUGH PLASMA CONCENTRATION MONITORING IN A COHORT OF HIV-1 POSITIVE INDIVIDUALS RECEIVING HIGHLY ACTIVE ANTIRETROVIRAL THERAPY.

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Atazanavir (ATV) is a recently approved HIV protease inhibitor (PI). As with other PIs, careful attention to potential pharmacokinetic drug interactions in clinical practice is necessary. The aim of this study was to assess the clinical associations with plasma ATV concentrations in HIV positive individuals.

Individuals established on an ATV containing regimen, completed an interviewer administered questionnaire recording ATV dosing characteristics, concomitant medication use and adherence. After completion, plasma ATV concentrations were measured.

Of 100 individuals, mean trough plasma ATV concentrations (μ g/L) were 282 (95%CI 95–468, n=19) and 774 (95%CI 646–902, n=81) in those on non- and ritonavir(RTV) boosted ATV regimens respectively. Eighty-five individuals had HIV RNA <50 copies/mL. Seven individuals had ATV plasma concentrations below the assay limit of detection (<50 μ g/L) all of whom had an undetectable plasma HIV RNA. In a multivariate analysis nevirapine use was associated with significantly lower trough ATV concentrations (p=0.011) and lopinavir/r use with higher trough ATV concentrations (p=0.032). Dosing characteristics (including food taken), concomitant medications (including drugs used for dyspepsia) and HIV RNA were not significantly associated with trough ATV concentrations.

In this cohort, despite the wide inter-individual variability of ATV trough concentrations, no significant association with dosing characteristics, concomitant medication (with the exception of nevirapine and lopinavir/r) or virological response was observed. Further work is needed to assess the optimal dosing regimen when using ATV with nevirapine.

ashm2005hobart

CONCURRENT SESSION – EPIDEMIOLOGY – MSM – MARGARET MACDONALD MEMORIAL SESSION – 3.30 pm – 5.00 pm

CHANGING BEHAVIOURS IN MEN WHO HAVE SEX WITH MEN: PUBLIC HEALTH CHALLENGES IN THE ERA OF HAART

Johnson, A1

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Background

There are concerns in a number of countries that increased sexual risk behaviour and STI transmission amongst MSM may reverse the gains in reduced HIV incidence evident in the 1980s.

Objectives

To review data on behaviour change and STI incidents among MSM in Britain in the last 10 years and impact on incident HIV.

Methods

Analysis of data from the British National Survey of Sexual Attitudes and Lifestyles, 1990 and 2000; the Gay Men's Health Survey in London 1997-2003; and routine STI and HIV surveillance data.

Results

Prevalence of HIV infection has increased in Britain as a result of improved survival on ART. While ART may result in reduced infectivity, the combination of increased prevalence, increased risk behaviours, increased STI incidence and an increase in the number of men having sex with men may counterbalance any gains from reduced infectivity, resulting in constant rates of new HIV infection.

Conclusion

Ongoing prevention initiatives need to be integrated with the roll out of ART if new HIV cases are to be curtailed. Particular focus should be on interventions amongst those diagnosed positive as an integral part of their ongoing care.

RISK FACTORS FOR HIV SEROCONVERSION IN HOMOSEXUAL MEN IN AUSTRALIA

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Sexual contact between men accounts for 85% of newly acquired HIV infections in Australia. Accurate knowledge of risk factors for HIV infection within this population is important for informing HIV prevention education.

In order to investigate behavioural risk factors for HIV seroconversion among gay and bisexual men from Sydney and Melbourne, Australia, 103 men with newly acquired HIV infection were recruited from clinics. Behavioural risk factor questionnaires were administered between January 2003 and October 2004. Results were compared with a cross sectional and a cohort study performed by our group that enrolled similar populations of men.

The majority of seroconverters (73%) reported more than five sexual partners in the last 6 months. Ninety-five men (92%) were able to identify a high-risk event (HRE) which they thought had led to their HIV seroconversion. Most (70%) reported receptive unprotected anal intercourse (UAI), insertive UAI, or both at their HRE. Sixteen men (16%) reported no UAI in the preceding six months including the HRE. Men were more likely to report receptive UAI at their HRE when they perceived a partner to be HIV-negative as compared with when they perceived a partner to be HIV-positive (p = 0.05). Injection drug use was reported by 22% of the men in the previous six months, and 62% reported intoxication with alcohol (\geq 5 drinks) or mood altering recreational drug use at the HRE.

Gay and bisexual men who have recently seroconverted are highly sexually active and report high rates of unprotected anal intercourse and recreational drug and alcohol use at the HRE.

INCIDENCE AND RISK FACTORS FOR HIV INFECTION IN THE HEALTH IN MEN (HIM) COHORT

<u>Jin F¹</u>; Prestage G¹; Mao L²; Kippax S²; Kaldor J¹; Grulich A¹ on behalf of the Australian-Thai HIV Vaccine Consortium ¹National Centre in HIV Epidemiology and Clinical Research, UNSW; ²National Centre in HIV Social Research, UNSW, Sydney, NSW, Australia

Homosexual men continue to be the main population affected by HIV infection in Australia. Data on risk factors are important in informing prevention education. We examined risk factors for HIV infection in homosexual men within the HIM cohort.

The HIM study is an open, community-based cohort study of HIV-negative gay men in Sydney, which commenced in 2001. All participants undergo annual HIV testing and interviews twice a year regarding their sexual behaviour, sexual health, recreational drug use as well as demographics. Participants are matched against the National HIV Register to ensure all participants who are diagnosed with HIV are included in analyses.

A total of 1,427 participants were enrolled, and by the end of 2004, the total follow-up was 2,721 person-years (PY). There were 24 confirmed HIV seroconversions, giving an incidence of 0.88 per 100 PY. Men who reported a HIV-positive regular partner had significantly higher rate of seroconversion (3.53 per 100PY) than those whose regular partner was HIV-negative (0.64 per 100 PY, p=0.001). Unprotected anal intercourse (UAI) was significantly associated with HIV seroconversion: comparing with those who reported no UAI, those who reported UAI with casual partners (hazard ratio (HR) =6.62, 95% CI 1.82-24.10), receptive UAI (HR=5.87, 95% CI 1.74-19.84), and UAI with HIV positive partners (HR=26.15, 95% CI 6.93-98.63) were more likely to seroconvert to HIV. HIV seroconversion was also associated with having more casual partners in the last six months (p trend=0.009) and past use of PEP (non-occupational post-exposure prophylaxis; HR=3.67, 95% CI 1.52-8.86).

HIV incidence in homosexual men in the centre of Australia's largest gay community is about 1%. Engaging in UAI, in a variety of contexts, is still the major risk factor that puts men at greater risk of HIV infection. These results emphasise the importance of continuing to promote safe sex in HIV prevention education.

HIV SENTINEL SURVEILLANCE IN VICTORIA – A PILOT STUDY

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HIV Surveillance in Victoria involves "case reporting" of all new diagnoses of HIV by doctors and laboratories to the Burnet (on behalf of the Department of Human Services). Brief risk behaviour information is also routinely collected on each case. Case reporting is simple, requires minimal resources however the data generated can sometimes be difficult to interpret as it is can be influenced by testing behaviour. Sentinel surveillance involves the tracking of HIV of infection levels in populations through sentinel sites and can overcome biases introduced by testing behaviour. To strengthen the current surveillance we implemented a pilot study of "linked" HIV sentinel surveillance among men who have sex with men (MSM) in Victoria.

The study was conducted between 1 April 2004 and 31 March 2005. Five sentinel sites (4 metropolitan, 1 regional,) were chosen with high case load of MSM and the willingness of the clinics to participate. Clients receiving HIV testing as part of normal clinical management were interviewed by their doctor using a brief questionnaire added to the standard HIV laboratory request form. The information collected included demographic data, HIV and STI testing history and sexual risk behaviour information. Questionnaire data were merged with HIV laboratory results.

In 12 months, 3537 questionnaires were completed; 2366 (67%) among MSM (excluding sex workers). The median age of MSM was 36 years (range: 16 to 80), 91% resided in Metropolitan Melbourne and 77% were born in Australia. The incidence of HIV among MSM was 1.3% (n=31). Fifty-nine per cent of MSM reported unprotected anal intercourse (UAI) and this proportion showed little change across age groups. MSM that reported UAI were also more likely to have had a previous negative HIV test within the last year (OR 1.7, 95% CI 1.4-2.0). Of MSM who reported UAI, 46% reported UAI with partners of unknown HIV status, 12% with HIV positive partners and 53% with HIV negative partners.

This is the first extensive linked HIV sentinel surveillance system in Australia. Sentinel surveillance may provide useful risk behaviour information from both HIV cases and non-cases during testing. The results will inform the design of the upcoming sentinel surveillance project which will incorporate chlamydia and hepatitis C and be expanded to 15 sites across Victoria over the next three years.

SEXUALLY TRANSMITTED INFECTIONS IN A COHORT OF HIV POSITIVE GAY MEN IN SYDNEY

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In Australia, levels of sexual risk behaviour in HIV positive gay men have been demonstrated to be higher than in HIV negative gay men. Whether or not this is reflected in a higher prevalence of sexually transmitted infections (STI) in this population is uncertain.

Approximately 200 men from the Positive Health community-based cohort of HIV positive gay men from Sydney are currently being tested for gonorrhoea and chlamydia (Becton-Dickinson nucleic acid amplification); and syphilis, hepatitis A virus (HAV), and hepatitis B virus (HBV; all by ELISA, with confirmatory tests for syphilis and hepatitis B). As of May 2005, data were available on 82 participants.

Of 108 participants invited to participate, 82 participants agreed to screening for STI. To date, 5.0% of men have tested positive for pharyngeal gonorrhoea, while none have tested positive for pharyngeal chlamydia; 6.4% had evidence of rectal chlamydia, while none tested positive for rectal gonorrhoea. No men had evidence of urethral gonorrhoea infection, and 2.6% were positive for urethral chlamydia. Fifteen of 78 men (19.2%) tested positive by syphilis enzyme immunoassay. One of these men did not report prior diagnosis and treatment. 5.1% reported syphilis infection and treatment in the preceding 12 months. 24.6% were non-immune to HBV, whereas 24.6% had been vaccinated and 44.6% had evidence of prior infection. 4.6% have evidence of chronic HBV infection. One-third of men showed either equivocal or no immunity to HAV.

The high rate of recent incident syphilis infection indicates that this community-based cohort of HIV positive gay men is at high-risk of STI. This suggests the need for more appropriate diagnosis and treatment of STI in this at-risk population.

CONCURRENT SESSION – CURRENT ISSUES IN PRIMARY CARE – PETER MEESE MEMORIAL SESSION

– 3.30 pm – 5.00 pm

A MODEL FOR RURAL HIV SERVICE DELIVERY – A VICTORIAN PERSPECTIVE.

Blyth K¹, Harte D K¹, Vujovic O¹

¹Victorian HIV Consultancy, The Alfred, Melbourne, VIC, Australia

Traditionally, a number of challenges have faced those professionals involved in the delivery of health care in rural areas, including issues of access to primary care (shortages of general practitioners in many areas) and access to specialist care (often visiting services at best). The era of highly active antiretroviral therapy has heralded a number of changes in the provision of care to people living with HIV/AIDS (PLWHA), including a shift from hospital-based care to a community-based paradigm and emergence of HIV incident infections in new populations. Geographic isolation complicates these contemporary care needs. Specific issues related to HIV care delivery in general are compounded in rural areas, including concerns regarding confidentiality, fear of discrimination, concerns regarding competence of generic health care services, access to specialist services (S100 prescribers) and lack of access to peer support programs.

The Victorian HIV Consultancy (VHIVC) comprises a small multidisciplinary team (clinical nurse consultant, clinical psychologist and physician) with a statewide brief. Originally established to support end-of-life care needs of PLWHA and their carers, the VHIVC now has a focus that additionally includes the complex and continuing care needs of PLWHA, especially those with limited access to mainstream HIV services. The VHIVC model is based upon the provision of a consultation service to PLWHA, health professionals and community workers.

During the last three years both referrals of rural PLWHA and consultation requests from rural practitioners have increased. In response the VHIVC team has developed initiatives to support care provision in rural areas, targeting geographic areas of need in the first instance. The threepronged approach adopted includes: (1) development of a network of healthcare practitioners with an interest in HIV, (2) provision of a secondary consultation service to rural health care professionals and (3) delivery of a rural education program. The latter has been in collaboration with the ASHM-Alfred GP education program and has built upon this by the introduction of a multidisciplinary focus. The outcomes of these initiatives, along with specific examples, will be described in detail. An unanticipated and highly welcome outcome has been the recruitment of rural general practitioners to the S100 prescriber training program.

IMPROVING RURAL-BASED HIV CASE MANAGEMENT FOR COMPLEX CLIENTS THROUGH THE TELEHEALTH NETWORK OF NEW SOUTH WALES

 $\frac{Attwood \ R^{\, l}}{Parsons \ V^{l}}, \ Cole \ G^{l}, \ Thompson \ J^{l}, \ Ditzell \ P^{l}, \ Holmes \ M^{l}, \ Parsons \ V^{l}$

¹ADAHPT, Sydney Hospital and Sydney Eye Hospital, Sydney, NSW, Australia

ADAHPT, a state-wide tertiary HIV outreach team, continues to work alongside HIV (and non-HIV) funded agencies across New South Wales (NSW) to ensure that complex and/or challenging patients are provided with every opportunity to receive appropriate care and treatment from the health system.

The reasons behind the complexity vary and can be attributed to the diagnoses as well as the impact of the diagnoses on a person's ability to manage their day-to-day life. Other factors can include the geographical location of the patient, gaps in resources locally available to meet a patient's need, and staffing as some examples.

To improve the capacity of rural-based agencies to case manage people with HIV and complex needs, ADAHPT submitted a business case through the NSW Health Telehealth Funding Invitation 2004/05 for a Telehealth project. Announced in August 2004, ADAHPT was successful and has received a seeding grant to establish the provision of HIV Case Management via the existing NSW Telehealth network.

A range of services provided by ADAHPT will be available via Telehealth, which is seen as a supplement to current face-to-face service provision and will include clinical advice, consultation, peer support, education and training.

Some of the key objectives of this project are seen as: improve access by rural and regional based agencies to ADAHPT, improve access by patients to specialist HIV/ AIDS services, improve case management skills of health professionals, maintain quality and safety in health service delivery, improve the networking of locally-based services, improve local clinical effectiveness, build collegiate networks and reduce the isolation faced by some rural workers.

This presentation will provide a more detailed overview regarding the nature and purpose of the project. The presentation will highlight the project's current status, describe in more detail the structure and operational aspects as well as highlighting the evaluation components of the project.

EXAMINING AND IDENTIFYING TRENDS IN SYPHILIS NOTIFICATIONS IN NORTHERN NSW: WHAT IS INVOLVED FOR RURAL CLIENTS ACCESSING SERVICES FOR SEXUALLY TRANSMITTED INFECTIONS (STIS)?

<u>Fisher K¹</u>, Jamieson M², Hussain R¹, Minichiello V¹ ¹University New England, School of Health, Armidale, NSW, Australia; ²Greater Southern Area Health Service, NSW, Australia

This research aims to improve understanding and surveillance of syphilis in rural and remote communities in Northern NSW. While simultaneously, examining the factors involved and the experiences of people with an STI in accessing health care.

Preliminary findings will be discussed which includes the difficulties and issues related to research in rural areas. Syphilis notifications over a ten year period from 1994 to 2004 in Northern NSW were extracted from NSW Health Notifiable Diseases Database for the geographic area covered by the Hunter New England Area Health Service, Northern Area. This study uses the Index of Relative Socioeconomic Disadvantage developed by the Australian Bureau of Statistics.

The sample consisted of 254 notifications for the Hunter New England Northern Area over the 10 year period. Preliminary results show that notifications were highest in the most disadvantaged areas with high levels of advantage associated with lower numbers of notifications for syphilis <1 year duration. Reported rates of syphilis declined from 1996 until 2001 when the trend began to reverse. People aged between 15-29 years had a prevalence proportion of 5.2 per 1,000 population compared to 0.8 for those over the age of 30 years. The reported rate of infection is higher among women than men. Questions raised from this analysis will be explored in further detail in in-depth interviews with approx 40-60 people.

The study reveals there a number of differentials in the notification of syphilis. The implications of this study for policy and practice highlights that people under the age of 30 years and those from disadvantaged areas require extra targeting to reduce syphilis infection. In addition, the challenge of research in rural areas, coupled with hidden nature of STIs and the isolated and scattered nature of the population with STIs in rural areas make access to people for research purposes complex.

STILL IMMUNE TO THE MESSAGE? PRELIMINARY RESULTS FROM THE SYDNEY GAY MEN'S HEPATITIS VACCINATION PILOT PROJECT

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Sydney has experienced two hepatitis A outbreaks in the past decade. Research indicates significant numbers of gay men, especially younger gay men, have never been vaccinated nor exposed to Hepatitis A or B. Innovative initiatives beyond social marketing campaigns may overcome barriers to vaccination including procrastination and cost. This pilot study aimed to ascertain the feasibility and impact of targeting vouchers for free hepatitis A & B vaccines to sub-groups of gay men.

Vouchers for free hepatitis A & B vaccinations were distributed over 6 months to young gay men and patrons of Sex on Premises Venues (SOPVs) to increase access to vaccinations. Venues, social groups, universities and mailing lists utilised various distribution methods from passive displays to proactive handouts. Numbered vouchers were tracked by venues and distribution methods to assess best return rates. A parallel community vaccination campaign was conducted. Participants redeeming the vouchers completed a brief questionnaire and details of STI testing, Hepatitis vaccination and GP referrals were recorded.

Since October 2004, 6000 vouchers distributed between 108 locations remain in circulation. Eighty-four vouchers were redeemed (~1.4%) by the expiry date 30 March 2005. Return rates varied by location from 0% to 5.7%. The largest proportion of redeemed vouchers (54.8%) was from SOPVs. Patrons from a single venue with intensive voucher promotion composed 29.8% of participants. GPs referred several participants for vaccination (16.7%). Youth (9.5%) were still difficult to reach. In conclusion, vouchers for free vaccinations provided a modest incentive for targeted populations unless combined with highly proactive promotion at venues.

PASSING THE TESTS?: INNER SYDNEY GENERAL PRACTITIONERS (GPS) AND USE OF STI TESTING GUIDELINES FOR MEN WHO HAVE SEX WITH MEN (MSM)

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Background: There are high rates of sexually transmissible infections (STIs) among MSM in inner Sydney. STIGMA, a three-year partnership of health care providers, has implemented strategies to increase regular testing of MSM for STIs by 'STI testing guidelines for MSM' for clinicians and parallel community campaigns for MSM.

Objectives: To determine the level to which the MSM STI testing guidelines are being followed by inner city GPs and determine barriers to their use.

Method: A questionnaire was sent to 79 GPs and sexual health physicians who provide primary health care to MSM in inner Sydney. The questionnaire requested self assessment of screening practices with MSM clients, awareness of the guidelines and comments about barriers testing.

Results: The response rate was 63.3 %. Approximately 2/3 of GPs were located in 'gay' Sydney'suburbs of Darlinghurst and Surry Hills. Eighty percent of GPs had received copies of the guidelines. The majority indicated they would follow guidelines for asymptomatic (72.5%) and symptomatic (80.4%) MSM patients presenting for check ups. Genital tests were less often included than serology. However, smaller proportions of doctors reported requesting STI tests when non-sexual health problems were present (43.1%) or utilising less invasive testing strategies such as self collected anal swabs (21.6%).

Conclusions: There was high familiarity with STI testing guidelines for MSM in inner Sydney primary care, although a reluctance to suggest patients self-collect genital tests. Detailed results, including the opinions on barriers, and planned strategies to overcome barriers to STI testing in GPs will be discussed.

A CROSS SECTIONAL STUDY OF ACCESS AND USE OF HIV INFORMATION BY HIV POSITIVE PEOPLE IN SYDNEY

Whately Y E¹, Garsia R², McMurchie M^{3,4}

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Information is important for people who are living with a chronic illness, especially an illness in which medication and treatment options are changing constantly. People living with HIV are expected to make informed choices concerning their treatment, and people may require differing levels of knowledge and understanding in order to make those decisions. Physicians have an important role to play in effectively providing information. Even though the large majority of HIV positive people in Sydney are attached to the gay community, HIV positive people are not a homogenous group. As such, no single source of information will be adequate for every HIV positive person. This study aimed to examine the use of information sources by HIV positive people in Sydney and the role that doctors play in providing and applying this information.

A convenience sample of 52 patients was recruited from two study sites, an inner city general practice with an high HIV case load and an HIV clinic of an inner Sydney tertiary referral hospital. Standardised interviews were conducted based on a questionnaire. A wide variety of qualititative and quantative date were collected.

The study revealed that respondents used a wide variety of information sources regarding HIV/AIDS. Although people attached to the gay community in Sydney may have greater exposure to HIV education programmes and information, there are few differences in their informational needs at the time of diagnosis with HIV. The majority of participants nominated their doctor as their most useful source of information. Even where participants cited other sources as most useful for them, they reported that their doctor was important in helping them to determine the value of information from other sources throughout the course of the disease. This ultimately impacts on the HIV positive person's decision-making process. These findings and further research into this process may better equip doctors to effectively meet these information needs.

NEGOTIATING THE LAW - SERVICE PROVIDERS' DUTIES TO THIRD PARTIES

<u>Puls D N¹</u>

¹HIV/AIDS Legal Centre, Sydney, NSW, Australia

We live increasingly in a world where the duty of professionals extends beyond a duty isolated to the client or patient of the service provider. Increasingly third parties – often the sexual partner of a client or patient – are seeking to argue that they are owed a duty by the service provider as well.

In Australia there have been at least two instances where the courts have been required to turn their minds to the duty owed by a doctor to a person outside the doctor/patient relationship. Both cases involve the sexual partner of a patient becoming infected with HIV. In one case the partner was also a patient of the practice, and the circumstances of the case included both partners having a joint consultation where they sought testing for HIV. The second case was brought against a doctor by the partner of an HIV positive man. The partner had never been a patient of the doctor or the practice involved.

In both cases it was argued that the doctor owed the third party a duty of care, and in both cases the infected party was successful in suing the doctor for damages.

Were these decisions reasonable? Has the court now placed an unreasonable burden on doctors to protect third parties they may have never met? What does this mean for contact tracing? What should a service provider do where there is a question of a person being a danger to public health? How does this impact on a doctor's duty to maintain confidentiality?

At a time when service providers' duties are increasingly more difficult to define, and laws around confidentiality and privacy increasingly complex, this paper examines these decisions and their impact on medical practice and other health service providers; and the balance of competing duties required by service providers in order to protect their patients, clients, third parties and their selves. CONCURRENT SESSION – INTERNATIONAL – PNG – 3.30 pm – 5.00 pm

RESPONDING TO THE HIV/AIDS EPIDEMIC IN PAPUA NEW GUINEA: HOPE WORLDWIDE (PNG)'S ACTIVITIES

Dennis J¹, Lesley J¹, Treppe Y¹, Maniara N¹, Kose A¹, Onguglo A¹, Opu D¹, Benny R¹, White B¹, Ogle G D^{1,2} ¹HOPE *worldwide* (PNG), Port Moresby, Papua New Guinea; ²HOPE *worldwide* (Australia), North Epping, NSW, Australia

Papua New Guinea (PNG) is in the early stages of a devastating HIV epidemic. Prevalence of HIV in adults is estimated to be 1-1.3% and rising. Education is paramount to limit the epidemic's impact.

HOPE worldwide (PNG) is a Christian non-government organization with a range of medical and educational programs. Our HIV program began in 1997. We conduct education in high risk groups in and around Port Moresby. Our main efforts have been: 1) community education in squatter settlements – in 2004, sessions were held in 64 locations educating 9,383 residents; 2) school student education – reproductive health and HIV/AIDS education to essentially all Grade 6-8 students in Port Moresby – in 2004, 798 sessions in 43 schools educating 11,819 students; 3) mass community education days; and 4) condom distribution.

In 2004 we commenced: 3) Voluntary Counselling and Testing (VCT) at our Nine Mine Urban Clinic for all antenatal mothers, as well as patients with suggestive clinical features, and others concerned about their status. Positive mother are referred for maternal-child transmission intervention. This provides us with local seroprevalence data – HIV prevalence amongst antenatal mothers is around 1%, consistent with national figures; 4) a clinic to provide care for people living with HIV/AIDS (PLWHA); 5) a sex-worker desk to provide counselling and treatment of sexually transmitted infections for sex workers and their clients; and 6) a peer education program. We thank the PNG National AIDS Council/National HIV/AIDS Support Project and other donors who fund our work.

Various challenges, including cultural sensitivities concerning discussion of sexual matters, lack of local experience in VCT, and also Port Moresby's unique security issues have been overcome. In the next year, we plan to introduce 7) a condom distribution program in trade stores, 8) an interactive panel maze to facilitate the school education program, 9) expand support for PLWHA, 10) a youth-friendly service, and 11) extension of education activities to rural districts in the highlands.

CARING FOR PEOPLE WITH HIV: A CAPACITY BUILDING PROGRAM FOR HEALTH CARE TEAMS IN PAPUA NEW GUINEA

Reid, E.¹, McCallum, L.², Kelly, A.³, McCoy, R.⁴, <u>Martin,</u> <u>C. ⁵</u>.

¹Visiting Fellow, Gender Relations Centre, ANU, Canberra, ACT, Australia; ² AIDS Project Management Group, Geneva, Switzerland; ³Australian Research Centre in Sex, Health and Society, LaTrobe University, Melbourne, VIC, Australia; ⁴ HIV Primary Care Consultant, Sydney, NSW, Australia; ⁵ HIV & Sexual Health Unit, Royal North Shore Hospital, Sydney, NSW, Australia.

In mid 2003, the Collaboration for Health in PNG was asked to assist with the development of a capacity building approach to HIV diagnosis, care and treatment, appropriate to the situation and learning cultures in PNG and which builds on the existing knowledge and skills base.

After discussions with a range of partners, it was decided to adopt a capacity building approach rather than a short training course approach. This would consist of working from existing knowledge and skills using interactive methodologies. It was also decided to work with teams of health care workers including doctors, nurses, educators, counsellors and laboratory technicians from each facility rather than a discipline based approach. The process was to encompass three workshops over an eight-month period, with site visits and other forms of on-going support in the interim periods.

This presentation will discuss the workshop aims, objectives and the overall goal of the initiative. It will also discuss and present the methodology used, the implementation process and from the workshops that have already taken place, the feedback and evaluation.



ORAL PRESENTATION ABSTRACTS

SATURDAY 27 AUGUST 2005



SATURDAY 27 AUGUST 2005

PLENARY: UNDERSTANDING HIV

PATHOGENESIS AND TREATMENT

– 9.00 am – 10.30 am

WHAT TO START WITH: AN NNRTI OR A PI? DOES IT MATTER?

<u>Hoy J</u>

Factors to consider in the choice of an initial regimen include potency of the regimen, likelihood of adherence to the regimen (pill burden and dosing frequency, adverse effects and effect on quality of life) selection of resistance mutations that limit future options and finally the long term metabolic complications of the regimen. Of course, co-morbidity (e.g. pregnancy, hepatitis B or C co-infection, significant depression or mental illness or tuberculosis) will also impact on initial choice of regimen. The most important consideration is - Will the patient take the chosen regimen reliably in the long term? These factors are just as important for the nucleoside backbone of the regimen as the choice between a Protease Inhibitor (PI) containing regimen and a Non-Nucleoside Reverse Transcriptase Inhibitor (NNRTI) containing regimen. There is probably little difference in the potency of the recently available simplified ritonavir-boosted PI regimens and the NNRTI combinations that include either efavirenz or nevirapine, enabling the clinician to individualize initial regimens according to the patient's background.

| Meta-analysis of Triple-Combination Antiretroviral Therapy | y |
|--|---|
| in Treatment-Naive HIV-Infected Adults, 1994-2003 | |

| Treatment regimen | Trials (n) | Patients With <50 copies/mL at 48 weeks (%) | Mean Change CD4 Cells (/µL) |
|----------------------|---------------|---|-----------------------------------|
| Boosted PI | 6 | 64% | +209 |
| NNRTI | 31 | 63% | +180 |
| Triple NRTI | 6 | 51% | +150 |
| Unboosted PI | 29 | 44% | +178 |

The risk of resistance differs between the 2 regimens. HIV resistant to PIs does not emerge rapidly when a boosted PI-based regimen first fails. However, early failure of an NNRTI-based regimen often involves resistance to the NNRTI as well as to one or more NRTIs in the regimen and cross resistance to the other NNRTI.

Evidence from randomized clinical trials is the basis of the many Antiretroviral Guidelines, which remain the cornerstone of guidance for practitioners. However, when should long term clinician experience allow deviation from the guidelines? Some cohort study data suggests better virologic response rates and fewer drug switches among people starting an NNRTI versus a PI regimen. The efavirenz versus nevirapine debate is clear cut for the US guidelines, but less so for the BHIVA, IAS and Australian guidelines. For some experienced Australian clinicians, nevirapine remains a firm contender for inclusion in the initial regimen.

MECHANISMS OF HIV DISEASE PATHOGENESIS

Douek D C¹ ¹NIH Vaccine Research Center, USA

The mechanisms underlying CD4+ T-cell depletion in HIV infection are not well understood. Comparative studies of lymphoid tissues, where the vast majority of T cells reside, and peripheral blood can potentially illuminate the pathogenesis of HIV-associated disease. We have studied the effect of HIV infection on the activation and depletion of defined subsets of CD4⁺ and CD8⁺ T cells in blood, gastrointestinal (GI) tract, and lymph node (LN). The major findings to emerge are: GI tract has the most substantial CD4⁺ T-cell depletion at all stages of HIV disease; this depletion occurs preferentially within CCR5+CD4+ T cells; HIV-associated immune activation results in abnormal accumulation of effector-type T cells within LN; HIV-specific T cells in LN do not account for all effector T cells; and T-cell activation in LN is associated with abnormal collagen deposition. Our studies in acute SIV infection of macaques have demonstrated that the massive loss of mucosal CD4 memory T cells is likely due to their infection by virus. Taken together, these findings define the nature and extent of CD4⁺ T-cell depletion in lymphoid tissue, and point to mechanisms of profound depletion of specific T-cell subsets related to elimination of CCR5+CD4+ T-cell targets and to disruption of T-cell homeostasis that accompanies chronic immune activation.

SATURDAY 27 AUGUST 2005: 9.00 AM – 10.30 AM

ABACAVIR AND NEVIRAPINE HYPERSENSITIVITY: GENETICS AND PATHOGENESIS

 $\underline{Mallal S^1}$

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The term 'idiosyncratic' has been formally attached to drug hypersensitivity syndromes, as these reactions do not have a strong association with drug dose or disposition. However, the clinical characteristics of drug hypersensitivity suggests an underlying immunological basis, involving an antigenspecific immune response directed against a drug metabolite. Given the critical role of polymorphic HLA molecules in shaping the immune response, it is interesting that there are now strong HLA associations with hypersensitivity reactions to abacavir (HLA-B*5701), allopurinol (HLA-B*5801), carbamazepine (HLA-B*1502) and nevirapine (HLA-DRB1*0101). The strength and predictive value of these genetic associations are among the highest for any HLA-disease association, suggesting a rational basis for pharmacogenetic screening when prescribing these drugs.

In the case of abacavir, the prevalence of drug hypersensitivity approximates $HLA-B^*5701$ carriage frequency (~8% of Caucasians), and abacavir-specific immune responses are exquisitely restricted by $HLA-B^*5701$. However, these studies also highlight other factors required for the development of this immune response, including drug metabolism via an alcohol dehydrogenase-dependent pathway, and induction of innate immunity involving cellular chaperones and specific receptors (eg. TLR's). In this sense, abacavir hypersensitivity provides an illuminating model system for exploring innate and adaptive immunity more generally. On a practical level, prospective genetic screening in the Western Australian HIV cohort since 2002 has dramatically reduced the incidence of abacavir hypersensitivity (0% among 134 abacavir-exposed $HLA-B^*5701$ -negative individuals).

A multi-system drug reaction (ie. excluding isolated rash) also affects ~5% of patients prescibed nevirapine. Higher CD4+ T cell counts are a known risk factor, prompting a label change recommending caution when prescribing nevirapine to women with CD4+ >250/ μ L and men with CD4+ >400/ μ L. This CD4+ T cell-dependence suggests susceptibility may be Class II HLA-associated, and indeed in our population increased risk was specifically associated with higher CD4+ counts as well as *HLA-DRB1*0101* carriage. In this instance, genetic screening may allow for more wide-spread use of nevirapine among patients with higher CD4+ counts who remain at low risk for hypersensitivity raections due to the lack of a high-risk genotype.

In these cases, knowledge of genetic susceptibility can be used to stratify patients into distinct high-risk and low-risk groups, thereby increasing the confidence with which these drugs (which otherwise have a good safety profile) can be prescribed. However, there remain a number of barriers to widespread pharmacogenetic screening that need to be overcome.

SYMPOSIUM – CLINICAL MEDICINE – CONTENTIOUS & EMERGING ISSUES – IAN THOMPSON MEMORIAL SESSION – 11.00 am – 12.15 pm

This session examines contentious and emerging issues in HIV management. This session is designed to provide all conference participants with an overview of issues relating to when to start HIV antiretroviral therapy, the management of primary HIV infection and the role of resistance testing in HIV management and treatment decision making. These issues along with those relating to the selection of preferred first line HIV treatment regimens (presented by A/Prof Jenny Hoy in the plenary session immediately preceding this session) will provide important background to participants at the 1st Consensus Conference on the Management of HIV-1 Infection in Adults and Adolescents. The consensus conference follows the lunch break on Saturday

VIROLOGICAL AND IMMUNOLOGICAL OUTCOMES AT 3 YEARS FOLLOWING INITIATION OF ART WITH REGIMENS CONTAINING A NNRTI OR PI OR BOTH: THE INITIO TRIAL

<u>Marriott D</u>¹ for the Australian INITIO team ¹St Vincent's Hospital Sydney NSW, Australia

Background: INITIO is one of 3 large strategy trials commenced 1998/9 comparing HIV treatment starting with a 3drug NNRTI regimen (followed by a PI regimen for failure), or a PI (followed by a NNRTI regimen for failure) or a 4drug, NNRTI plus PI regimen.

Methods: ddI/d4T/efavirenz (followed by ZDV/3TC/ abacavir/nelfinavir) [S1] was compared to ddI/d4T/nelfinavir (followed by ZDV/3TC/abacavir/efavirenz) [S2] and ddI/d4T/efavirenz/nelfinavir (no specified second regimen) [S3] in treatment naïve patients. Primary outcome measures were HIV RNA <50 copies/mL and change from baseline in CD4 count at 3 years (analysis censored for missing values). Secondary outcome measures included change from baseline in HIV RNA, progression to new AIDS events/death and adverse events. Time on initial regimens included within-class drug substitutions for intolerance.

Results: 915 patients (79% male) were randomised (300 S1. 311 S2, 304 S3) and followed for a median 192 weeks when the trial closed in June 2004. At baseline, mean age was 39 years, 21% had AIDS, median CD4 count was 200 cells/ mm3 (IQR 80-329) and mean HIV RNA 4.93 log10 copies/ mL (SD 0.72). The proportion of time on the initial regimen (including substitutions) was 74%, 63% and 51% in S1, S2 and S3 respectively. On intent-to-treat analyses (using local VL), at 3 years the proportion of patients with HIV RNA <50 copies/mL was 74%, 62% and 62% (global p= 0.004). Differences were maintained if missing values were treated as failures. The median change in CD4 count was +271, +275 and + 258 (p= 0.7) and mean change in HIV RNA was -4.4 log10, -3.9 log10 and -3.7 log10 copies/mL (p=0.0003) in the S1, S2 and S3 groups respectively. There were no significant differences between groups in progression to new AIDS event/death, the number of patients with >1 serious adverse event or with >1 adverse event stopping >1 HIV drugs.

Conclusions: Starting ART with a 3-drug/2-class regimen containing efavirenz is superior to one with nelfinavir (using d4T+ddI as the initial NRTI backbone) for HIV RNA outcomes (but not CD4 response) at 3 years. There is no evidence to support the use of 4-drug/3-class therapy for initial treatment.

MANAGEMENT OF PRIMARY INFECTION

Kelleher AD1

¹National Centre in HIV Epidemiology and Clinical Research, University of NSW, Sydney, NSW, Australia

The initiation of HAART during acute infection is suggested by a range of treatment guidelines, but usually on the context of clinical trial. Although there are theoretical reasons to support this approach there are still no definitive data from controlled clinical trials which demonstrate that combination anti-retroviral chemotherapy has a positive effect on long term clinical outcome. Although the first randomised trial of zidovudine monotherapy at primary infection suggested a therapeutic benefit in the short term, longer term follow-up suggested this effect was diluted with time. Placebo controlled studies have not been conducted in the HAART era. Combination anti retroviral therapy is definitely effective in improving both CD4+ T-cell count and viral load, compared to untreated historical controls, while those patients are on treatment. However, the long term advantage of these regimens has not been demonstrated and in general CD4+ T-cell counts and viral load return to similar set points as those untreated individuals upon cessation of therapy. Other therapeutic approaches such as structured treatment interruptions and short course therapy lasting up to 12 months have been advocated after apparent success in selected individuals. Definitive evidence of the clinical superiority of these strategies awaits the results of properly conducted randomised clinical trials. There are a significant amounts of data suggesting improvements or maintenance of various functional HIV-specific immune responses mediated by both CD4+ and CD8+ T-cells however, the impact of these changes on long term outcome are unclear at this time.

The presumed benefits of early intervention with suppressive HAART include, reduction in viral load resulting in reduction of transmission and preservation of the immune system preventing depletion of CD4+ T-cells. Although there has been fairly universal acceptance of initiation of therapy for those diagnosed during acute infection, attitudes of physicians are becoming more conservative driven by the lack of efficacy data and the cumulative toxicities of HAART regimens. Recent data suggest that adverse events including, gastrointestinal upsets, lipodystrophy and mood disorders are recorded in 51% of individuals treated with only 75% achieving good viral load control.

ROLE OF RESISTANCE TESTING IN HIV MANAGEMENT

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High levels of viral replication and infidelity of the HIV reverse transcriptase contribute to frequent mutations resulting in the presence of many genetically diverse strains or quasispecies in an infected individual. In those on antiretroviral therapy incomplete viral suppression (eg through sub-optimal adherence or lack of absorption of the drug) leads to the development of mutations associated with reduced viral susceptibility. The genetic barrier for the development of resistance among various drugs within a regimen differs, as does the level of resistance conferred by the individual mutations. Viral fitness can also alter as a result of acquisition of these mutations. The presence of a mutation conferring resistance to one drug can sometimes heighten susceptibility to another. Viral genotype and phenotype can be performed to assess resistance (genotype is the only assay routinely performed in Australasia). The mutations in reverse transcriptase and protease are sequenced and analysed in genotypic resistance testing; many assays do not cover the region targeted by entry inhibitors. Resistance testing should be accompanied by specific knowledge of past and current antiretroviral drug history, adherence, current other medications (to consider possible drug interactions) and clinical history such as diarrhea. As a general rule resistance testing should be performed while the person is on the regimen that is failing, as selective pressure is needed to detect the presence of most mutations. It is thus a very complicated picture and the role of resistance testing in HIV management, including role when changing therapy, role in assessing transmission of drug-resistant virus and thus possible role in selection of an initial regimen, is challenging and still evolving.

SYMPOSIUM – ACON/NSW HEALTH SESSION – 11.00 am – 12.15 pm

NEGOTIATED SAFETY OR NEGOTIATED RISK: IS IT TIME TO RETHINK TALK, TEST, TEST TRUST?

McGuigan D¹ <u>Clayton S¹</u>, Prestage G², Honnor G³ ¹AIDS Council of NSW, Sydney, NSW, Australia; ²National Centre in HIV Epidemiology and Clinical Research (UNSW), Sydney Australia, ³People Living With HIV/ AIDS NSW, Sydney, NSW, Australia

In 2004, NSW Health surveillance data showed a 14% decrease in HIV diagnoses amongst gay men. In the same period, the Sydney Gay Community Periodic Survey showed a dramatic decrease (43% in 2002 to 28% 2004) in UAIC amongst gay men recruited at sex on premises venues (SOPVs). This reduction in unprotected anal intercourse has not been mirrored in relationships with UAIR steadily increasing from 30% in 1999 to 53% in 2004.

The PHAEDRA study estimates that 30% of men are contracting HIV within a relationship, with a significant number of sero conversions occurring within the first 12 months of the relationship.

We know from social research that some gay men in sero concordant relationships negotiate condoms out of their relationship. This process of negotiation was named 'negotiated safety' be social researchers, although it was happening before social research identified it as an issue. In 1996 ACON developed a campaign based around the concept of negotiated safety called Talk, Test, Test, Trust to provide men with a framework to minimise the risk of HIV transmission. At the time this was extremely controversial with some members of the HIV sector renaming the process 'negotiated danger'.

The Health in Men study (NCHECR, NCHSR) provides us with valuable data about agreements gay men have within their relationships including the types of agreements gay men have. HIM also provides data about the possible risk factors associated with 'negotiated safety' including the common practice of discarding the condoms within the first month of the relationship. In light of this and considering that educators have been using the current framework for nearly a decade is it time to rethink Talk, Test, Test, Trust?

This paper will discuss the implications of the HIM data on educational messages to gay men who are currently engaging in or planning to engage in unprotected anal sex within their relationship.

GETTING IN EARLY – WORKING SMARTER WITH PEOPLE LIVING WITH HIV AND MENTAL ILLNESS

Barr N¹, <u>Berry S¹</u>

¹AIDS Council of NSW, Sydney, NSW, Australia

The Australian HIV care and support partnership has focused on 'complexity' in people with HIV/AIDS as the way to discuss presentations of mental illness. There is growing agreement that the term confers a negative or stigmatised view of the person with HIV and there is no consensus on its use, definition or ultimate value. The majority of people with HIV/AIDS will not experience life disrupting mental illness. However, for the significant minority of people with HIV/AIDS who are at risk of mental health crises, 'complexity' may be a barrier to the early detection and prevention of life disrupting events.

A panel of community sector practitioners and specialist counselors will explore the shift in our thinking away from 'complex' and toward a pre-crisis framework which includes the incorporation of mental health promotion principles and early identification and prevention of life disrupting mental illness.

MANAGEMENT OF CLIENTS WITH CHALLENGING BEHAVIOUR A SHARED **RESPONSIBILITY MODEL OF CARE**

S1, Cole G2, Dixon J3, Hobday T4, Honnor G5, King C A6,

Lange B⁷, Wellington L⁸. ¹Aids Council of NSW (ACON), Sydney, NSW, Australia; ² Aids Dementia and HIV Psychiatry Team (ADAHPTS), Sydney, NSW, Australia; 3South Eastern Sydney Area Health Service (SESAHS), Sydney, NSW, Australia; ⁴ St. Vincent's Community Health, Sydney, NSW, Australia; People Living with HIV/AIDS (PLWHA), Sydney, NSW Australia; ⁶ Luncheon Club, Sydney, NSW, Australia; ⁷Bobby Goldsmith Foundation (BGF), Sydney, NSW, Australia; 8 Foley House, Sydney, NSW, Australia; 9 National Association of People Living with HIV/AIDS, Sydney, NSW, Australia.

Critical incidents involving clients presenting with challenging behaviour within the HIV sector has tested process parameters in each case. The initial impetus for the forum was aimed at clarifying issues surrounding instances of violent and abusive behaviour on the part of clients using HIV services. Questions have emerged from various incidents that have occurred as to the extent to which it's permissible to share client information, given that many clients are users of multiple HIV services. Further questions have since been raised about the lengths, generally, to which agencies can protect their staff and other clients whilst respecting client confidentiality. There has also been some emphasis on the perceived absence of a co-ordinated sector-wide policy in respect of handling instances of violent client behaviour.

The optimal outcome would be to commence development of a shared sector-wide process aimed at effectively handling incidents of this nature by examining the following issues;

- 1. Discussion of critical incidents/current problems/organisational experience
- 2. Existing policy/practice frameworks how useful?
- 3. Privacy/confidentiality versus shared info parameters
- 4. Towards implementing a shared sector understanding of best practice.

ENTERING THE CLOSET: LIVING WITH HIV HETEROSEXUALLY

Persson A1, Barton D2

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²Pozhet, Heterosexual HIV/AIDS Service NSW, Sydney, NSW, Australia

In Australia, most heterosexuals live in a world where HIV exists on the periphery, if indeed at all. It is not woven into the social fabrics of language, relationships, and awareness in the way it tends to be among gay men. In view of this 'absence', how is HIV articulated and lived heterosexually? What shapes the heterosexual subject with HIV?

This paper draws on in-depth interviews with participants in the Straightpoz study, a qualitative, longitudinal study and the first major Australian study that explores the experiences of heterosexual men and women with HIV and their partners. One significant theme emerging in the interviews is secrecy; a tendency to keep HIV private and "compartmentalised" from the rest of one's life. Fear of stigma and rejection makes HIV disclosure a complex terrain to negotiate for many of the study participants, and their general disinclination to disclose at all suggests a strategy of selfprotection.

One way to read and understand these themes of secrecy and stigma is through theories of "the closet". The closet is seen as a product of the oppressive structures and forces of homophobia and sexism that ensure the privilege of heteronormativity through the silence of "others". The paper suggests that these forces, which make it difficult for many gay people to come out of the closet, also push heterosexual people with HIV into the closet, because of the regular association of HIV with stigmatised identities, such as drug use, homosexuality, infidelity, and promiscuity. As they enter the closet from a socially normative identity, heterosexual people with HIV have to learn a new language, a new way of being, relating and communicating. The paper explores the dynamics of secrecy and disclosure, of private and public among the study participants, and examines how these dynamics are negotiated and come to shape the heterosexual subject with HIV.

SYMPOSIUM – INTERNATIONAL – TESTING TESTING IS THIS THING WORKING? – 11.00 am – 12.15 pm

ROUTINE HIV TESTING:THE ANSWER TO THE AIDS CRISIS IN THE RESOURCE POOR WORLD, OR A BACKWARD STEP FOR HUMAN RIGHTS?

Worth H

Background: The last five years has seen a burgeoning governmental response to the AIDS crisis in the developing world. AS well as strengthened ties between UNAIDS, WHO and the World Bank, the Global Fund for HIV, TB and Malaria, the President's Emergency Plan for AIDS Relief, the 3 by 5 treatments initiative have all been initiated. In this paper I want to examine some of the problematics of this globalising response, focusing on the new joint UNAIDS/WHO policy on routine HIV testing in high prevalence countries, one of the most important shifts in global HIV policy in the last decade. Replacing client-initiated testing as the dominant model of HIV testing, an offer of routine testing will be made to all patients attending health clinics.

Discussion: These changes will have important consequences, particularly for women. I wish to question some of the assumptions underpinning this shift. These are that clientinitiated testing has failed; that a human rights approach to HIV is wrong; that HIV testing between 100-200million individuals will make HIV less stigmatised; and that the rollout of ARVs necessarily reduces stigma

WHAT PART OF PREVENTION DON'T WE UNDERSTAND?

Reis E1

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In recent years we have gone from speaking of 'prevention and care' to talking of 'treatment and care' and in doing so are making a rod for own backs. By relegating prevention to a separate discussion, or not discussing it at all, efforts to slow and halt the spread of HIV are significantly compromised. The advantages of linking treatment to prevention are lost, despite rhetoric attesting to this. Rapid scale-up of HIV/AIDS care and treatment risks compromising a comprehensive continuum of care for all people living with and at risk of HIV. Increasingly, the goal of rapid scale up is becoming a numbers game - getting more people on treatment. Long held principles of client's rights and freedoms are being diluted. If prevention is not explicitly and consistently linked to care and treatment issues, the social efficacy of HIV treatment availability is weakened. Where access to treatment is limited, where drug supplies are costly and unreliable and where there are more people needing than are ever likely to be on treatments, we must revitalise our focus on prevention.

Since the advent of treatments in the developed world, and increasing access to treatments in resource poor settings around the globe, there has been a concerted push by many parties to get treatments to those who need them. The benefits of treatment are not under question, nor the right to extend treatments to as many people as need them. However, as long as prevention messages are lost, diluted or compromised by governments, donors, community advocates and the health care sector, it is likely that we will find ourselves in a spiral where the numbers of people needing treatments continue to grow and the resources needed to provide treatments continue to grow ad infinitum. Only effective prevention, coupled with treatment and care provision, can break this costly and unnecessary cycle.

This paper will review the position of prevention in international HIV policy guidelines and consider ways to effectively re locate prevention in these initiatives.

VCT AS A PROXY TEST FOR MALE PARTNERS IN TANZANIAN PMTCT PROGRAMS

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People have for many years carried out visual diagnosis of HIV. Belief in concordance of HIV status is a firmly held belief in some rural communities of Tanzania. Whereas childbirth has been used by some as a means of testing by proxy, nowadays a partner's HIV result is also a means of testing by proxy.

Hence a pregnant woman who is presenting for VCT may be positioned as presenting, consciously or unconsciously, as proxy for her male partner's status. The woman will receive appropriate precounselling, testing and post test counseling within a medical environment of a PMTCT program. Her partner will be relieved of a negative result but is likely to perceive a positive diagnosis as indicating that the child of this pregnancy and he, himself is concordant. The man will receive this news without pre or post counseling.

PMTCT needs to understand these positions in order to facilitate its acceptance within a community.

CONFIGURING THE BODY OF HIV PREVENTION

Race K D¹

¹National Centre in HIV Social Research, UNSW, Sydney, Australia.

This paper argues for a conception of the body within HIV prevention that rethinks distinctions between the 'social' and the 'medical' (or 'technical'). The introduction of antiretroviral therapy (ARV) has been accompanied by a growing preference for traditional public health approaches that intervene at the level of the individual (voluntary and compulsory testing, notification, and enforcement). Social scientists and educators have responded to this circumstance by reasserting the primacy of the 'social', identified with strategies such as community education, the provision of condoms and clean needles, and the protection of the civil rights of vulnerable groups. This move to preserve the innovations and insights of the community response to HIV/AIDS is crucial. But it is less clear that the distinction it yields between the 'social' and the 'medical' is sustainable in the post-ARV context. It tends to gloss, for example, how 'social' approaches have deployed medical technologies to meet their objectives (e.g. condoms, clean needles), while 'technological' approaches (such as ARV) involve the construction of complex social assemblages, and not just the enlistment of individuals, if they are to work. This paper discusses sociological approaches to the use of technology with a view to re-contextualising current debates around HIV testing and the medicalization of prevention.
SYMPOSIUM – CURRENT ISSUES IN PUBLIC HEALTH AND PREVENTION

– 11.00 am – 12.15 pm

EARLY DETECTION AND TREATMENT OF STI AND BBI: A MANUAL FOR IMPROVING ACCESS TO EARLY DETECTION AND TREATMENT OF STI AND BBI WITHIN ABORIGINAL COMMUNITIES IN NSW

Combo T¹, Knox J¹, Ward J¹

¹Aboriginal Health and Medical Research Council of New South Wales, NSW, Australia

The Aboriginal Health and Medical Research Council of New South Wales (AH&MRC) is the peak organisation for Aboriginal health in NSW and represents more than 60 Aboriginal Community Controlled Health Organisations throughout the state.

This presentation will highlight the development and use of an Early Detection and Treatment of Sexually Transmissible Infections (STIs) and Blood Borne Infections (BBIs) Manual that has been developed by the AH&MRC. The manual is designed to be used by all sexual health practitioners working with Aboriginal people in NSW but particularly for Aboriginal Sexual Health Workers and those staff working closely with ASHWs in a variety of health care settings.

In Australia where accurate data exists, Sexually Transmissible Infections and Blood Borne Infections are reported at higher rates among Aboriginal people. It is also clear that both STIs and BBIs particularly affect people who are young, marginalised or who have limited access to health services- all pertinent to the Indigenous community in Australia.

Evidence states that early detection and treatment programs significantly reduce the incidence of STIs and BBIs in communities. Both the NSW draft STI Strategy and the draft National STI Strategy are implicit in stating the need for increased activities around early detection and treatment of STIs among Aboriginal people. IN order to increase the amount of early detection and treatment of STIs in NSW the AH&MRC has developed an STI Manual that gives a comprehensive overview of how to plan implement and evaluate early detection and treatment programs within an Aboriginal community context.

This presentation will demonstrate the manual as a practical tool for clinicians planning early detection treatment and management programs with Aboriginal communities, either as a component of an annual program, as part of an enhanced surveillance program of STIs/BBI management, or for inclusion within an overall sexual health program. This manual is the first of its kind to be produced specifically for Aboriginal communities in NSW. It is hoped the development of this manual will progress the major objectives of both the National and NSW STI Strategy.

IS THE AUSTRALIAN APPROACH TO DRUGS AND HIV/AIDS STILL UNDERPINNED BY THE PRINCIPLES OF HARM MINIMISATION?

Lodge M A

Since the Commonwealth Health Minister Neil Blewett, first used the term harm minimisation in the articulation of Australia's response to HIV/AIDS and drug issues in 1985, debate has raged about its meaning, practice and effectiveness.

From the inception of national campaigns on drugs and HIV/AIDS all Australian governments have seemingly committed themselves to a policy approach labeled "Harm Minimisation" or "Harm reduction". Recent strategy documents have begun to redefine these terms to the point where many question whether our strategies are really faithful to the earlier notions.

Michael will critique and contrast the definitions of harm minimisation, harm reduction and harm prevention that have found there way into recent documents:

What happened to the bipartisan approach that the early strategies were build upon?

Has the notion of the broad church of adherents to these principles, failed us to the point where these concepts are meaningless?

Can abstinence based approaches really be included under the banner of harm minimization?

Michael will outline some of the efforts that the drug user movement in Australia has adopted in recent years to counter the erosion of these important concepts.

INCREASED RISK-TAKING BEHAVIOUR DESPITE IMPROVED STI KNOWLEDGE FOLLOWING A LOCAL TARGETED HEALTH PROMOTION CAMPAIGN

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¹SSWAHS (Eastern Zone) Sexual Health Service, Sydney, NSW, Australia; ²Cellblock Youth Health Service, Sydney, NSW, Australia; ³SSWAHS (Eastern Zone) Public Health Unit, Sydney NSW, Australia

In 2003, an increase in notifications of STIs and HIV in inner Sydney gay men prompted the need for a local health promotion campaign highlighting condom use and regular STI testing. Prior to the campaign's commencement, a survey was conducted in October 2003 to inform the development of this response and to build a profile of gay men living in the Central Sydney area. A follow-up survey was conducted in May 2004 to assess for changes in STI knowledge, behaviour change and campaign recall.

At baseline, 257 out of 358 men approached at four gay venues participated (response rate 72%); at follow-up, 71% (257 out of 362) of approached men participated. There was a 75% recall of the "HIV up 15%" campaign material and significant improvements in STI knowledge assessed by a series of true/false questions. Despite this, there was a significant decrease in safer sex behaviour between the two surveys (79% of respondents used condoms with last casual or new partner compared to 68.5% at follow-up, p=0.009).

Sexual health promotion materials are an effective way of providing information regarding transmission risks and disease knowledge. However, in this case knowledge increase did not lead to the desired behaviour change. Gay men may be using more complex negotiations regarding sexual practices and risk of transmission due to an increase in knowledge. Further research should examine perceptions of personal risk in relation to sexual health knowledge.

PRE-EXPOSURE CHEMOPROPHYLAXIS FOR HIV PREVENTION

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Pre-exposure prophylaxis using antiretroviral drugs (ARVs) is a promising potential new method of HIV prevention, based on evidence from animal studies, post-exposure prophylaxis, and the prevention of mother to child transmission. Tenofovir disproxil fumarate (tenofovir) is a good candidate for pre-exposure prophylaxis with low toxicity, a favourable resistance profile, long half life, and efficacy preventing simian immunodeficiency virus infection in animal studies.

Clinical trials to evaluate the efficacy and safety of daily oral tenofovir for HIV prevention have been planned during recent years. A trial was planned for female sex workers in Cambodia, to be conducted by the Cambodian Ministry of Health, University of New South Wales and University of California San Francisco, funded by the US National Institutes of Health (NIH) and Family Health International (FHI). FHI, funded by the Bill and Melinda Gates Foundation, planned to conduct trials among high risk women in Ghana, Cameroon and Nigeria, and heterosexual men in Malawi. The US Centers for Disease Control and Prevention is sponsoring trials among heterosexual men and women in Botswana, men who have sex with men (MSM) in the USA, and injecting drug users in Thailand. The NIH plans to sponsor a trial among MSM in Peru.

Recruitment has begun or is close to beginning in several of these trials, although others have encountered problems. The Cambodian trial was cancelled during the planning stages, after an announcement by the Cambodian Prime Minister. In Cameroon, the Ministry of Health suspended the trial which had already begun recruitment. The Nigerian trial was cancelled by FHI after concerns about technical standards and protocol implementation.

Issues raised during these studies are of wider importance in HIV prevention research, particularly when carried out among vulnerable populations in resource limited countries. They include the provision of HIV treatment for seroconverters, the appropriate standard of care and prevention, treatment and compensation for research related injury, and effective consultation with the community to be involved in the research. Experiences gained from the tenofovir trials will be valuable for researchers, funding agencies and communities, as they work together to resolve these issues.

DEFINING HIGH INCIDENCE GROUPS OF HOMOSEXUAL MEN FOR HIV PREVENTION STUDIES: DATA FROM THE HEALTH IN MEN (HIM) COHORT

<u>Grulich A¹</u>, Jin F¹, Prestage G¹, Emery S¹, Kippax S², Mao L², Kaldor J¹; on behalf of the Australian-Thai HIV Vaccine Consortium.

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Efficacy studies of HIV prevention require high HIV incidence. For this reason, many HIV prevention studies have commenced in high incidence developing country settings. We examined HIV incidence in homosexual men in Australia to assess the suitability of this population for HIV prevention trials.

The HIM study is a community-based cohort study of HIVnegative gay men in Sydney, which commenced in 2001. All participants undergo annual HIV testing and interviews twice a year. To define high risk from questionnaire-based criteria, the highest incidence group was first chosen. Then, incidence in the remaining high incidence groups was re-calculated among those who did not report the first risk. The next highest incidence group was then chosen. This process was repeated until risk in all remaining sub-groups was less than 2%.

A total of 1,427 participants were enrolled. By the end of 2004, there had been 24 HIV seroconversions and followup was 2,721 person-years (PY), giving an overall incidence of 0.88 per 100 PY. Based on behavioural self-report, subgroups of cohort members were defined, and the incidence of HIV infection calculated using the PY method for each subgroup. These subgroups were then ranked by incidence as below.

| Risk group | Incidence Per 100py | % of total Person- years |
|---|---------------------------|--------------------------------|
| UAI with a known HIV positive partner | 6.7 | 4.4% |
| HIV positive regular partner | 3.5 | 3.5% |
| Erection pills more than monthly | 3.2 | 3.2% |
| Receptive UAI with a casual partner | 3.0 | 12% |
| Anal sexually transmitted infection (STI) | 3.0 | 9.8% |
| Previous post exposure prophylaxis | 2.9 | 11% |
| Partners last 6 months > 50 | 2.1 | 5.3% |

Using the process of sequential subgroup exclusion, a group at very high risk comprising 13% of the total person years was defined with an incidence of HIV of 4.0%. This group comprised men who reported unprotected anal intercourse (UAI) with a known HIV positive partner in the last 6 months or having an anal STI in the last 12 months.

In Australia, groups of individuals with high HIV incidence can be identified, making efficacy trials of methods of HIV prevention feasible.



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POSTER ABSTRACTS

(INCLUDING ORAL POSTERS)



POSTER ABSTRACTS

BASIC SCIENCE POSTER ABSTRACTS

P80

EARLY ANTIRETROVIRAL THERAPY (ART) AND TREATMENT INTERRUPTION IN HIV-1 INFECTION: THE IMPACT ON THE IMMUNE RESPONSE, VIRAL FITNESS AND VIRUS CONTROL

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The impact of structured treatment interruption on viral fitness was investigated using real time PCR in twenty acutely HIV-1 infected subjects on ART in the PULSE study. Subjects were fully adherent to ART for up to one year, with undetectable viral loads (VL) prior to interruption. Treatment was resumed if VL exceeded 5,000 copies during interruption. Plasma and serum samples were taken at Baseline (BL) and throughout the trial.

Following initial studies investigating early neutralising antibody responses of PULSE cohort members, we are currently investigating the contribution of complement in subject plasma and natural killer cells in donor PBMCs mediating antibody-dependant cell-mediated cytotoxicity to the early heterologous and autologous virus inhibition observed using plasma samples from PULSE subjects. Parallel studies are being performed using consecutive plasma samples from the PHAEDRA cohort, a therapy naïve, acutely HIV-1 infected cohort.

Autologous virus was successfully isolated from BL serum in fifteen of the twenty PULSE subjects. We were unable to isolate virus from BL samples for five subjects and the replication capacity of isolates from six subjects was slow. Of these eleven subjects, eight contained virus replication upon interruption. To investigate viral fitness, we have developed and validated a real time PCR assay that quantitates copies of HIV-1 DNA per cell. Viral input was standardized by p24 EIA. PHA-PBMCs from the same donors were infected with a standardised quantity of autologous virus and cultured for 72 hours. Infected cells and supernatant were harvested at regular intervals. DNA was then extracted from infected cells and samples analysed by real time PCR.

Due to the sensitivity of the real time PCR assay, virus replication was detected four hours post infection in PBMCs infected with both the reference isolate and some subject isolates. Preliminary results using PULSE subject isolates suggest differences in virus replication between subject isolates, primarily time to detection and the amount of HIV-1 DNA present in the infected cells.

These results will provide important insight into the impact of early ART and treatment interruption on the immune response and the potential importance of initial viral phenotype as a clinical marker for virus control. P81

MECHANISM OF INHIBITION OF GM-CSF SIGNALING IN MONOCYTE-DERIVED MACROPHAGE BY HIV-1

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Pulmonary infections such as Pneumocystis pneumonia (PCP), common in HIV-infected patients with declining immunity, are principally controlled by alveolar macrophages (AM ϕ). AM ϕ are an integral part of lung immunity, phagocytosing foreign material and maintaining lung homeostasis. HIV-1 infection, which is non-cytopathic towards macrophage, decreases AM ϕ function.

Since the growth factor GM-CSF in critically important in AM¢ development and function, we examined the effect of HIV-1 infection on GM-CSF signalling. We used human monocyte derived macrophages infected with HIV-1 Ba-L as a model system, and showed that HIV-1 infection decreased activation of STAT5A, a transcription factor essential for gene regulation by GM-CSF. Further analysis showed no change in expression of components of the STAT5 signal transduction pathway. We therefore that HIV-1 inhibition of GM-CSF signalling occurs via the induction of negative regulatory proteins of the JAK-STAT pathway. Experiments are currently underway to measure induction of SOCS proteins by GM-CSF in order to identify which members of this family regulate GM-CSF signalling in human macrophages, and to determine the impact of HIV-1 infection on their expression.

P82 THE IMPACT OF NEF AND SRC KINASES ON HIV-1 INFECTIVITY AND REPLICATION IN MACROPHAGES AND AT CELLS

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Nef plays an important role in HIV-1 infection by increasing viral load and progression to disease. In cell culture, Nef enhances viral replication and infectivity. How it does so is unclear; however the ability of Nef to interact with and modulate the activity of cellular Src family kinases may prove to be important. Src kinases Hck and Lck have been reported to affect viral infectivity and replication. The proline repeat region (PxxP) of Nef facilitates interaction with Src kinases and modulation of their activity in in vitro experiments, and has been shown to enhance viral replication and pathogenesis in cell culture and animal models.

In this study we further characterise the physical interaction between Nef and Src kinases Hck, Lyn, Lck and Fyn both in vitro and during HIV-1 infection of T cells and primary monocyte-derived macrophages (MDMs). We observed that the PxxP motif of Nef is important for enhancing viral replication in MDMs, but is less important for HIV-1 replication in primary T lymphocytes. The PxxP motif also moderately enhances viral infectivity of HIV-1 derived from transfected 293T cells. However, Nef does not enhance the infectivity of macrophage-derived virus. To further characterise the importance of Nef and the Src kinases in infection of macrophages and T cells, the role of Nef and Src kinases in integration of HIV-1 into T cells and macrophages was investigated by measuring integration products using semi-quantitative PCR and a luciferase reporter-based integration assay. From these experiments we conclude that Nef does not consistently enhance HIV-1 integration into macrophages, but that the activation status of Src kinases may affect viral integration in T cells.

We conclude that Nef plays different roles in infection and viral replication in macrophages and T cells, and that interaction with Src kinases may be important for these events. We also suggest that Src kinases affect viral replication and infectivity in a Nef-independent manner.

P83 DETECTION OF ANTIBODIES TO HEPATITIS C VIRUS IN DRIED BLOOD SPOTS

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Dried blood spots (DBS) provide a convenient method for blood sample collection in many settings where the prevalence of infection with hepatitis C virus (HCV) is increasing. Consequently, HCV assays are required that produce reliable results using samples derived from DBS. A direct comparison of the performance of two commercial enzyme immunoassays (EIA) using DBS samples was performed. The optimum buffer for the elution of samples from DBS was selected and the assay that provided the greatest dynamic range was used for further evaluation. DBS with paired plasma samples were compared using this modified commercial EIA, which was found to have an estimated sensitivity and specificity of approximately 100% for detecting anti-HCV antibodies in DBS.

This study demonstrated the feasibility of using DBS eluates in a modified commercial EIA for the detection of antibodies to HCV. The use of DBS will enable the collection of data for epidemiological and screening purposes both in the field and in under resourced settings. P84

ACTIVATION OF THE KYNURENINE PATHWAY IN SIMIAN MACROPHAGES INFECTED BY SIVMAC251

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We consider that the tryptophan catabolites produced through the kynurenine pathway (KP), and more particularly quinolinic acid (QUIN), may play an important role in the pathogenesis of AIDS. Recent findings have shown that the KP is one of the major regulatory mechanisms of the immune response. TRP degradation suppresses T cell proliferation. Moreover, downstream KP metabolites act to suppress activation of certain immune cells. Macrophages, dendritic cells and microglia predominantly synthesize QUIN.

We previously showed that the Tat and Nef HIV-1 proteins induce the regulatory enzyme of the KP indoleamine 2,3 dioxygenase (IDO) and so lead to QUIN production in human monocytes derived macrophages (MdM). In this study, we showed that in vitro the KP is activated in simian MdM isolated from seven SIVmac251 infected pigtail macaques. Using RT-PCR, we found that IDO is over expressed in the simian MdM. Using gas chromatography/ mass spectrometry, we showed that QUIN production was increased in the culture supernatants.

Together these data 1) validated the simian model as relevant model for human studies because there are differences in the KP between species 2) demonstrate that KP is activated in SIV infected MdM. P85

EVALUATION OF NEUROPILIN-1, GITR AND LAG-3 AS SURFACE MARKERS OF REGULATORY T-CELLS IN HIV DISEASE

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Human regulatory T-cells (Treg) have been characterized by the expression of cell surface markers including CD25, GITR and CTLA-4. Increased numbers of CD25⁺ T-cells have been described in HIV patients. Depletion of these cells from peripheral blood mononuclear cells increases antigenspecific proliferative responses to HIV proteins, suggesting Treg function. However, CD25 is up-regulated by cellular activation. HIV disease causes chronic immune activation, so CD25 may not be the ideal marker to assess Treg in HIV patients. The receptor Neuropilin-1 (Nrp1) was identified as a surface marker of Treg in mice. CD4⁺Nrp1^{hi} T cells were able to suppress proliferation of naïve CD4+CD25-T cells. Unlike CD25, Nrp1 was not up-regulated following TCR stimulation. GITR and LAG-3 were also assessed, as both these surface molecules have been shown to be essential for Treg function in humans and mice. Cells expressing GITR, LAG-3 and NRP-1 have not previously been quantitated in HIV patients.

Fresh blood samples from patients (n=55) and controls (n=16) were assessed by flow cytometry. The results established that NRP1 and CD25 do not identify the same population of T-cells. In untreated HIV patients, reduction in CD4 T-cell counts and increases in viral load are associated with an increase in the expression of the activation markers CD38 and CD69 on CD8 T-cells. These associations are lost in patients receiving antiretroviral therapy. There were no significant differences in the proportions of CD4 T-cells expressing NRP1, GITR or LAG-3 between controls, untreated HIV patients and patients receiving antiretroviral therapy.

P86 ENGAGEMENT OF CCR5 AND CXCR4 BY R5X4 ENV EVOKES DISTINCT CONFORMATIONAL SIGNALS TO THE GP120-GP41 ASSOCIATION SITE

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Binding by gp120 to CD4 and the chemokine receptors (CKR), CCR5 and CXCR4, leads to the transmission of a conformational signal to gp41, activating its membrane fusion function. Residues within the disulfide-bonded region of gp41, including Trp-596 and Lys-601, function in associating with gp120 and in sensing conformational changes in gp120 following CD4/CKR engagement. Here we show that K601E and/or W596L mutations in the R5X4 strains, 89.6 and aBL01, lead to marked decreases in CD4/CCR5-dependent fusion but not CD4/CXCR4dependent fusion. These data suggest that CKRs induce distinct conformational signals in R5X4 Env, perhaps due to the engagement of different subsets of gp120 residues by different domains of CCR5 and CXCR4. This notion was supported by the observation that 89.6-W596L, but not 89.6-WT, was rendered non-functional by a 32-residue deletion in the N-terminal domain of CXCR4 and a D187A substitution in the receptor's second extracellular loop.

We propose that the engagement of alternative chemokine receptors by R5X4 gp120 evokes distinct fusion-activation signals to gp41 through the site of association. We speculate that complex gp120-gp41 signalling pathways coevolve with broadening CKR binding specificity in R5X4 Envs.

P87

IMPORTANCE OF ONGOING INTERNAL QUALITY CONTROL PROGRAM; MONITORING THE RECOVERY OF PERIPHERAL BLOOD MONONUCLEAR CELLS (PBMC'S) DERIVED FROM PARTICIPANTS OF HIV CLINICAL TRIALS

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Reliable processing, cryo-preservation and storage of freshly isolated PBMC's derived from HIV Clinical Trials participants is vital, to evaluate the patient's response to therapy and for future use in functional T-cell Assays (ELISPOT, ICC, and LPA). The Immunovirology Research Network (IVRN) of the Australian Centre for Hepatitis and HIV Virology Research (ACH2) in collaboration with The Australian Red Cross Blood Service (ARCBS-NSW) invited relevant laboratories across Australia to participate in a nation wide QC program, to assess their ability to produce viable and functional PBMC's. The external QC is preformed bi-annually, therefore this investigative site implemented an Internal QC program.

PBMC's are frozen using the Programmable Controlled Rate Freezer (PLANER KRYO 360-3.3) according to the following algorithm; -180°C via -1°C/min until -30°C, -2°C/ min until -60°C, then plunged to -180°C, a modification of the Yorkshire Blood Bank Lymphocyte Freezing Protocol. PBMC's are transferred to Vapour Phase storage. Alternatively a NALGENE "MrFrosty" container can be used, it achieves a cooling rate of 1°C/min when in a -70°C freezer.

For the QC program to be effective, the samples are stored at -193°C for 7 days minimum, minimum cut-off 10 X 106/ml and thawed according to an SOP. Viability and yield are determined using Trypan Blue Exclusion Dye and a haemocytometer. Excess storage samples are chosen randomly from Clinical Trials or Natural History Studies. A central record is kept on site of these parameters on samples thawed. The results are reviewed real time by the operators and laboratory head. >50% yield and >80% viability is an adequate result.

For 2003, 34 vials thawed. Mean yield = 72.3% (+/- 0.17); mean viability = 85.1% (+/-0.04)

For 2004, 94 vials thawed. Mean yield = 81% (=/-23.58); mean viability = 93% (+/- 15.15)

For 2005 to date, 8 vials thawed. Mean yield = 103% (+/-16.7); mean viability = 83.4% (+/-15.3)

An internal QC program for cryopreserved PBMC's can be established easily. If preformed regularly, it provides ongoing real-time data showing the adequacy of the procedures, reagents and equipment used in the laboratory. Most importantly it shows cross training of staff members is consistent and of high standards.

P88 HIV RNA REGULATES EARLY REVERSE TRANSCRIPTION

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During reverse transcription the positive strand HIV-1 RNA genome is converted into a double-stranded DNA copy, which can be permanently integrated into the host cell genome. Reverse transcription is a highly regulated process involving a number of RNA structures, including the transactivation response (TAR) element. Whilst the role of TAR in regulation of gene expression is quite well characterized, the role of TAR in regulating reverse transcription is unknown. The goal of this project is to determine the mechanism/s by which TAR RNA contributes to reverse transcription, to investigate strategies for targeting TAR as an anti retroviral factor based on data obtained from the initial experiments, and finally to investigate efficiencies of improved HIV gene therapy vectors.

We aim to investigate whether TAR functions through interactions with downstream RNA elements, for example the psi factors or the PBS stem-loop, potentially forming an RNA scaffold to stabilise the reverse transcription initiation complex, or whether the TAR element interacts directly with viral or cellular proteins, such as a direct interaction with reverse transcriptase, either as a heterodimer or with the p66 or p51 subunits individually. The progress of this experiment hinges on the development of a new vector system capable of viral expression independent of the TAR element, mutations in which have been shown to severely downregulate gene expression and reverse transcription. Success in this investigation will lead to a better understanding of HIV-1 reverse transcription, lead to novel antiretroviral strategies and more efficient retrovirus based gene therapy vectors.

P89 METHODS FOR MEASURING HEPATITIS C VIRAL COMPLEXITY

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HCV exists as a population of quasispecies which are defined as closely related minor genetic variants within an infected individual. It has been reported that the complexity of HCV quasispecies is a major determinant in treatment outcome. Currently cloning and sequencing is the recognised method to determine quasispecies complexity. The aim of our study is to develop a simple and rapid alternative to cloning and sequencing which is considered time consuming and laborious.

Sera were collected from a cohort of HCV infected patients at varying timepoints, specifically prior to treatment, during treatment, and post treatment (if a non-responder). The E1/ HVR1 region was amplified by RT-PCR and cloned into pCRII-TOPO, subsequently 10-20 clones per timepoint of each patient were sequenced.

Complexity of the quasispecies populations present at these timepoints were assessed using parameters such as genetic distance and clonal frequency (Shannon entropy).

Plasmids extracted from selected clones were used to generate model populations of varying HVR1 complexities, generally low, medium and highly complex populations to validate alternative methodology. Methods used to examine the populations included heteroduplex mobility analysis (HMA), terminal restriction fragment length polymorphism (T-RFLP) and melting temperature analysis. Cloning and sequencing remains the methods of choice for measuring genetic distance between HCV variants. However, other simpler methods can accurately be used to determine clonal frequency that enables larger numbers of clones to be analysed.

P90 HIV

HIV-1 ENVELOPE VACCINES ELICITING NEUTRALISING ANTIBODIES

P91 WITHDRAWN

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Despite the clear importance of broadly neutralising antibody (NAb) in protecting against HIV, progress towards vaccines eliciting these responses has been slow due to difficulties in delivering suitable HIV envelope (Env) immunogens displaying shared neutralisation epitopes. Env expression and antibody repertoire limitations have been especially difficult in small animal models. We used a mouse model to evaluate different oligomeric Env antigens obtained from T-cell line adapted (TCLA) or primary HIV-1 B-clade strains, delivered by several different methods including as pure protein, as virus-like particles, from plasmids optimised for Env-expression and from viral vectors.

We found that Sindbis replicon (SIN) based vectors (SIN-Env) expressed high levels of env mRNA when delivered as a vector-derived sub-genomic RNA that amplifies in the cytoplasm and expresses Env. The advantage of this replicon vector over conventional DNA-plasmid vectors was the relatively high level Env expression achieved in rodent cells, giving an opportunity to assess a range of Env structures for NAb induction in rodents, before expensive monkey studies. Correctly processed Env was expressed in human, mouse and hamster cell lines transfected with SIN-Env mRNA. For more efficient delivery, single round infectious virus-likeparticles (SIN-Env-VLP) were prepared by cotransfection with mRNA encoding the structural proteins of Sindbis virus. These SIN-Env-VLP infected human, hamster and mouse cell lines, as detected by Env immunofluoresce. Balb/c mice were injected twice i.p. with SIN-Env-VLP and produced low antibody titers (<1:100) by ELISA. In order to assess priming, a boost with homologous soluble Env protein was given 6 weeks after the last immunisation with VLPs. SIN-Env-VLP's had effectively primed the mice as because boosting with soluble Env protein yielded Env-Ab titers ranging from 1:4500 to 1:40500. The breadth of neutralisation will be presented.

The potential utility of SIN replicon based vectors as a priming modality in a prime-boost vaccine eliciting humoral immune responses against HIV Env and the ability to elicit broad NAb will be compared to other approaches under development.

BASIC SCIENCE POSTER ABSTRACTS

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IN VITRO EVALUATION OF DRUG INDUCED MITOCHONDRIAL TOXICITY USING THE MITOCHONDRIAL MEMBRANE POTENTIAL STAINS DIIC(5) AND JC-1

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In vivo nucleoside reverse transcriptase inhibitors (NRTIs) inhibit mitochondrial RNA expression in peripheral blood monocytes. It is unclear if these changes result in functional changes in mitochondria or the mitochondrial electron transport chain (mtETC).

Two mitochondrial dyes, DiIC(5) and JC-1, that rely on mitochondrial membrane potential (mtMP) for staining, were evaluated to determine their ability to detect small changes in mtMP. DiIC(5) accumulates in mitochondria with active mtMP whilst the fluorescence of JC-1 changes reversibly as mtMP decreases. Cultured U937 monocytes and human PBMCs (1x106/mL), maintained at 37°C and 5% CO2, that were exposed to the thymidine NRTI, d4T, at physiological (8.5µM [Cmax]) and supra-physiological (85µM [10xCmax]) concentrations, 1µM Rotenone (an inhibitor of complex one of the mtETC) and 5µM Oligomycin (an inhibitor of ATP synthase) for 24 hours. As a positive control, cells were exposed to the mitochondrial uncoupler carbonyl cyanide m-chloro phenyl hydrazone (CCCP, 50µM) for 5 minutes. Cells were then stained with JC-1 (2.5µM) and DiIC(5) (50nM) and analysed by flow cytometry.

In both PBMCs and U937 cells, exposure to CCCP abolished mtMP, an effect detectable by both mitochondrial dyes. However U937s showed no change in staining with DiIC(5) or JC-1 with any other mitochondrial toxin. Human PBMCs, stained with DiIC(5) resulted in decreased mtMP in cells exposed to Rotenone (-34.6%) and Oligomycin (-55.4%) but not d4T (Cmax -3.7%, 10xCmax -7.25%). No similar changes were observed with JC-1 staining. In unexposed PBMCs, stimulation from the 24 hour incubation resulted in a 52.6% increase in mean fluorescence intensity. This, coupled with the lack of effect in unstimulated U937 cells, suggests that changes in mtMP may only be detectable after cell activation.

In human PBMCs, DiIC(5) is more sensitive at detecting changes in mtMP than JC-1. Further studies measuring mtMP in activated U937s will provide insight into the effect of various stimuli on mtMP. Although exposure to d4T over 24 hours had little effect on mtMP, further experiments involving longer exposure to NRTIs are needed to determine the role, if any, of U937s as a model in which to study NRTI-induced mitochondrial dysfunction.

P93

QUANTIFICATION OF HIV VIRAL RESERVOIRS USING TOTAL OR INTEGRATED HIV DNA IS UNABLE TO PREDICT VIROLOGICAL REBOUND AFTER STOPPING ANTIRETROVIRAL THERAPY INITIATED IN PRIMARY HIV INFECTION

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Treatment of primary HIV infection may potentially reduce the establishment of viral reservoirs which may lead to enhanced virological control following cessation of antiretrovirals (ARVs). We therefore asked if the quantification of HIV-infected cellular reservoirs could predict the likelihood of viral rebound in the setting of a randomised controlled trial of ARVs with and without hydroxyurea in primary HIV infection (PULSE)

Individuals with acute and early HIV infection were randomised to receive ARV with or without hydroxyurea. Following 6-12 months of continuous ARV, all ARV were ceased. If the HIV viral load reached >5,000 copies/ml, ARVs were restarted (n=10 ARV and hydroxyurea; n=9 ARV without hydroxyurea). A successful response (SR; n=4) was defined as HIV RNA no more than 5000 copies/ ml 24 weeks following the first ARV interruption. A poor response (PR; n=15) was defined as HIV RNA>5000 copies/ml 24 weeks following the first ARV interruption or if the patient restarted ARVs. Cell associated HIV DNA and HIV unspliced RNA were quantified using real-time PCR. Integrated HIV DNA was quantified using a nested real-time PCR Alu-LTR assay.

There was no significant difference in use of hydroxyurea, HIV RNA or CD4 T-cell count prior to ARV for PR and SR (with 13/19 individuals having a baseline VL>750,000 copies/ml). The median integrated HIV DNA/million CD4 T-cells prior to initiation of ARV for PR and SR was 794 and 258 copies/10E6 CD4 T-cells (p=0.06). There was a highly significant correlation between baseline integrated HIV DNA and HIV RNA/ml at week 12 of ARV (p=0.0002). The median HIV DNA/million CD4 T-cells at weeks 12, 24 and 52 (or the latest time prior to cessation of ARV) for PR was 699, 350 and 235 copies/10E6 CD4 T-cells compared with 139, 150 and 117 copies/10E6 CD4 T-cells for SR (p=0.08, 0.36, 0.38 respectively). There was no significant difference in the frequency of detection of US RNA at W12 or W24 following ARV in PR or SR.

Quantification of integrated HIV DNA prior to ARV or HIV DNA or US RNA following ARV was unable to predict a favourable virological response following cessation of ARV initiated in primary infection.

P94 IMPORTANCE OF VIRAL LOAD AND IMMUNE STATUS IN THE INTENSITY OF VIRAL ANTIBODY RESPONSES, INCLUDING NEUTRALISING ANTIBODIES, IN HIV-1 LTNP/LTS

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In a small proportion of infected individuals, HIV-1 appears to be less pathogenic and there is little or no apparent progression. Lack of disease progression results from the interaction between multiple factors linked to either the virus or the host. For these HIV-1 infected long term nonprogressors/long term survivors (LTNP/LTS) two clearly identified factors are nef gene deletions in the virus and CCR5 co-receptor mutations (CCR5- Δ 32) in the host.

Longitudinal samples were assembled from several LTNP/ LTS cohorts, many with known viral or host defects associated with delayed progression. Antibody responses to viral antigens were characterized, focusing on total IgG and IgG₃ antibodies and comparing these with samples from progressors and AIDS patients. Detection of antibody responses was by western blot (WB) to all HIV-1 antigens and EIA to specific viral proteins p24, gp41 and gp120. Neutralizing antibody responses were also tested against a reference clade B strain and a dual-tropic isolate derived from a CCR5- Δ 32 homozygote individual (Gorry et al, 2002; Lancet 359:1832-4), AD8 and D32, respectively.

The humoral immune responses differed depending on whether there was a viral attenuation or host mutation. The intensity of the immune responses in the 12 HIV-1 nef attenuated subjects correlated with a detectable albeit low viral load. Interestingly, 3 subjects showed gp41 IgG, EIA reactivity. Consistent intense total IgG WB antibody responses were observed for the 11 CCR5- Δ 32 heterozygote subjects, particularly IgG, responses where 3 were confirmed by p24 IgG, EIA reactivity, indicative of an early infection not one of 12 to 15 years (Wilson et al, 2004; AIDS 18:2253-9). Limited autologous and heterologous neutralizing antibody testing revealed a direct correlation of viral load and potency of neutralizing responses for the nef attenuated subjects and little correlation to overall humoral immune status and viral load for the CCR5- Δ 32 heterozygote subjects.

While the intense antibody responses reflect a preserved immune response and lack of disease progression this was not always accompanied by potent neutralizing antibody responses.

CLINICAL MEDICINE POSTER ABSTRACTS

P95

(ORAL POSTER SESSION 1 – 24/08/2005 – 17:00 TO 18:00)

ANAL INTRAEPITHELIAL NEOPLASIA (AIN) AND HIGH-RISK HPV TYPES IN HIV INFECTED MEN AND WOMEN WITH MILD TO MODERATE IMMUNOSUPPRESSION

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Objective: To determine the prevalence of abnormal anal cytology and infection with high-risk HPV types in HIV+ people with a CD4 cell count >300 cells/microlitre in preparation for a study of a therapeutic vaccine for AIN.

Methods: The clinic-based patient population included 126 HIV+ people (124 men, 2 women, median age 45 years) with a CD4 cell count >300 cells/microlitre. Most had acquired HIV from male to male sexual contact. Anal swabs were taken into liquid based medium for cytological assessment and HPV typing by Hybrid Capture-2 assay.

Results: 106 (84%) patients had high-risk HPV types detected, 17 (14%) had no high-risk types detected and 3 (2%) had no HPV assay result due to an inadequate sample. 16 (13%) patients had high-grade squamous intraepithelial (HGSIL) changes, of which 100% had high-risk HPV types detected and 13 (10%) ASCUS-H of which 92% had highrisk HPV types. Low-grade changes (LSIL) were detected in 24(19%) patients, of whom 96% had high-risk HPV types, 32 (25%) had ASCUS with 88% high-risk HPV types, 30 (24%) had normal cytology with 73% high-risk HPV types, and 11(9%) samples were inadequate for cytological assessment. Those with any abnormal cytology had an Odds Ratio of 5.03 (C.I. 1.45-17.39) for high-risk HPV types versus those with normal cytology, and those with HGSIL/ASCUS-H an OR of 4.22 (C.I. 0.52-34.21) versus those with low-grade changes or normal cytology.

Discussion: High-risk HPV types are common in this HIV+ population with a CD4 cell count >300 cells/microlitre. The presence of abnormal anal cytology was associated with high-risk HPV types. This group of patients might benefit from therapeutic vaccine interventions. P96

COMPLIANCE WITH ANTIRETROVIRAL THERAPY IN PATIENTS ENTERING THE TEDDI STUDY

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Poor compliance is thought to be the leading cause of treatment failure. The TEddI study is a randomised, multicentre, open-label study in well-controlled treatmentexperienced HIV-infected patients to assess compliance with a once-daily regimen of antiretroviral therapy versus continuation of current anti-retroviral regimen delivered at least twice daily.

Compliance with therapy is measured using electronic monitors (MEMS caps), patient self-report (MASRI questionnaire), therapeutic drug monitoring and doctor's assessment.

Prior to randomisation all patients have a one-month baseline observation period during which their compliance with their current twice-daily combination therapy is evaluated. At week 0 they are randomised to continuing current therapy or switching to once daily treatment.

Up until May 2005 73 patients had been evaluated in the baseline month. Data on their characteristics and adherence levels will be presented in this paper.

P97 AN UNUSUAL PRESENTATION OF KAPOSI'S SARCOMA

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A treatment-naïve 52-year-old man with HIV-1 infection presented with nasolabial seborrhoeic dermatitis and oropharyngeal candidiasis. HIV-1 load was 406,000 copies/ mL and CD4+ count was 10 cells/µL. Antimicrobial prophylaxis for Pneumocystis jiroveci and Mycobacyerium avium complex (MAC) was commenced. Four-drug antiretroviral therapy (ART) rather than standard triple therapy was initiated to rapidly reduce the viraemia and maximize immune restoration. Five weeks later, the patient developed 3 x 2 cm painless, violaceous papules on his right wrist, left arm and xyphisternum. The lesions were clinically consistent with Kaposi's sarcoma (KS) but a biopsy was nondiagnostic. Visceral disease was absent on abdominal CT scan and chest x-ray. Acid-fast bacilli, fungi, bacteria, and parasites by stain, culture and PCR were also absent. MAC, syphilis, cryptococcosis and lymphoma were excluded.

The presumed KS lesions were expected to regress, as is usual, with immune restoration from ART; however, during weeks 6-14, the lesions enlarged and new nodules formed on his nose, right eyelid, forehead, left shin and back and became nodular, extremely painful and necrotic. A second punch biopsy revealed KS – with characteristic spindle cells and vascular slits interspersed by neoplastic vessels. By week 16 the patient developed peripheral lymphoedema. ART was stopped because the KS lesions continued to multiply despite immune restoration (CD4+ count reached 50 cells/ μ L). All lesions slowly regressed after 10 weeks of irradiation and chemotherapy. Subsequently, ART was reintroduced without recurrence of KS. The patient remains disease-free at present.

There are three cases of KS occurring as an immune restoration disease reported in the literature. In each case the disease resolved spontaneously with ART as expected, unlike the present case, in which KS was exacerbated by ART – with rapid dissemination and pain and necrosis necessitating irradiation and systemic chemotherapy and stopping ART altogether. One should always consider a broad differential diagnosis and obtain diagnostic histopathology for persistent skin papules or nodules, which may be atypical in presentation and behaviour as shown here, in HIV-1 infected patients.

P98

THE CAMBODIAN TREATMENT ACCESS PROGRAM: OBSERVATIONAL DATA FROM THE SOCIAL HEALTH CLINIC

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The Cambodian Treatment Access Program (CTAP) is a collaboration between The National Center for HIV/ AIDS, Dermatology and STIs (NCHADS) of the Ministry of Health, Cambodia, The National Center in HIV Epidemiology and Clinical Research (NCHECR), University of New South Wales, Sydney, NSW, Australia and Roche Pharmaceuticals. The program includes technical assistance to the national HIV program and the establishment of an HIV/AIDS treatment clinic in Phnom Penh.

The Social Health Clinic (SHC) provides outpatient care, including antiretroviral therapy (ART), for HIV infected adults and children. Comprehensive patient care is provided by a multidisciplinary team in collaboration with the National Tuberculosis Program, the National Public Health Laboratory, national hospitals and community based organisations. The SHC contributes to national ARV scale-up through pilot testing of key program activities, including ARV procurement and data management, training of health care workers and operational clinical research. We report here on the baseline characteristics of patients seen in the first 6 months of the SHC's operation.

For the six month period to May 10th 2005 a total of 257 adults and 9 children were enrolled at the SHC. Forty seven percent were female, 42% were resident outside Phnom Penh, 51% had primary school only or no formal education and 26% were not able to read and write. Prior ARV had been obtained by 25 patients (9%) in the private sector. At baseline nearly two thirds were in WHO stage III or IV and 158/253 (62 %) adults had a CD4 count under 200 cells/ mL. Baseline liver function tests were abnormal in 75/155 (52%) patients,19/140 (14%) were hepatitis B sAg positive, and 7/140 (5%) hepatitis C Ab +ve. Anaemia (Hb<110 g/dl) was present in 62/260 (24%) patients. In univariate analysis male sex and WHO Clinical Stage 4 were associated with an increased risk of abnormal liver function, and CD4 count under 200 cells/mL and WHO Clinical Stage 3 or 4 were associated with anaemia.

A history of tuberculosis was reported by 42 patients (16%) and following enrollment thirty five (13%) patients received tuberculosis treatment. Six patients received treatment for presumptive PCP. Ninety five (35%) patients commenced ART.

In these initial data advanced HIV disease is associated with abnormal liver function and anaemia, conditions that complicate initiation of ART. The SHC has begun to contribute to the expansion of access to ART in Cambodia through treatment of individuals and support of the national HIV treatment program.

P99

SELECTION FOR ANTIRETROVIRAL THERAPY IN AN HIV CLINIC IN PHNOM PENH, CAMBODIA

 $\frac{Chel \ S^{1}}{S^{1}}, Saphonn \ V^{1}, Huffam \ S^{2}, Elliott \ J \ H^{2}, Hun \ C^{1}, Pouv \ S^{1}, Oelrichs \ R^{2}, Kaldor \ J^{2}, Cooper \ D \ A^{2}, Mean \ C \ V^{1}$

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Cambodia is a low income country with an estimated HIV prevalence of 123,100 (1.9%) adults aged 15 - 49. Despite rapidly increasing access to antiretroviral therapy (ART), the number of people receiving ART at end 2004 was only 25% of those estimated to be in need. The majority of ART sites (16/20, 80%) use a selection committee to select PLHA for ART using clinical, immunological and 'social' criteria. The average time from first visit to start of ART is greater than 3 months.

The Social Health Clinic (SHC) is an out patient HIV clinic in Phnom Penh established by NCHADS in 2004. All patients are referred from a nearby free HIV counseling and testing service. All those eligible on clinical (WHO Clinical Stage IV) or immunological (CD4<200 cells/mm³) criteria can start ART after attending at least 3 counseling sessions, and subject to agreement between the counselor, treating doctor and senior clinician. PLHA resident more than 40 km from the clinic must agree to stay in Phnom Penh for the first month of ART and return whenever necessary.

In the first six months of operation the SHC enrolled 266 PLHA; 169 (64%) patients were eligible based on the above criteria of which 88 (52%) started ART. Median time from first visit to commencement of ART was 46 days (range 26 - 111). At baseline only 9% of all patients and 14% of those eligible for ART were in WHO Clinical Stage IV. Incidence of hospitalization was 0.03 episodes per patient month of follow up.

Median baseline CD4 counts were 90/mm³, 44/mm³ and 33/mm³ in all patients, those who started ART and those who were eligible but did not commence ART, respectively. Eligible patients who had been followed for less than three months were less likely to have commenced ART (p<0.001). There were no significant differences within eligible patients between those who did or did not commence ART with regard to sex, residential status or education level.

Selection for ART using clinical and immunological criteria alone can result in equitable and efficient commencement of ART.

P100

HIV PERFORMACE INDICATORS IN A REGIONAL SEXUAL HEALTH CLINIC

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Objective: This study examined the patterns of a minimal set of trend performance indicators from a medium-size, regional sexual health (SH) clinic, the Gold Coast Sexual Health Clinic (GCSHC) in comparison to the national trend during the same period.



Methods: Between 01 January 1998 and 31 December 2004, epidemiological and utility data were collected at the GCSHC, using the Sexual Health Information Program (SHIP). The data were collated and expressed in graphs and tables formats, in direct comparison to the Australian HIV Observation Database (AHOD), representing the "national" standard, over the same period.

Results: Key: GCSHC (-) AHOD (--)

Discussion: This study re-iterated the key roles of SH clinics in the surveillance and provision of ambulatory care in HIV management in Australia; especially as HIV management becomes increasingly complex world-wide, since the introduction of HAART in 1996. However, other HIV performance indicators may be necessary to reflect this increased complexity: degree of adherence; reasons for starting, changing and ceasing treatment; frequency & nature of adverse events and hospitalization; immuno-reconstitution syndrome etc. Standardization of these potential indicators are equally complex. These issues and other comparative epidemiological data & key indicators will be presented & discussed.

P101 (ORAL POSTER SESSION 1 – 24/08/2005 – 17:00 TO 18:00)

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

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ESPRIT, is a phase III clinical trial evaluating the clinical impact of intermittent SC rIL-2 plus antiretroviral therapy (ART) vs ART alone in HIV-1-infected individuals with baseline CD4+ \geq 300 cells/µL. rIL-2 induction consists of three dosing cycles (7.5 MIU q12h for 5 days every eight weeks) in the first 6 months. Thereafter, additional cycles are given to achieve/sustain the CD4+ T-cell target.

The objective was to describe baseline and on-study predictors of CD4+ T-cell response at 24 months in patients initiating at least three rIL-2-dosing cycles.

2090 participants were randomised to rIL-2 and 1,441 had initiated 3+ rIL-2 dosing cycles. Mean age was 41 years, 19% were female, 21% had a history of AIDS-defining illness and median entry and nadir CD4+ T-cell counts were 463 cells/ μ L and 207 cells/ μ L respectively. Median duration of ART was 48 months and 80% had HIV plasma viral load below the level of quantification (<500 copies/mL).

Overall, the mean change in CD4+ T-cells at month 24 was 162, 260, 254 for those receiving 3, 4-5, 6-7 dosing cycles before month 24. The positive predictors of CD4+ T-cell response (>200 cells/ μ L increase from baseline) at month 24 were higher CD4+ T-cell nadir (p=0.006), baseline plasma HIV RNA below LLQ (p=0.013) and receipt of more rIL-2 (p=<0.001). The negative predictors of response were a longer duration of ART therapy at baseline (p=<0.001) and co-infection with hepatitis B or C (p=0.042).

Individual CD4+ T-cell responses remain variable in this cohort, with a variety of factors contributing to a CD4+ T-cell increase. These interim analyses continue to support the notion that rIL-2 exposure is the one factor that can be modified prospectively to improve the CD4+ T-cell count.

P102

RAPIDLY PROGRESSIVE GENERALISED KAPOSI'S SARCOMA ASSOCIATED WITH IMMUNE RECONSTITUTION

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This report describes a case of Kaposi's sarcoma (KS) in a man with undetectable HIV viral load and normal CD4 T-cell numbers. Following eight weeks of generalized lymphadenopathy, the KS progressed over 3 days on skin, conjunctivae, oral, nasal and pharyngeal membranes to threaten airway obstruction.

This patient had been treated with pulsed anti-retroviral therapy (ART) during seroconversion in 2001. He had stopped ART in January 2003 when he had enrolled in a clinical trial of intermittent therapy. He restarted ART 10 weeks prior to developing this generalized life-threatening KS. Rapid response, with shrinkage and disappearance of some lesions, occurred within 1 day following administration of doxyrubicin.

P103 SYPHILIS: THE NEW WAVE

<u>Furner V¹</u>, Chan D¹, Ewing M¹ ¹Albion Street Centre, Prince of Wales Hospital, Sydney, NSW, Australia

The rising incidence of cases of newly acquired HIV infection has been paralleled by an increase in the incidence of STI's including cases of primary and secondary Syphilis in Sydney. In the SESAHS, 125 and 69 new cases of Syphilis were reported in 2003, and 2004 respectively. The increase in new cases of Syphilis requiring treatment has been observed in many HIV and sexual health clinical services, which have responded to this new wave of a very old disease.

We report on a three-year retrospective review of Syphilis at the Albion Street Centre. Over the period January 2002-January 2005 29 cases of primary and secondary Syphilis were diagnosed, requiring acute treatment. 100% of these infections occurred in males, predominantly MSM, predominantly in patients with known HIV infection, with the vast majority of infections being locally acquired. Five patients presented with neurological involvement necessitating inpatient therapy. The cohort demographics, immune and treatment status of those identified as HIV infected, and treatment undertaken for all those diagnosed with infectious Syphilis, will be discussed in detail. A number of issues were also highlighted in the course of providing care for these identified patients that warrant specific discussion including: the spectrum of presentation of infectious Syphilis in HIV infected patients, value of regular testing, transmission of Syphilis in the context of HIV infection, contact tracing, treatment of contacts, current treatment guidelines, management of neurological complications, monitoring of treatment response, and value of lumbar puncture in assessing neurological involvement.

P104 DISTAL SENSORY POLINEUROPATHY IN HIV

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Objectives: To determine prevalence of distal sensory polyneuropathy (DSP) in HIV infected patients, whether clinical manifestation are affected by HIV disease stage, CD4 cell count or other clinical variables.

Methods: Seventy-two of HIV patients attending Pokdiksus out-patient clinic at Cipto Mangunkusumo Hospital in July to September 2004 were includes in this cross sectional study after excluding confounding factors. An interview focusing on risk and symptoms of DSP, neurologic examination and electroneurography study were performed. DSP was diagnosed if subjects had symptoms of peripheral neuropathy in distal limb, decreased or absent ankle jerk, decreased or absent vibratory perception at the toes and electroneurographic evidence of polyneuropathy. A p value of < 0.05 was considerd significant.

Results: Of the 72 patients 52 were classified as AIDS and 20 as asymptomatic HIV. The majority of patients were males 62 (86.1%). The ages of patients ranged from 21-45 years, mean 26.9 years. Risk factors for HIV were IDU in 73.6% and sexual in 26.4%. CD4 cell count ranged from 1 to 1562 sel/mm³, median 113 cell/mm³. Clinical and electroneurographic evidence of DSP was revealed in 20.8% (15/72) of the patients. Significant association between lower CD4 count and DSP was found (p=0.002).

Conclusion: DSP was found in 20.8% of the patients. Subject with low CD4 cell count commonly have DSP.

P105 CLINICAL PROGRESSION OF INDIVIDUALS AND EVOLUTION OF HIV STRAINS IN PATIENTS WITH TRANSMITTED DRUG RESISTANCE

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Studies have shown that the presence of drug resistance strains at HIV diagnosis may influence how a patient subsequently responds to antiretroviral therapy. Since 1996 we have documented the presence or absence of antiretroviral drug resistance in patients recently infected with HIV. Data from 1996-2003 shows that on average 12.5% out of 300 individuals tested had resistance to at least one class of drug.

The aim of this study was to follow the clinical progression of individuals and evolution of HIV strains in patients with transmitted drug resistance (TDR).

Thirty-seven individuals had TDR. The proportion of resistance in each class was as follows: protease (5%), NRTI (41%), NNRTI (32%), PI+NRTI (5%), NRTI+NNRTI (11%) and all classes (5%). The progression of disease was followed in twenty evaluable patients for a period of at least 12 months (data from 1999-2005). Thirteen patients remained antiretroviral drug naïve and seven commenced therapy during the period of evaluation. Ten patients who seroconverted within the same time period but had no evidence of TDR acted as a control group.

Four patient HIV strains reverted to wildtype and 16 retained at least one mutation acquired at the time of infection. CD4+ counts and viral load results at month 24 were not significant between the control and TDR (no treatment) groups. CD4/CD8 ratios at baseline and month 24 were as follows: controls 52% v 40%; TDR (no treatment) 74% v 32%; TDR (treatment) 60% v 54%.

This data suggests that patients with TDR who remain untreated are more likely to progress more quickly in the first two years than control or treated TDR patients.

P106

EVALUATION OF SUBCUTANEOUS PROLEUKIN (INTERLEUKIN-2) IN A RANDOMIZED INTERNATIONAL TRIAL (ESPRIT): REGIONAL DIFFERENCES IN BASELINE CHARACTERISTICS OF ESPRIT PARTICIPANTS

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ESPRIT, is a phase III, open-label, randomised, international clinical trial evaluating the effects of subcutaneous (SC) recombinant interleukin-2 (rIL-2) plus antiretroviral therapy (ART) vs. ART alone on HIV-disease progression (ADI) and death in HIV-1-infected individuals with CD4+ T-cells \geq 300 cells/µL.

To describe the baseline characteristics of participants randomized to ESPRIT, overall and by geographic location. Baseline characteristics of randomized participants were summarized.

Four thousand one hundred and fifty patients were enrolled in ESPRIT at 258 sites in 25 countries. Forty percent, 27%. 16%, 11%, 5%, 0.6% were enrolled in Europe, N. America, S. America, Asia, Australia and Africa respectively. The mean age was 40 years, 81% were male; 76%, 11% and 9% were of Caucasian, Asian and Afro-American ethnicity respectively. Of the females enrolled (n=769), 44% were enrolled in Thailand (n=198) and Argentina (n=139). Fifty-five and thirty-eight percent acquired HIV through male homosexual and heterosexual contact respectively. Twenty-five percent had a prior history of AIDS-defining illness (ADI) with M. tuberculosis and oesophageal candida most commonly reported. Median nadir and baseline CD4+ T-cell count were 199 and 458 cells/µL respectively. Median duration of antiretroviral therapy (ART) was 4 years; the longest median duration was in Australia (9 years) and shortest in Asia (2.3 years). Forty-six percent were on a non-nucleoside reverse transcriptase inhibitor (NNRTI) and 49% on a protease inhibitor (PI)-based regimen; 15% were using ritonavirboosted PIs. Use of the latter was highest in Northern Europe, Australia and some sites in North America. Six percent were hepatitis B carriers (SAg positive) and 14% were hepatitis C co-infected. The countries in Europe with the largest numbers of patients reporting IVDU as a mode of HIV acquisition were Spain (n=99), Poland (n=56) and Italy (n=31). Of these patients 84-95% had hepatitis C co-infection. Overall 18% had peripheral fat loss and 9% accumulation of fat at baseline; 10% had dyslipidaemia treated with lipid-lowering medication.

ESPRIT has enrolled a diverse population of HIV-infected individuals including large populations of women and patients of Afro-American and Asian ethnicity often underrepresented in HIV-research. As a consequence, the results of the study will have greater global applicability.

P107

EVALUATION OF A BLOOD STABILISER TO PRESERVE CELLS FOR LOW-COST CD4+ T CELL MONITORING

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Measurement of CD4+ T cells is a critical laboratory test for monitoring of HIV infection to help determine therapy response and risk of opportunistic infections. Flow cytometry (the gold standard) is not technically or economically feasible in most resource-constrained settings. Alternative manual low cost Dynal® T4 Quant and Coulter® Manual CD4 count assays have been found to correlate well with flow cytometry. As sample integrity of whole blood is time dependent this creates difficulties for regional clinical sites in terms of transporting specimens for off-site CD4 testing.

In this study the blood stabiliser Transfix (UK NEQAS) was evaluated for use with the low cost Dynal® T4 Quant bead based CD4 assay. Transfix has previously been shown to preserve blood for flow cytometric CD4 testing. CD4 testing was performed on day 0, 2, 3 and 7 and compared to flow cytometry on day 0. Transfix was added to blood at 1:10 and 1:5 dilutions and compared to untreated whole blood. Studies employing the Dynal assay (n=12) indicated no significant difference in mean CD4 count over the 7 days in untreated samples kept at room temperature. Samples containing Transfix in both 1:10 and 1:5 dilutions displayed a significant decrease in CD4 counts from days 2/3 when compared to base-line (p<0.05)

In conclusion Transfix at a dilution of 1:5 or 1:10 does not maintain the integrity of CD4 cells after 3 days when measured by Dynal assay. This may be attributed to the stabiliser physically contracting the lymphocytes resulting in steric hindrance preventing the CD4 antibody-coated beads to bind during the assay. P108

(ORAL POSTER SESSION 1 – 24/08/2005 – 17:00 TO 18:00)

FINAL SAFETY AND IMMUNOGENICITY OF A PHASE I/IIA TRIAL OF A B-SUBTYPE DNA PRIME, RECOMBINANT FOWLPOX VIRUS BOOST PROPHYLACTIC HIV VACCINE CANDIDATE

 $\underline{\text{Puls } \text{RL}} 1,$ on behalf of the Australian Thai HIV Vaccine Consortium

1National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, Sydney, New South Wales, Australia

This study aimed to assess the safety and preliminary immunogenicity of a prophylactic HIV vaccine consisting of a DNA (pHIS-HIV-B) prime, recombinant fowlpox (rFPV-HIV-B) boost in healthy adults at low risk of HIV infection. This placebo controlled, double blind, single centre trial of a multigenic DNA prime, rFPV boost strategy to induce T cell immunity to HIV-1 was conducted at St Vincent's Hospital in Sydney, Australia. A total of 24 eligible volunteers were randomised to receive intramuscular injection of pHIS-HIV-B (1mg) at weeks 0 and 4, followed by rFPV-HIV-B (5x107 pfu) at week 8 (n=18) or matched placebo (n=6). Primary endpoints were safety and immunogenicity, as determined by interferon-gamma (IFN-y) ELISpot assay at week 9 to a pool of overlapping 15mer peptides, representive of a prototypic subtype B Gag. Secondary immunogenicity endpoints included CD4+ T-cell lymphoproliferative, IFNγ ELISpot, and IFN-γ and IL-2 intracellular cytokine (ICC) responses to Gag and other HIV-1 antigens.

The vaccine regimen was well tolerated and there were no vaccine-related serious adverse events. Local and systemic reactions were mild to moderate. However, the HIV vaccine candidate did not induce significant immunogenicity, with no difference observed between the active and placebo groups as determined by IFN- γ ELISpot responses to Gag (p=0.3) peptides. Furthermore, no consistent immunogenicity could be detected by lymphoproliferative, ICC or antibody responses to range of HIV-antigens presented as recombinant HIV proteins, overlapping peptide pools, whole inactivated virus or recombinant vaccinia-infected targets. Interestingly, only 5/18 (28%) of vaccine recipients and 0/6 (0%) placebo recipients were reactive to fowlpox by Western blot.

The current prime/boost regimen was safe, but not significantly immunogenic. Review of preclinical primate data suggest that the dosing used in this trial may not have been optimal when corrected for relative surface area. Further investigation to determine the optimal dose of these constructs is warranted.

P109 QUANTITATIVE PCR DETECTION OF PARVOVIRUS INFECTION IN AN UNTREATED HIV PATIENT WITH PERSISTENT ANAEMIA

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Serological analysis of parvovirus infection is the usual method to detect acute infection however detection of parvovirus DNA is the best direct marker of active infection. We describe a case of persistent parvovirus infection and anaemia in a man with advanced HIV. The case was a 44 year old man who had recently moved to South Australia. He had previously been diagnosed HIV positive however had stopped taking his highly active antiretroviral therapy (HAART). He presented with severe anaemia (18g/L) and CD4 count of 20 cells/mm³. The patient was admitted and transfused. Parvovirus IgG and IgM were negative. Acute parvovirus infection was confirmed by quantitative Light Cycler PCR (3 x 10¹³ copies/ml) and 5 weeks later by antibody seroconversion. Data from the ensuing 9 months demonstrating fluctuating haemoglobin (Hb), parvovirus DNA levels and the response to the introduction and later discontinuation of HAART will be presented.

P110

FACTORS PREDICTING IMMUNOLOGICAL FAILURE IN THAI PATIENTS RECEIVING ANTIRETROVIRAL TREATMENT

<u>Srasuebkul P</u>1, Ungsedhapand C2, Ruxrungtham K2, 3, Boyd MA1, 2, 4, Phanuphak P2, Cooper D A1, Law M G1 and the HIVNAT study team

1National Centre in HIV Epidemiology and Clinical Research, University of New South Wales, NSW, Australia; 2HIV Netherlands Australia Thailand Research Collaboration and the Thai Red Cross AIDS Research Centre (HIV-NAT), Bangkok, Thailand; 3Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand; 4Dept. of Micro. & I.D., FMC/FUSA, S.A., Australia

Routine monitoring of CD4 count and HIV load (VL) is a financial barrier in developing countries and reduces capacity to enrol new patients. In an attempt to develop a simplified CD4 monitoring scheme we assessed factors associated with immunological failure in Thai HIV-patients receiving antiretroviral treatment (ART) at HIV-NAT.

Factors related to CD4 count return to baseline and CD4 < 200 endpoints were determined. Univariate and multivariate Cox proportional hazards models for multiple treatment failures were used to determine factors related to these endpoints. Multivariate Cox proportional hazards models were developed both with and without VL as a factor in order to build models applicable to situations where VL is not available.

417 patients were enrolled in HIV-NAT studies. There were 403, 211 and 125 patients receiving 1st, 2nd and 3rd line ART respectively. 54% were male, median CD4 and VL at study start were 283 (IQR, 179 - 392) and 19953 (IQR, 5012 - 79433) copies/ml. Independent factors related to CD4 count return to baseline were: currently on triple/HAART (hazards ratio (HR), 0.63: 95% confidence interval (CI), 0.52-0.76), CD4 at baseline (HR 1.34 per 100 cells/µL; 95% CI 1.27–1.42) and changes in CD4 (HR 0.44 per 100 cells/ μ L; 95% CI 0.34-0.57). Inclusion of detectable VL as a covariate did not alter this model. Independent factors related to CD4 < 200 were: CD4 at baseline (HR, 0.20 per 100 cells/ µL; 95% CI 0.17-0.23) and changes in CD4 (HR 0.22 per 100 cells/µL; 95% CI 0.17–0.28). The factors in multivariate models considering VL for inclusion were: CD4 at baseline (HR 0.21 per 100 cells/µL; 95% CI 0.18-0.24), changes in CD4 (HR 0.25 per100 cells/µL; 95% CI 0.19-0.32) and VL detectable (HR 1.94; 95% CI 1.20-3.13).

CD4 at baseline and changes in CD4 were important in predicting both endpoints. Parametric predictive models are to be developed that will allow the probability of a patient on ART failing immunologically to be estimated. These models will be used to determine whether less frequent CD4 monitoring is feasible. This may allow for reduced costs and increased capacity. P111

HEALTH-RELATED QUALITY OF LIFE EFFECTS OF PEGYLATED INTERFERON-ALPHA AND RIBAVIRIN THERAPY IN HCV MONOINFECTION AND HIV-HCV COINFECTION

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Health-related quality of life (HRQOL) in HIV-HCV coinfected individuals with no previous HCV treatment appears similar to HCV monoinfected individuals. The aim of this study was to examine the HRQOL effects of pegylated IFN-alpha and ribavirin therapy in both clinical groups.

Participants recruited from two tertiary level hepatitis clinics in Sydney completed a self-administered questionnaire seeking information about perceived hepatitis C-specific symptoms prior to pegylated IFN-alpha and ribavirin combination therapy, at weeks 18 and 42 on-treatment, and 24 weeks following completion of treatment. HRQOL was assessed using the Short Form-36 Health Survey (SF-36), Visual Analogue Scale (VAS) and SF-6D. Between and within groups comparisons were performed using Student's t test and ANCOVA controlling for age.

The HIV-HCV coinfected group (n=15) was significantly younger (36 vs. 43 years, p=0.004) than the HCV monoinfected group (n=19). Both HCV monoinfected groups showed moderate to large decrements in HRQOL scores from pre-treatment to week 18 on-treatment (HCV: physical component summary (PCS): 47.4 to 40.6, p=0.09, effect size (d=-0.72); mental component summary (MCS): 41.9 to 36.4, p=0.1, d=-0.64; HIV-HCV coinfected: PCS: 47.5 to 39.4, p=0.06, d=-0.84; MCS: 39.6 to 33.6, p=0.2, d=-0.57). This decrement persisted through week 42 ontreatment among the HIV-HCV coinfected group. Moderate to large gains in HRQOL scores from pre- to post-treatment were also observed in both groups (HCV: PCS: 47.2 to 51.2, p=0.3, d=-0.50; MCS: 42.6 to 50.7, p=0.03, d=1.07; HIV-HCV: PCS: 46.9 to 52.4, p=0.2, d=0.60; MCS: 42.1 to 52.5, p=0.03, d=1.25). There were no significant differences in HRQOL between the two groups in all measures at each time point. Among individuals who completed followup (n=25), 64% achieved a sustained virological response. There were no significant differences in pre- (PCS: 47.1 vs. 47.3, p=0.9, d=0.02; MCS: 43.4 vs.39.7, p=0.3, d=-0.44) and post-treatment (PCS: 52.5 vs. 45.1, p=0.08, d=-0.79; MCS: 51.4 vs. 50.5, p=0.8, d=-0.12) HRQOL scores between sustained virological responders (SVR) and non-responders. However, post-treatment PCS score was marginally higher in the SVR.

Our results suggest that there is no evidence of greater HRQOL impairment in HIV-HCV coinfected than HCV monoinfected individuals at all phases of pegylated IFNalpha and ribavirin therapy. Larger prospective studies may be able to more rigorously evaluate differential impact of treatment across HCV patient groups. P112

SUBSTITUTION TO EFAVIRENZ FOR NEVIRAPINE ASSOCIATED ELEVATIONS IN LIVER FUNCTION TESTS: A RETROSPECTIVE MULTI-CENTRE CASE NOTE REVIEW

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Elevations in liver function tests (LFT's) can occur in up to 10% of patients taking nevirapine treatment for HIV infection. These elevations can result in clinical hepatitis in some cases and may persist. We performed a retrospective analysis on 23 patients who had elevated LFT's whilst on nevirapine and who had efavirenz substituted for nevirapine. Significant improvements in ALT and bilirubin were noted after 12 weeks with a trend to reduction in ALT and GGT. All patients who had an undetectable HIV viral load at the time of switch remained undetectable.

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COMMUNITY PROGRAM POSTER ABSTRACTS

P113

(ORAL POSTER SESSION 2 – 25/08/2005 – 15:30 TO 17:00)

A DESCRIPTION OF PUPLIC PRIVATE PARTNERSHIP SUPPORTING THE RAPID ROLLOUT OF ARVS IN SOUTH AFRICA

 $\frac{Grimwood A^{i}}{^{1}Absolute Return for Kids (ARK), Cape Town, South Africa$

ARK SA is a UK based children's charity, funded mainly the hedge fund and private banking sectors, whose mission here is to ensure better outcomes for HIV affected children by ensuring access to HIV care, treatment and support by their carers.

Presently an estimated 600 000 out of 6 million HIV infected South Africans require therapy. The SA government has planned 1,4million to be on therapy by 2008/9 but with only 42000 currently on ARVs in the public sector much help is needed to attain this goal.

ARK has agreements with 2 Provincial Governments (WC & KZN) to support their efforts in the rollout of ARV treatment. Effective and sustained management of programmes of this magnitude are best placed at the primary level of care within community health care centres and local clinics where the majority of patients are seen, the more complicated infections, drug reactions and immune reconstitution syndromes managed at the secondary and tertiary levels.

ARK has established swift acting teams (SWAT) of doctors, nurses, pharmacists, site managers, data capturers etc at 14 primary, 8 secondary and 2 tertiary levels of care in these 2 provinces. Sites and treatment protocols are determined by governments and ARK and support (staff and equipment) negotiated with clinic staff, government and ARK. ARK support is for three years to enable governments to fill these posts according to their plans, while staff are capacitated and systems instilled/developed to better manage ARV treatment at the community level. To support the patients at this level ARK has also established a community based adherence programme (see abstract X) at clinics as well.

Since November 2003 ARK SWAT teams have assisted about 3000 patients' access to ARVs (including 2000carers of children) in the WC and about 310 patients over the last 2 months in KZN positively impacting on at least 4000 children.

Successful public private partnerships are critical in ensuring the maximum number of patients and their dependents are able to benefit from the rapid roll out of the ARV programme.

P114 (ORAL POSTER SESSION 2 – 25/08/2005 – 15:30 TO 17:00)

A MODEL OF A COMMUNITY ADHERENCE PROGRAMME SUPPORTING THE RAPID ROLLOUT OF ARVS IN SOUTH AFRICA

<u>Grimwood A</u>¹, Jason A¹, Ireland J¹ ¹Absolute Return for Kids, Cape Town, South Africa

ARK SA has established antiretroviral treatment services at 19 sites in the Western Cape and 10 sites in KwazuluNatal over the last 18 months with approximately 3500 patients put onto HAART. Its target is 10000 in 3 years.

Adherence is key to success and ensuring that this occurs at the most sustainable level of care, i.e. the primary level is crucial. At present there are many differing models of care at this level with varying outcomes. Here we propose an efficient model of adherence for the developing world where there are overwhelming numbers of infected people.

Most ARK supported sites have community volunteers (patient advocates, PAs) or home based carers trained primarily to support patients who are on HAART through various patient centered activities and to a lesser extent the clinic team. Most critical is the psychosocial evaluation of patients at their homes prior to the initiation of treatment. Once patients have commenced therapy they are followed up at home intensively for the first 6 months by their designated PAs who assess ongoing adherence (through pill counts, pill pickups, clinic visits), adverse events as well as provide support/advocacy for their clients and report their findings to the clinic teams for further action as required. Each PA has about 20 patients they follow up intensively and about another 50 (adherent) they keep in contact at a much lower level of interaction. Factors that impact negatively on adherence are lack of disclosure, especially to partners/ family, food insecurity, fear of side effects, intermittent alcohol abuse with domestic violence, home insecurity to name a few.

These volunteers are paid a stipend at agreed government rates. ARK in line with its strategy of partnering and collaborating sources local NGOs to manage support and mentor these volunteers once they have gone through their training.

For this model of community adherence to be sustained ongoing support would need to come from government. Thus it has to demonstrate value through improved individual adherence and replicability in other environs.

P115 (ORAL POSTER SESSION 2 – 25/08/2005 – 15:30 TO 17:00)

HOUSING AND HIV; A KEY TO WELLBEING FOR PLWHAS

Hall J¹

¹Team Leader Community Support Program, HIV Services Unit, Victorian AIDS Council

Whilst many people are living well with HIV, the Community Support Program of the Victorian AIDS Council provides support, assistance and advocacy for clients experiencing a range of difficulties in many areas, throughout the spectrum of need. Housing is one such issue, but one which has broad and extensive consequences for those with complex health and social issues as a result of HIV/AIDS.

Housing presents as a critical issue for most of the people with whom we work, in the context of access, affordability, appropriateness and stability.

The lack of housing stock, long waiting lists and at times substandard transitional housing, places clients at risk; at physical risk from others, at risk from themselves from an emotional and self harm perspective and at risk from the sector, in failing to respond adequately to real community needs. Ultimately this impacts upon health outcomes.

We represent out clients because those with whom we work are often at the bottom of the barrel. Most, if not all, are used to the levels of discrimination and stigma attached to their plight, and would not feel comfortable in representing their own views.

To some of the clients with whom we work, who are in need for secure housing,

- 1. throw in issues of poverty
- 2. add in sexuality and sexual practices
- 3. combine with drug and alcohol issues
- 4. add a touch of sex work
- 5. overlay with treatments, adherence and side-effects
- 6. mix with body image and self esteem
- 7. add disabilities
- 8. and finish with mental health issues.

All of this contributes to a climate of fear. Self-care, appropriate nutrition, effective and timely access to medical and other services may be affected. Ultimately health and well-being is being compromised with people being hospitalized to break the cycle.

This merely shifts the burden from the housing sector, to the clinical setting, with the cost being born from this sector. We have people residing long term in hospitals and in some cases nursing homes. Certainly the pressure exists for the latter. Hardly the most appropriate community response.

The lack of access to appropriate housing seems to be an added layer of discrimination to an already marginalized group. Secure housing should be seen as a starting point to enhance health outcomes for our clients, as it should be for everyone in our community.

Client profiles will be presented illustrating the levels of complexity.

P116

(ORAL POSTER SESSION 2 – 25/08/2005 – 15:30 TO 17:00)

ATPA/ASHM COURSES IN HIV MEDICINE FOR COMMUNITY WORKERS AND REPRESENTATIVES OF THE PHARMACEUTICAL INDUSTRY

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¹HIV Programs Coordinator ASHM, NSW, Australia; ²Project Officer ASHM, NSW, Australia

The AIDS Treatment Project Australia (ATPA) is a specific and dedicated treatment program auspiced by the National Association of People with AIDS (NAPWA) that aims to promote health monitoring, treatments and treatments awareness, and support education and information initiatives for people living with HIV/AIDS.

In collaboration with the Australasian Society for HIV Medicine (ASHM), the ATPA offers a number of Courses in HIV Medicine for both Community Workers and the Pharmaceutical Industry.

Oversight of the Courses in HIV Medicine is carried out by the ATPA Advisory Group, which consists of clinicians, researchers and community representatives. The modules are structured to give participants the basic science of HIV pathogenesis, paradigms for treatment, overviews of opportunistic infections and malignancies, toxicities and side effects, news of cutting-edge research as well as the socio-economic aspects of living with HIV. The courses finish with a panel of PLWHA discussing of the lived experiences of HIV infection.

Speakers for the Courses are drawn from experts in the various fields and include lecturers in medicine from universities, clinicians, HIV specialists, medical researchers and social scientists, as well as PLWHA themselves.

Participants are given appropriate resources for pre-reading and they are given a pre-course evaluation to assess their existing knowledge base. This is followed by a post-course evaluation.

This presentation will outline the syllabuses we have in place for the two day Short Courses and the one-day Advanced Course.

Evaluations and feedback from the courses will be presented, which will highlight what the participants find valuable, and how adjustments are made to the courses to satisfy the needs of different groups of participants. Generally the results have been very positive. The Pre- and Post-Course knowledge evaluations indicate that before the courses participants can correctly answer between 35 and 38% of the set questions, while after completing the courses, they consistently answer over 80% correctly.

P117 (ORAL POSTER SESSION 2 – 25/08/2005 – 15:30 TO 17:00)

POSITIVE WOMEN'S VIEWS ON ROUTINE ANTENATAL HIV TESTING

McLoughlin A¹, <u>McCarthy G¹</u>, Machon K¹ ¹National Association of People Living with HIV/AIDS

To date, Australian HIV testing policies in Australia have recommended pregnant women be tested on the basis of risk assessment and clinical indication. With a low HIV seroprevalence, it has been considered that universally offering antenatal HIV testing to all women would be neither appropriate nor cost-effective. Although some have argued HIV testing be routinely offered in pregnancy, others in the clinical and affected communities have opposed this.

A recent analysis by Graves et. al. suggested that there may now be economic and other arguments in favour of routinely offering antenatal HIV testing. Between 1998 and 2002, HIV was diagnosed in the babies of eight of fifteen HIV positive mothers who were not aware of their HIV status. No HIV transmission occurred in 103 women who were aware of their HIV positive status. Arguments are now being made that revised policies should recommend routinely offering HIV testing in pregnancy.

The National Association of People Living with HIV/AIDS (NAPWA), through its NAPWA Women's Network, has been canvassing the views of HIV positive women on this subject. NAPWA retains serious concerns about the practical implementation of routine testing in the antenatal setting. There are major failures in the application of current policy, and serious deficits in support and referral services, both of which would need to be addressed urgently. These include:

- 1. evidence women have been tested for HIV without consent or knowledge;
- varying clinical knowledge and capacity for risk assessment among GPs, obstetrics specialists and other clinicians;
- 3. at least one recent case in which an HIV positive woman was advised to terminate her pregnancy;
- 4. a lack of clear or identified referral services for clinical or peer support, and availability of appropriate services varies widely between and within the states;
- 5. absence of clear counselling guidelines and treatment protocols;
- 6. the possibility that women at highest risk or presenting later in pregnancy would continue to be 'missed' under this policy approach.

This poster will explore these issues in further detail, and present NAPWA's views on the ethics and practicalities of developing appropriate testing policy in the antenatal setting.

P118 (ORAL POSTER SESSION 2 – 25/08/2005 – 15:30 TO 17:00)

CUMULATIVE STRESS AMONG COMMUNITY HEALTH WORKERS PROVIDING HOME BASED CARE TO PLWHAS

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The study investigated the effectiveness of home-based care (HBC) services provided by community health workers (CHWs) involved with people living with HIV/AIDS (PLWHAs) in Teso District, Kenya. Subjects were 240 male and female CHWs based in the said district. Findings indicate that CHWs provided a range of care services to PLWHAs that included counselling; diagnosis and treatment for opportunistic infections; injection and wound dressing; nursing care; referrals; trainings in self-care and provision. This not withstanding, only 22.5% of these CHWs were formally trained in HBC. Basically all the CHWs lacked essential kits to do their home care work efficiently and effectively. Consequently, there were glaring inadequacies in the nature and quality of HBC provided ($\boxtimes 2 = 70.505$, df = 3, p < 0.05). CHWs suffer another setback, which is a serious lack of care, support and treatment when they themselves fall sick or are otherwise disabled or incapacitated. No scheme exists to cater for health and other needs of CHWs. The biggest concern then remains: can one give that which he/she hath not?

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P160 SUPPORTING PEOPLE FROM MULTICULTURAL BACKGROUNDS - THE VICTORIAN EXPERIENCE

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Stigma, discrimination and isolation are often experienced by people living with HIV and Hepatitis C. These issues can be compounded for people from a multicultural background. In addition, there can be added difficulties such as accessing services and support, and understanding the complexities of treatment and transmission.

In 2000 an increase in HIV notifications was identified in Victoria in men and women from countries which have a high prevalence of HIV. It was also recognised that a sizeable proportion of people with Hepatitis C are from Culturally and Linguistically Diverse backgrounds (CALD).

This poster will outline a clinical support service which is run by The Alfred Hospital. The service works with people from multicultural backgrounds who have been diagnosed with HIV and Hepatitis C.

The service aims to improve access and equity to healthcare services and reduce the isolation faced by individuals. This is achieved through bi cultural workers who can provide support, advocacy, outreach, and access to and interpretation of information relating to health needs.

The poster will outline the model of the service which is based on the New South Wales, Multicultural HIV/ AIDS and Hepatitis C Service and how the program has been adapted to suit the Victorian context. The poster will highlight the needs of clients, the challenges and strengths of utilising co workers in a support role and the outcomes identified by clients, the service and their referring workers. Key learnings and directions for the future will be highlighted.

EDUCATION POSTER ABSTRACTS

P119

SAME SKY PROJECT: SUPPORTING SAME SEX ATTRACTED YOUTH IN REGIONAL WA

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Young people grappling with same sex attractions (SSA) face enormous isolation, conflict and stigma in making sense of their feelings, and developing as a young person within the community. Young SSA people in rural and regional areas experience higher levels of isolation, less access to support and a sense that only the large cities can provide support. This presentation will draw on the experiences of the Same Sky project and its collaborators to look at ways of supporting same sex attracted youth across four very different regional area of WA.

The Same Sky project aimed to build, develop and sustain local community support initiatives for same sex attracted young people and their families in Albany, Bunbury, Geraldton and Kalgoorlie areas in collaboration with regional and metropolitan services. Strategies focused around: building professional development; developing community capacity and peer based skills; producing resources; and developing locally relevant outreach approaches. The paper will also draw on continuing research into the peer based models utilised and their application or relevance to local regional communities.

This presentation will present some of the strategies utilised in the program, both successful and unsuccessful and the application of the learnings to sexual health and mental health initiatives generally. The paper will highlight how programs need to ensure flexibility, negotiation and local connection in supporting the development of local initiatives to support marginalised or at risk youth. P120 WITHDRAWN

EPIDEMIOLOGY POSTER ABSTRACTS

P121

THE USE OF COMPOSITE ENDPOINTS IN HIV CLINICAL TRIALS

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Choice of endpoint in clinical studies in which two or more randomised treatments are being compared is critically important. AIDS, virological failure or treatment cessation have been used as primary endpoints in HIV therapy trials. Using AIDS as an endpoint requires a large sample size and long follow-up to achieve a sufficient event rate. An endpoint of virologic suppression may mask differences in treatment arms, if for example one arm is subject to early failure and successful salvage. Thus a composite endpoint which incorporates a range of patient's experiences may better address the clinical issues at hand and would have an event rate high enough to detect differences between the treatment arms with a reasonable sample size.

However, the decision to use any composite endpoint needs to be undertaken judiciously. The ability of the chosen composite endpoint to act as a surrogate for the endpoint of interest and the time period over which this relationship holds, needs to be established. The treatment effect can be diminished if some components of the endpoint exhibit no or divergent effects in response to treatment. In the example above one arm may have higher rates of switch while the other has a higher rate of detectable viral load. In this scenario there could be no difference between treatment arms based on a composite endpoint but significant differences in both components of the composite.

In accordance with findings of reviews on the use of composite outcomes in randomised trials, NCHECR supports the following recommendations: 1.the choice of endpoint should be driven by the trial's clinical objective; 2.the endpoint should be clearly defined in the study protocol along with methods for randomisation, follow-up till the end of trial regardless of treatment cessation or reaching initial endpoint; 3. the composite endpoint should be clearly defined as the primary endpoint with components included as secondary endpoints; 4. components should be reported along side the composite endpoint; 5. reporting of the composite endpoint should be clear and precise, avoiding suggestion that the treatment effect demonstrated for the composite hold true for components of the endpoint.

P122

CANCER INCIDENCE IN PEOPLE WITH HEPATITIS B OR C INFECTION: A POPULATION BASED COHORT STUDY

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The risks of hepatocellular carcinoma (HCC) following hepatitis B and/or hepatitis C virus (HBV HCV) infection are well known. The possible associations of HBV/HCV infections on lymphatic cancers are less well understood. We aimed to quantify the risk of any cancer among persons diagnosed with HBV/HCV infections in a retrospective cohort study.

The analysis cohort consisted of 39109 people with HBV, 75834 people with HCV and 2604 people with HBV/HCV co-infection, notified to the NSW State health department between 1990 and 2002. Their data were probabilistically linked to the NSW Central Cancer Registry (CCR) and the National Death Index. For each ICD10 category of cancer, standardised incidence ratios (SIRs) were calculated using standard State cancer rates, and were adjusted for age, sex and calendar period. Risk time commenced at HBV/HCV notification and ended at date of cancer diagnosis or was censored at the first of date of death or 31st December 2002. To reduce the potential of confounding by HIV co-infection, data from localities with high HIV prevalence were excluded from the analysis of HIV related cancers.

The proportions of people ever to be notified with cancer were 2.7 % for HBV, 2.3 % for HCV and 3.3% for HBV/ HCV co-infection. SIRs for HCC were 30.6 (95% CI 25.7 – 36.5), 22.7 (95% CI 19.1 –26.5) and 30.3 (95% CI 13.6 –67.5) respectively. Increased risk after adjustment for possible HIV infection were detected for Burkitt's lymphoma and HBV notification (SIR 12.9 95%CI 5.4 – 30.9) and immunoproliferative malignancies following HCV notification (SIR 6.1 95%CI 1.9 – 18.2), specifically Wadenströms macroglobulinaemia (SIR 5.1 95%CI 1.3 – 2.3).

This is the first study to describe the risk of all cancers in HBV/HCV infected populations and the first to report and association between HBV infection and Burkitt's lymphoma. The significantly increased risk of immunoproliferative malignancies associated with HCV infection is consistent with previous studies. HCC remains the cancer with greatest increased risk with SIRs two to three times greater than those for the other HBV/HCV infection associated cancers.

P123 PREDICTING HOSPITALIZATION AMONG HIV-INFECTED ANTIRETROVIRAL NAÏVE PATIENTS STARTING HAART: DETERMINING CLINICAL MARKERS AND EXPLORING SOCIAL PATHWAYS

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This study aimed to examine hospitalization patterns in a Canadian cohort of HIV-infected persons initiating Highly Active Antiretroviral Therapy (HAART) using clinical markers and the analysis was based on an adult cohort who initiated triple therapy with HAART between 1996 and 1999. The primary outcome was hospitalization. Cox-proportional hazard regression was used to model the simultaneous effect of various prognostic variables on hospitalization.

A total of 1213 people were eligible to participate and 541 (45%) were hospitalized for a day or more after initiating HAART. After controlling for variables found to be significant in the univariate analyses, low CD4, high HIV RNA, female gender, a history of injection drug use, AIDS at baseline, PI regimen, adherence, doctor experience, and previous hospitalization remained predictive of hospitalization in the final model. Those with high HIV RNA (>100,000 copies/mL) were 1.36 times (95% CI: 1.16,1.59; p<0.001) more likely to be hospitalized than those with lower counts. Subjects with CD4 counts (cells/mm³) <50 and 50-199 were 1.62 (95% CI:1.28,2.06; p<0.001) and 1.29 (95% CI: 1.07,1.56; p<0.001) times more likely to be hospitalized, respectively, than those with counts =>200. This demonstrates that baseline CD4 and HIV RNA, in addition to other clinical and social variables, can be useful predictors of hospitalization.

P124 WITHDRAWN
P125

TREND IN MORTALITY FOLLOWING HIV AND AIDS IN AUSTRALIA: A LINK BETWEEN HIV AND AIDS DATABASES WITH AUSTRALIAN NATIONAL DEATH INDEX, CAUSES OF DEATH, AND MORTALITY RATES

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Deaths due to HIV and AIDS have been decreased markedly with introduction of Highly Active Antiretroviral Therapy (HAART) in developed countries. Although the same decreasing trend in mortality rates among people with HIV has been revealed in Australia, the Australian HIV Observation Database (AHOD) has shown death rates are still about 2% per year, approximately 10-fold higher than the rate expected in HIV-uninfected people of a similar age.

Under national surveillance procedure, mortality following AIDS diagnosis is not thought to have been captured completely after introduction of HAART in Australia and mortality following HIV infection prior to AIDS is limited to the data from AHOD which is a sub-sample of HIV infected people.

To obtain complete data on mortality and causes of death in people diagnosed with HIV or AIDS, a linkage is to be performed between 19,772 HIV and AIDS diagnoses reported through national surveillance procedures and the National Death Index (NDI) maintained at the Australian Institute of Health and Welfare (AIHW). The linkage includes 6,065 HIV diagnoses that have been matched to a subsequent AIDS diagnosis, 3,232 AIDS diagnosis without a matching prior HIV diagnosis, and 10,475 cases of HIV diagnosis only.

The first part of this paper will describe the accuracy of the linkage study. Causes of death following HIV and AIDS will be summarized and Standardized Mortality Ratios (SMR) calculated to estimate trends in mortality before and after the HAART era in Australia.

P126

PREVALENCE OF HIV-1 GENOTYPES AND RESISTANCE TRANSMISSION IN SOUTH AUSTRALIA

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Since its discovery more than 20 years ago, HIV has dispersed globally and differentiated into more than 11 genotypes of virus, as well as more than 15 circulating recombinant forms (CRFs). The virus genotype can be used to determine the geographic origin of the strain. Initially, in South Australia (SA), the predominant genotype was type B, reflective of a mostly Western European population. However, as SA has become home to many immigrants and refugees, there has been an increase in the proportion of non-B type virus genotypes present in the SA HIV positive community. This study has examined the genotypes of virus from 675 HIV positive patients to determine the proportion of non-B types present in this population. These genotypes were determined from ~1200 base pairs (bp) of viral nucleotide sequence of the HIV pol region. Sequences were analysed by comparing with GenBank deposited reference sequences and by submission to the Stanford HIV sequence database. 9.7% of genotypes were non-B types.

Twenty-five samples that had been sequenced for the pol region had also been sequenced for a 531 bp fragment of the envelope (env) gene and a 480 bp fragment of the vif/ tat2/rev (tat) region. Genotypes generated from the env and tat regions were compared to the genotypes determined from the pol region to see if there was congruence between different gene regions. For four pol AE samples, the tat region clustered with type A sequences. One sample that was type B for PR and C for RT, was type C for envelope and type B for vif/tat2/rev.

Phylogenetic analysis of the SA sequences, combined with patient information such as date of infection and treatment, detected a cluster of related sequences that were from newly infected patients whose virus carried the primary mutation K103N. This cluster has grown in number over 4 years with 18 by the end of 2004 patients having the mutation. In 2005, there have been two new patients added to the cluster who do not have the mutation. Other primary resistance mutations detected in treatment naïve patients in SA were K70R, L74V, V106A, V118I, Y181C and M184V.

P127 (ORAL POSTER SESSION 1 – 24/08/2005 – 17:00 TO 18:00)

MODELLING THE IMPACT OF CASUAL AND REGULAR PARTNERSHIPS ON HIV INCIDENCE AMONG HOMOSEXUAL MEN IN AUSTRALIA

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The aim of this study was to assess the relative contributions of HIV transmission in casual and regular partnerships to HIV incidence among homosexual men in Australia.

A mathematical model was developed of HIV transmission among homosexual men in Australia during 1995-2004, distinguishing unprotected anal intercourse between casual (UAIC) and regular (UAIR) partners. For 2004-2010, the effect of changes in unprotected anal intercourse risk levels for either casual or regular partnerships were compared with a null model of stable levels of UAI.

The models suggested that in 1995, about 40% of incident cases were attributed to UAIC, increasing to above 65% in 2004. From 2004, a stable level of UAI resulted in a plateau of about 400 cases per year. A 10% annual UAIC increase resulted in a 61% increase in HIV incidence by 2010, whereas a 10% annual increase in UAIR resulted in only a 27% increase in incidence. Conversely, 10% annual decreases in UAIC and UAIR resulted in a 38% and 20% drop in incidences respectively.

The models suggest that since 1995, there has been an increase in the contribution of casual partnerships to HIV incidence. Continued UAIC increases would result in an increased proportion of incident cases attributable to casual partnerships, and a dramatic increase in overall HIV incidence, much more than that expected from a similar UAIR increase.

INDIGENOUS HEALTH POSTER ABSTRACTS

P128

THE THREE ADVOCATES AND THE BUREAUCRAT – BUILDING STATE AND REGIONAL PARTNERSHIPS IN ABORIGINAL SEXUAL HEALTH

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NSW has in place a large, well developed network of Aboriginal sexual health workers (ASHWs) based within both Aboriginal Community Controlled Health Services and public sector health settings. This has been achieved through an effective partnership between the NSW Department of Health and the Aboriginal Health and Medical Research Council of NSW.

A recent addition to this structure has been the introduction of three regional Aboriginal sexual health positions to bridge state and local structures. The role of all three positions is to support the work of the ASHWs within their region and to further support the partnerships between Area Health Services and Aboriginal Community Controlled Health Services.

In addition, each of the three regional positions has a statewide role with a specific focus which includes the development of:

- 1. statewide workforce development initiatives for ASHWs;
- 2. Aboriginal sexual health education resources; and
- 3. strategies to increase access to sexual health and harm minimisation support services and education resources for Aboriginal people in correctional facilities across NSW.

The three regional positions and the Department of Health meet quarterly to discuss statewide strategic directions in order to support their implementation across NSW.

This paper will describe the structure of the Aboriginal sexual health program in NSW, paying particular attention to the three regional positions, providing examples of the work undertaken at regional and state levels.

ashm2005hobart

INTERNATIONAL AND REGIONAL ISSUES POSTER ABSTRACTS

P129

HIV AND HUMAN RIGHTS IN AN EAST AFRICAN CONTEXT

Burke M

HIV is situated in the lives of people – social and sexual, embedded within cultural and gender narratives remote, often, from the modern world of institutionalized health care. The discourse of Human rights will allow international discourse to be facilitated along a human rights trajectory. A human rights approach is predicated on an established and influential legal system based on enlightenment principles. While this may, or may not resonate in the capital cities of developing countries it will struggle to do so in the narratives of rural villages. This is not to discredit such an approach, but merely to place human rights within its context and recognize its constraints. The importance of conceptual and normative equivalence is explored and applied to human rights strategies in east African contexts.

P130 MEN, KNOWLEDGE AND PMTCT IN TANZANIA

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Forty six men whose partners had participated within the positive arm of a PMTCT program in Muheza, Tanzania were surveyed. These men were surveyed as they returned to the local hospital paediatric ward to access treatment for their children.

All believed the virus can be transmitted from HIV positive mother to child (46/46). Many believed this could be transmitted during pregnancy before labour (33/46). Nearly all believed this could be transmitted during pregnancy (43/46). All believed that HIV can be transmitted during breast feeding (46/46). All believed there was a way of preventing transmission (46/46). Unprompted the following methods of transmission were listed – hospital medicine (40/46), not breast feeding (29/46), Surgery (9/46), and exclusive breast feeding (1/46).Prompted 39/45 knew there was a hospital medicine available to prevent mother to child transmission. Only 19/39 were able to identify that both mother and child needed to take this medicine.

P131

GLOBAL FUNDS FOR HIV AIDS TUBERCULOSIS AND MALARIA (GF-ATM) RELATED INITIATIVES IN AN ACADEMIC ISTITUTION IN FIJI

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Aim: Review of GFATM initiated activities undertaken by the Fiji School of Medicine (FSM) is presented here since its inception in second half of 2004, after successfully securing funds in round II of the call for submissions.

Background and Objectives: FSM, which was part of the multi-country, multi-institution application, have been assigned with tasks of mainly the training issues in the region and in the country. Specifically, it has been assigned to undertake the training of lab personnel in the region for the diagnosis of HIV AIDS and STI infections, including the quality management of lab services. It also has been assigned the task of revising and disbursing the WHO syndromic management guidelines of STI in the region. Finally, it has been allocated to undertake the voluntary confidential counseling and testing (VCCT) training, along with clinical training for the health professionals in the country and the region.

Strategy: A multi- institutional approach has been adopted by the FSM to achieve these goals, through alliance with its regional and international partners already active in the field. WHO coordination and assistance is being used for delivery of most of the distance and flexible learning courses. Much of it is anticipated to achieve through Pacific Open Learning Health Network's (POHLN) existing network and resources. Detailed description of these strategies would be described in full version of the presentation.

P132

(ORAL POSTER SESSION 1 – 24/08/2005 – 17:00 TO 18:00)

OBLIGATIONS AND RESPONSIBILITIES OF THE CLINICAL RESEARCHERS REVISITED: LESSONS FROM THE 'TENOFOVIR TRIAL CONTROVERSY IN CAMBODIA'

<u>Thomas J</u>

Summary: This paper examines some of the key issues involved in the controversy as it is related to the Cambodian arm of the proposed multi country clinical research on the efficacy of Tenofovir as a pre-exposure prophylaxis. The purpose of this paper is (a) to describe the ethical dilemmas raised by the trial, (b) to gather relevant background information of the preparation of the trail (c) to document the perspectives of the potential trail participants (d) to discuss some of the ethical issues specific to the trial and (e) to place the trial in the context of the broader debate on the role of clinical researchers, particularly when they are from affluent societies and while they conduct trials in resource scare societies. INTERNATIONAL AND REGIONAL ISSUES POSTER ABSTRACTS

P133 EXPERIENCE WITH THE USE OF A FIRST-LINE REGIMEN OF STAVUDINE, LAMIVUDINE AND NEVIRAPINE AMONG PATIENTS FROM TREAT ASIA HIV OBSERVATIONAL DATABASE

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The antiretroviral treatment combination of Stavudine, Lamivudine and Nevirapine (D4T/3TC/NVP) is frequently used in many Asian countries because the individual drugs are available as generics, and also in a convenient, combined and fixed dose formulation. Using data from TREAT Asia HIV Observational Database (TAHOD), this paper aims to describe the rate of, reasons for and factors associated with treatment cessation of patients taking D4T/3TC/NVP and to describe the spectrum of and outcome with the regimens selected after D4T/3TC/NVP switch.

Patients who started their first antiretroviral regimen with D4T/3TC/NVP were included. End points were defined as follows: treatment cessation, either stopping the D4T/3TC/NVP combination, or any addition or change of at least one drug; clinical failure, diagnosis with an AIDS defining illness, or died while on D4T/3TC/NVP treatment; virological and immunological failure: while on D4T/3TC/NVP treatment, an HIV viral load measurement of more than 400 copies/ml (at least six months after treatment was started), or three successive decreasing CD4 count (the first obtained at least six months after treatment was started).

The rate of treatment cessation was 22.3 per 100 personyears, with lower baseline haemoglobin (i.e. anaemia) associated with slower treatment cessation. Adverse effects were the major reason for treatment cessation, among which lipodystrophy was the most common. The rate of clinical failure while on D4T/3TC/NVP treatment was 7.3 per 100 person-years, with baseline CD4 count significantly associated with clinical failure. Rates for virological and immunological failure were 3.7 and 6.7 per 100 person years, respectively. After D4T/3TC/NVP was stopped, nearly 40% stopped taking any treatment for at least some period of time. Among those who changed to other treatment, the majority changed to 3TC/AZT/NVP and less than 3% patients changed to a PI containing regimen. The rates of disease progression on the second line regimen were similar to those on the first line regimen.

This study presents a real life data providing an insight into clinical practice in Asia and the Pacific region. Patients starting with D4T/3TC/NVP as their first ARV had a relatively low rate of cessation. Adverse effects were the major reason for cessation.

NURSING AND ALLIED HEALTH POSTER ABSTRACTS

P134

THE KNOWLEDGE AND FEELING OF NEW GRADUATE NURSES TO HIV/AIDS

<u>Bell K¹</u>, Boxer E¹ ¹St Vincent's Hospital, Sydney, NSW, Australia

This pilot study was initiated after a shortage of recent research on this topic was noted and anecdotal evidence indicated that nurse's had less accurate knowledge of HIV/ AIDS than in earlier studies. A convenience sample of new graduate nurses participating in the Transitional Support Program at this Hospital were interviewed and given a knowledge test at the commencement of their rotation to a HIV in-patient unit. The same tests were repeated when the new graduate nurse finished their rotation.

The (N=14) nurses were predominately on their first rotation, and had attended a range of tertiary institutions including interstate and overseas universities. They scored an average of 17.35 out of 30 on the knowledge test, with the lowest score being 13 and the highest 28.5. The respondents obtained information about HIV and AIDS through a variety of means, mostly to improve their knowledge and half of the nurses surveyed had nursed HIV patients before.

Half of the nurses surveyed expressed concern and apprehension about looking after HIV positive patients and one was very concerned about her safety.

Of the six respondents who have completed their placement of 2 $\frac{1}{2}$ months, their knowledge test scores had increased (average was 23.66 out of 30 with the lowest score being 16 and the highest score 28.5). They identified needing to know how to care for their patients as their main motivating factor. Most felt that their experience of nursing HIV patients differed from what they expected, however all felt that they were now more comfortable caring for HIV patients.

P135

ISOLATION AND DISCONNECTION: A CLIENT CENTRED FRAMEWORK OF INTERVENTION FOR PLWHA LIVING IN SYDNEY'S OUTER METROPOLITAN AREAS

Coady J F1

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For a person living with hiv/aids, being removed from the inner Sydney city environs can be difficult to connect with services, and support networks. Often, with a less defined sense of community covering a wide geographical area, the ability to engage with people in similar situations can be limited.

At the Waratah Hiv Clinic at St George Hospital, staff identified that a gap existed for such clients of their service living in the southern areas of Sydney. There is much documented evidence to highlight the holistic impacts on individual health regarding inclusion and connectedness. It was considered important to meet the needs of people living with hiv/aids to engage in social networks, endeavouring to overcome issues of isolation, disconnectedness and identification.

To meet this need, Social Work staff at Waratah Clinic initiated an informal community based social meeting group to provide client support, education, and to develop peer support, information sharing and connection. Over a twoyear period, continued growth is observed and subsequent ownership on behalf of the participants. Regular evaluation and review processes have ensured that the diverse and changing needs of the group are met, in addition to its open and inclusive nature.

P136 PEOPLE LIVING WITH HIV RESIDING IN LONG-TERM RESIDENTIAL CARE FACILITIES - NOT A PROBLEM

Curry M

While the number of reported cases of HIV and AIDS remain relatively low in the Pacific Islands countries, it is widely recognized that all the risks factors exist for an exponential HIV crisis. Papua New Guinea is one of the most affected countries in the Asia Pacific region. This workshop session will showcase UNICEF's work in 14 Pacific Island Countries and Papua New Guinea in terms of scaling up HIV prevention among young people, providing care and support for People who are living with HIV/AIDS, supporting Orphans and other Vulnerable Children and strengthening prevention of Parents-to-Child Transmission of HIV. The UNICEF New Zealand National Committee will also provide information on UNICEF global campaign for Children and AIDS.

P137 (ORAL POSTER SESSION 1 – 24/08/2005 – 17:00 TO 18:00)

PAP SMEARS IN WOMEN WITH HIV: AN AUSTRALIAN ISSUE?

Ewing M¹, Price AJ¹ ¹Albion Street Centre, Surry Hills, NSW, Australia

Papanicalou (pap) smears are recommended by the National Cervical Screening Program every 2 years for all women in Australia as a public health initiative to detect early cervical cellular changes and to prevent the development of cervical cancer. Cervical intraepithelial neoplasia, is an acquired immune deficiency syndrome (AIDS) defining condition and it is therefore clinically suggested that women with human immunodeficiency virus (HIV) have an annual pap smear.

A review of clinical data was performed of pap smears on women with HIV who attended an inner city HIV ambulatory care centre over a 2-year period. The majority of women seen were from non English speaking backgrounds and had negative pap smears despite moderate immunosuppression.

Demographics on clients include age, ethnicity, sexual history, HIV viral load and CD4 count, HIV antiretroviral treatment, pap smear result and pap smear frequency will be included. A case example of rapid progression from a normal pap smear to CIN 3 will also be presented. This poster displays the results of this clinical audit.

P138 A PROFESSIONAL TOOL - NURSES SCREENING FOR DEPRESSION IN PLWHA

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Depression has been found to be one of the most prevalent and under-treated complications of human immunodeficiency virus (HIV) infection. Research has already identified that depression has long been a health issue of people living with a chronic disease process or those diagnosed with a terminal illness. Under-treated depression in people living with HIV/ AIDS (PLWHA) can compromise medication adherence, weaken immune functioning, exacerbate chronic pain and contribute to substance use.

PLWHA access a wide variety of specialty units for their health care in either the hospital or community settings. Within these health care settings, Nurses currently initiate and perform a variety of health screenings and assessments. Nurses assessing issues that may be affecting health outcomes for the client has always been in their professional realm. Nurses are ideal to perform the initial screening for depression, as they are usually the people with whom the client has the first significant contact.

A number of depression screening tools currently exist that are used by a number of Health Care Workers (HCW). However, these tools may not be reflective of the professional relationships that Nurses have with their clients. Research has illustrated that client relationships can differ between HCW's, therefore the development of a depression screening tool needs to be reflective of these relationships.

This poster provides an outline of the process necessary to the development a depression screening tool that is reflective of the Nurses' professional relationship with their clients. Nurses would initiate the initial assessment and screening for depression symptoms along with other health assessments, in the aim of providing a holistic approach to client care. This in conjunction with providing ongoing follow-ups and referrals to other multidisciplinary team member's would enhance continuity of care and positive health outcomes across a range of health care settings.

P139

PARTICIPATION IN A SUPERVISED EXERCISE PROGRAM IMPROVES SELF-EFFICACY, CARDIOVASCULAR FITNESS AND QUALITY OF LIFE OF PEOPLE WITH HIV/AIDS

 $\underline{Fillipas}\,\underline{S}^{1},$ Oldmeadow L $B^{1},$ Bailey M J^{3} and Cherry C $L^{l,}$ $_{2,3}$

¹The Alfred, Melbourne, Victoria, Australia;² Burnett Institute, Melbourne, Victoria, Australia; ³Monash University, Melbourne, Victoria, Australia.

With combination antiretroviral therapy, HIV has become a chronic, manageable medical condition. Medication adherence is now a critical determinant of patient outcomes. Quality of life (QOL) rather than just survival has also become an important consideration in HIV management strategies. The role of non-pharmacological interventions such as exercise to improve QOL and enhance self-efficacy (the latter correlating with medication adherence) among people with HIV requires formal investigation.

We evaluated the impact of a supervised exercise program (SEP) on self-efficacy among people with HIV in a 24 week, randomised controlled trial of participation in a SEP with combined aerobic and resisted exercise (intervention) versus an individual walking program with monthly group forum (control). QOL and cardiovascular fitness were also evaluated as secondary endpoints. Twenty subjects were enrolled in each arm, and assessments were performed at baseline, 2 months and 6 months, including a Generic Self-Efficacy Scale, 1 minute heart rate response post 3 minute step test, and a validated HIV-specific QOL survey.

Self- efficacy and cardiovascular fitness improved in the intervention but not the control subjects over the study period (p<0.0001 for both). QOL also improved (8 out of 10 dimensions) in the intervention group but not in controls (0 out of 10 dimensions).

These data support the use of SEP as an important therapeutic intervention for people with HIV, with significant benefits to self- efficacy, cardiovascular fitness and QOL over six months. Importantly, these benefits were not achieved through unsupervised exercise over the same period.

P140 (ORAL POSTER SESSION 1 – 24/08/2005 – 17:00 TO 18:00)

PERIPHERAL NEUROPATHY AND LOW LEVEL LASER THERAPY – A PILOT STUDY

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Peripheral Neuropathy is a major problem in people living with HIV/AIDS. It most commonly affects the feet, the lower legs and later the hands, causing numbness, tingling and/or pain.

Studies estimate about 30% of people with HIV/AIDS experience peripheral neuropathy.

Low level laser therapy has been shown to be effective in the treatment of peripheral neuropathy in diabetics, but no research has been conducted in its use for people living with HIV/AIDS.

We conducted a small pilot study to assess the possibility of Low level laser as a treatment option in symptom relief in people living with HIV/AIDS.

The study used a crossover design and three (3) measurement tools. The Visual Analogue Scale, the SF36 Quality of Life survey and a Monofilament Test. The laser was a GaAIAs laser using an 830nm infrared probe.

Six (6) subjects completed the active treatment phase. Of those which completed the active phase, three (3) showed statistically significant improvement in their pain levels with two (2) having no change. The three (3) subjects that had improvement in their pain also showed improvement in both their physical and mental health scores on the SF 36 quality of life survey.

Initially in the active treatment phase most subjects noted some increase in their pain and sensation but this ceased after 4 treatment sessions. The only side affect noted from the treatment was some nausea post treatment lasting from 20 mins to a few hours but this had been expected.

The subjects' age, length of time they had HIV or peripheral neuropathy had no influence on whether they had symptom relief or not from the laser therapy.

This pilot study demonstrates low level laser therapy is potentially an option in helping to control the symptoms of peripheral neuropathy and further investigation is warranted.

P141 FRIENDS OF FUZEON

MacRae K

Friends of Fuzeon is an empowerment group providing an interactive forum bi-monthly for participants using enfuvirtide as part of their HAART regimen or for clients considering adding it to their HAART regimen. The group first met in September 2004 with 5 patients in attendance subsequent meetings have had participation of approximately 10.

Because injection site reactions (ISR's) were the most common side effects in the Toro phase 3 clinical studies in which study coordinators at St. Vincent's Hospital, Sydney had experience managing this important side-effect, we developed this program with the assistance of the Social Work Department. The aims and objectives of the group were to empower our patient population to make educated decisions regarding treatment, to improve injection technique, and to share individual experiences related to ISR's and to share strategies for management.

At each meeting time was allotted for education by a registered nurse or an invited guest speaker, peer to peer discussion, and a question period. Because of respect for individual differences, we did not as a group disguise the intensity or even the lack of ISR's in some participants or other related problems such as pain at injection sites. Individuals in the group agreed to undertake an evaluation of alternative topical therapies either pre or post injection to diminish injection site discomfort supplied by an accredited aromatherapy practitioner.

Participant verbal feedback has been positive in enhancing adherence, symptom control and psychological well being.

P142

JOIN THE DOT: INTRODUCING DIRECTLY OBSERVED THERAPY IN AN AMBULATORY CARE SETTING FOR ANTIRETROVIRAL ADHERENCE

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¹Albion Street Centre, Surry Hills, NSW, Australia; ²Prince of Wales/Prince Henry Hospitals, Randwick, NSW, Australia

Combination antiretroviral therapy has led to dramatic reductions in morbidity and mortality among clients with HIV/AIDS. Unfortunately, however, the complexity of medication regimes has resulted in some HIV-infected individuals not fully benefit from highly active antiretroviral therapy (HAART) due to perceived inability to adhere to medications.

Studies have shown that strategies for implementing Directly Observed Therapy (DOT) in the treatment of tuberculosis (TB) have been highly successful in reducing treatment failure, relapse and drug resistance due to adherence issues. Despite significant differences between HIV and TB treatments, various studies have addressed these challenges and found that the implementation of DOT and Modified Directly Observed Therapy (MDOT) have in fact contributed to a decrease in HIV viral load and an increase in CD4+ cell count.

Ensuring that the ongoing management of clients affected by HIV/AIDS addresses all their health care needs is a vital role for all clinician. In particular, major issues such as poor access to care, inadequate social support, physical and mental disease and drug abuse that contribute to nonadherence must be assessed so that sufficient processes can be put in to place.

The employment of DOT for identified clients antiretroviral management could be viewed as an essential component of programs to increase adherence. Part of this program and a successful outcome relies on the relationship that develops between clinicians and clients in the course of providing it and on the ability to problem solve, facilitate and empathise with the client's needs.

This poster displays the methodology of directly observed therapy and how a modified version (MDOT) implemented in an ambulatory care setting by Nursing staff can substantially enhance medication adherence and viral suppression. Achieving adherence enhances both survival and quality of life for clients affected by HIV/AIDS.

ashm2005hobart

PRIMARY CARE POSTER ABSTRACTS

P144 WITHDRAWN

P143

HIGH RATES OF EPITHELIAL DYSPLASIA IN ANAL CONDYLOMATA ACUMINATA- AN UNDERESTIMATED PUBLIC HEALTH PROBLEM-IS LOW RISK HPV REALLY LOW RISK?

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The incidence of anal cancer is rising worldwide, particularly among HIV infected men. High-grade dysplasia occurs in cervical warts, but there are few reports on the rate in anal warts.

An audit of surgically excised perianal and anal warts in patients attending the Royal Perth Hospital, Sexual Health Clinic from December 1995 – December 2004, was undertaken to study the prevalence of epithelial dysplasia. Anal and perianal warts were placed into separately labelled containers at the time of surgery. No material was discarded in theatre nor in the pathology department.

185 patients had surgery; 32 were excluded: 25 because of the lack of surgical material or absence of perianal/anal warts, 6 because of immunosuppression unrelated to HIV, and 1 because of unknown HIV status. Of the 153 remaining, 115 were males (45% heterosexual, 55% homosexual) and 38 were females. Twenty-seven males (96% homosexual, 4% heterosexual) and two females had HIV infection. Perianal and/or anal dysplasia was found in 78% (52% high-grade) of men with HIV infection, and 33% (20% high-grade) of men without HIV infection. 10.5% of women had dysplasia (5.5% high-grade). In multivariate logistic regression analysis, risk of dysplasia was increased with HIV positive status (OR 6.5, 95% CI 2.1-20.2), and homo/bisexual preference (OR3.3, 95%CI 1.3 – 8.9) independent of age, sex, and smoking.

High rates of perianal/anal dysplasia within warts in men in this audit are disturbing, and predict a substantial increase in anal cancer. These findings indicate a sub-population of HIV-infected men who are at particular risk. All HIV infected men who have sex with men should be assessed for the presence of perianal/anal warts. Scissor excision to obtain material for long-term prognostic purposes should be promoted as a treatment and may reduce the risk of cancer.

PUBLIC HEALTH AND PREVENTION POSTER ABSTRACTS

P145

BRIEF NUTRITION INTERVENTIONS IN NEEDLE AND SYRINGE PROGRAMS

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Needle and Syringe Programs (NSPs) have a primary role in harm minimisation and also provide a direct opportunity for People who Inject Drugs (PWID) to obtain information and resources on health related matters. People at risk of or infected with Hepatitis B/C infection (HBV/HCV) or Human Immunodeficiency Virus (HIV) may not attend conventional medical care whilst still using drugs. There are many barriers to attending such services, including fear of stigma and discrimination and also priority. However, this does not imply that PWID do not want or have the capacity to care for themselves.

Brief interventions in the NSP setting can be useful for staff to facilitate positive health outcomes, using a variety of topics, such as vein care, testing for blood born viruses, promotion of HBV vaccinations and nutrition or weight monitoring.

A pilot health promotion project was initiated by Albion Street Centre (ASC) staff following anecdotal evidence suggesting that PWID who accessed the ASC NSP, showed interest in their health status. PWID are a population at risk of poor nutritional status, due to drug-induced anorexia, changes in dietary patterns, and food preferences. It was noted that many of the ASC NSP clients requested to weigh themselves when attending to collect clean injecting equipment. Further consultation with PWID, showed interest in weight, self-image and nutrition.

Nutritional status can affect the progression of HIV and chronic Hepatitis C and impact on quality of life. It has been suggested that the most effective method of providing dietary intervention to PWID is through existing contact with NSP workers. Identifying clients at risk for malnutrition and intervening early with nutritional strategies may improve health outcomes and quality of life for clients accessing NSPs.

This project aimed to develop a model for integrating brief nutrition interventions into NSPs to motivate clients to consider their diet and health.

In this poster we describe some of the data collected on nutritional status, health concerns, resources developed and the limitations and recommendations for providing brief nutrition interventions in a NSP setting.

P146 HEALT

HEALTH, LIFESTYLE AND NUTRITION NEEDS OF PLWHA IN METROPOLITAN SYDNEY

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Nutrition intervention programs are an integral part of the total health management for PLWHA in order to improve overall health outcomes. The complex health needs of PLWHA need to be identified and updated regularly to enable the most effective program planning. The last nation-wide needs assessment survey for PLWHA was the 'HIV Futures III' survey. This survey was not specific to individual area health services within NSW. In order to determine the health issues relating to PLWHA living in metropolitan Sydney the dietitians from the Nutrition Development Division at the Albion Street Centre conducted a 'Health and Lifestyles' needs assessment survey in 2004.

The aim of the 'Health and Lifestyles' needs assessment survey was to identify current health, and nutritional needs of PLWHA in Sydney in order to develop and implement appropriate nutrition intervention programs.

A total of 146 participants completed the survey. Health conditions of concern to respondents other than their primary diagnosis of HIV, included mental health, dental problems / gum disease, problems with sexual function, weight management and cardiovascular disease.

Most respondents reported using health products, such as vitamin and mineral supplements. A quarter were seeking complementary therapies, mainly for pain relief and stress management. About 60% of participants had some difficulty affording food. The dietary intake data showed mean macronutrient intake was lower than the Australian population, however the proportion of saturated fat intake was significantly higher. Respondents had a lower than recommended intake of zinc and fibre.

In this poster we describe the dietary and lifestyle issues reported by PLWHA and describe some recommendations for health promotion programs for PLWHA in Sydney.

P147 DEVELOPMENT AND EVALUATION OF AN INTERACTIVE ONLINE HEPATITIS C EDUCATIONAL ACTIVITY FOR SECONDARY SCHOOL STUDENTS

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The "What is this hep C thing?" project was developed in response to an awareness that although large numbers of young Victorians are at risk of becoming infected with hepatitis C, they exhibit an alarming lack of knowledge about the virus including its transmission. The project worked creatively within the socio political constraints of schools and their broader environments to produce an engaging and meaningful quality web site activity that educates young people about hepatitis C. The project was funded by the Victorian Government, Department of Human Services under the Victorian Hepatitis C Strategy 2002 -2004.

The development of the interactive online activity involved a focus group of year nine and ten secondary school students and a reference group of 'experts' in the education, health and hepatitis C sectors. In conjunction with website designers, the students participated in the development of the storyline, visual appearance of the characters and design of the site.

The evaluation of the project utilized a range of methodologies. The evaluation aimed to determine the suitability of the educational model for young people, its effectiveness in raising hepatitis C awareness and in decreasing discrimination.

P148 BEATING CRIME – IT'S GOOD FOR HEALTH

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The WA AIDS Council (WAAC) have been involved for many years in HIV education and prevention outreach interventions targeting men who use 'Beats' - a colloquial term for public environments, where men who have sex with men meet for sexual or social purposes. This important work has been hampered by police and local governments whose aim is to respond to community complaint by eradicating Beat use through the use of threats, charges and harassment. Despite this, Beat use continued. In addition, Beat users were often the victims of crime by community members which went largely unreported because of fear of exposure and discrimination and poor relationships with the police.

The Beat Crime Prevention Project was a partnership between the WA AIDS Council, the WA Police Service and Local Government Authorities, moving from conflict to partnership in the approach to Beat environments. Focusing strongly on achieving both Public Health and Crime Prevention outcomes, the project undertook a process of building common understandings and goals to address Beat behaviour in public spaces; crime directed at Beat users; community anxiety; appropriate use of police and local government resources whilst delivering HIV prevention education.

The Project used a mix of professional development for police officers and local government officers; creating safer physical environments (using the 'Crime Prevention through Environmental Design' model); social marketing; harm reduction, referrals and direct outreach.

Outcomes included changes in Beat behaviour; increase in the reporting of violence at Beats; reduction in community complaints; and new collaborative roles for the organisations such as WA AIDS Council being involved in the design of park and toilet facilities; and ongoing training being conducted with new police recruits.

The ongoing need to urge Beat users to report crimes remains a priority and the avenues established through the partnerships with the stakeholders will enhance this process. Emerging challenges relate to incorporating environmental awareness where activity at Beach Beats has contributed to the vegetation and dune degradation.

P149 HIV IN VICTORIA'S AFRICAN COMMUNITIES

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Background: Although people born in Africa represent a small proportion of all notified diagnoses of HIV in Australia, important differences exist between this group and the majority of Australians living with HIV. The diagnosis of HIV infection is often made a late stage of the illness, and the mode of transmission is predominantly heterosexual. The specific circumstances of HIV acquisition are often unclear. African-born people with HIV are often reluctant to disclose their diagnosis to people from the same ethnic or cultural group, fearing discrimination and stigma; this may limit the availability of community social support. They may not be aware of existing HIV support services, and these services may not provide them with optimum support, due to cultural or linguistic barriers. In Victoria, 92 male and 54 female individuals have been notified to the state HIV registry since 1985. Of these, 45 people were born in Ethiopia, 90 in other southern or eastern African countries, and 11 in northern, western or central Africa.

Aims: To identify the factors that expose African Australians to risk of infection with HIV, and impede timely diagnosis; to describe the barriers faced by African Australians with HIV in gaining access to social support; and to explore potential means of providing Australia's African communities with accurate, relevant, culturally appropriate information about HIV.

Methods: (1) A case series is being undertaken, of Africanborn residents of Victoria living with HIV. A questionnairebased interview will explore aspects of HIV acquisition, diagnosis, use of services, access to support and access to information. (2) A series of key informant interviews, focus group discussions and surveys of various African communities in Victoria, will explore knowledge, attitudes, behaviour and sources of information related to HIV and sexual health.

We outline the development of this research project, and discuss the issues that have arisen in conducting research with culturally and linguistically diverse communities, about such sensitive issues. Preliminary results of the case series and community interviews will be presented. We will discuss the current international literature about HIV infection among African migrants to industrialised nations, and its relevance to the Australian situation.

P150

VOLUNTARY COUNSELLING AND CONFIDENTIAL TESTING ... A NECESSARY EVIL IN HIV POST EXPOSURE PROPHYLAXIS?

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The objective of the study was to establish factors mediating uptake, use and non-use of HIV/AIDS post exposure prophylaxis (PEP) among health care workers occupationally exposed to HIV infection within hospitals in Nairobi province, Kenya. Subjects were 180 male and female health care workers perceived to be occupationally exposed to HIV, among them nurses, physicians, laboratory personnel, surgeons and dentists. These were from Kenya's leading national referral hospital (Kenyatta National Hospital, 58%), one of the leading private health providers (Aga Khan Hospital, 26%) and a leading public district hospital (Mbagathi Hospital, 16%). Survey data was analyzed both qualitatively and quantitatively. Results indicate a battery of impediments to the uptake and utilization of PEP, which included a low perception of risk of infection after occupational exposure, fear of the consequences of a possible HIV infection, fear of stigmatization and discrimination, unaffordability and overall unfavorable attitudes toward PEP. However, the main hindrance identified was fear of HIV testing, a mandatory first step and requirement for post exposure prophylaxis. This indeed is a call to rethink the entire issue of voluntary counselling and HIV testing (VCT) in the necessary PEP as a first step in the war against the word's most devastating pandemic.

P151 MILD SPERMICIDAL, RETRO-VIRUS AND TARGET CELL TRANSFER INHIBITION EFFECTS BY COMMERCIAL PERSONAL LUBRICANTS

Whyte P1

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The failure of the Nonoxynol-9 microbicides at the 3rd level of clinical study, possibly due to the disruption to the vaginal wall and the opening to infection that occurred, has lead to more caution in microbicide development.

The study of known non-irritating personal lubricants found to have mild microbicidal properties has permitted a more cautious path to the development of commercial personal lubricant microbicides, since safety is already known from many years of use with these ingredients and products already in wide-spread use. The addition of claims of microbicidal properties only follows clinical trials that prove effective STD transfer or conception inhibition. This approach, when monitored by appropriate research, is hoped to increase the background factors that may slow the spread of retro-virus pandemics and unwanted pregnancy.

The development of such products will be discussed and the invitro results presented for activity against two common retro-viruses, target cells and sperm, for a typical example of a range of products currently in wide spread sale in Australian wholesale and retail outlets. The recorded irritation rates will be discussed.

Due to the requirements of the Australian Therapeutic Goods Amendment (Medical Devices) Act 2002, trade names of products will only be given to appropriate professionals and researchers but not to end users. Collaboration is requested so the clinical studies & trials needed to prove efficacy against common retro-viruses or for non-irritating spermicides may be organised.

Over 100 tonnes of personal lubricant has been used in the Australian market over the last year with these mild microbicidal properties. This is expected to rise to about 115 to 125 tonnes in the current year (04/05)(total Australian personal lubricant est. 250 tonnes). This may represent the largest release per capita of mild microbicides in commercial personal lubricants into a population in any part of the world to date. Any changes in the patterns of common retro-virus transfer rates should be studied.

SOCIAL RESEARCH POSTER ABSTRACTS

P152

HEPATITIS C AND INJECTING-RELATED DISCRIMINATION IN NEW SOUTH WALES

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Hepatitis C-related discrimination is reportedly common however few studies have investigated this phenomenon. This paper presents findings from a cross-sectional study of people with self-reported hepatitis C virus (HCV) infection (N=504) conducted in New South Wales (NSW), Australia throughout 2001 and 2002. Participants completed a selfadministered questionnaire enquiring into their experience of living with HCV. Over a half of participants (57.5%, n=290) reported that they had acquired their infection from injecting drug use. Discrimination was reported by 64.7% (n=326) of participants and health care was the most commonly reported site where discrimination occurred. A logistic regression identified the predictors of any discrimination as: knowing many other people with HCV infection; feeling tired due to HCV symptoms; and being younger (<51 years). Predictors of higher levels of discrimination were: knowing many other people with HCV infection; being limited in the time spent with family, friends, neighbours and groups due to HCV; and feeling pessimistic about HCV treatment and the future because of HCV-related ill health. Although discrimination occurred in a range of social domains, effort is needed to improve healthcare workers' service delivery to people with HCV. Continued discrimination may inhibit people from seeking a range of health services and impede efforts to contain the epidemic.

P153

FACTORS DISTIGUISHING EMPLOYED FROM UNEMPLOYED IN THE POSITIVE HEALTH STUDY

 $\frac{Fogarty \ A \ S^{1}}{Kippax \ S^{1}}, \ Rawstorne \ P^{1}, \ Prestage \ G^{2}, \ Grierson \ J^{3}, \\ Kippax \ S^{1}$

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This paper considers the factors which distinguish HIVpositive men employed in the workforce from HIV-positive men who are not employed. Data were drawn from the Positive Health study, a longitudinal cohort of people living with HIV/AIDS (PLWHA) in NSW and VIC and included 330 homosexually identified men interviewed between February and August 2004.

Univariate analyses focussed on self-reported mental and physical health, quality of life, treatment status, viral load, CD4/T-cell count, activities limited by health, as well positive community participation and a range of demographic factors. Logistic regression was used to examine distinguishing factors. Income was excluded from the analyses owing to its tautological relationship and high correlation with employment.

Of 330 participants, 198 (60.0%) were employed in the workforce and mostly reported professional occupations, while the majority of unemployed PLWHA reported pensions as their main source of income.

At a univariate level, PLWHA who were not employed were significantly more likely to report opportunistic infections in the past year (22.7% vs. 8.1%), lower CD4/T-cell counts, a mental health condition (27.5% vs. 12.1%), poorer self-rated health with 28.2% rating their health as fair or poor; poorer quality of life, a longer time since diagnosis with HIV (13.9yrs vs. 11.6yrs). They were less likely to be formally educated (31.8% vs. 44.4%) and had greater participation rates in positive community than employed PLWHA. There were no differences in viral load, use of complementary therapies, or choice of key doctor.

Multivariate logistic regression showed that unemployed PLWHA were significantly older and were less likely to have had a tertiary education. They were significantly more likely than employed PLWHA to report opportunistic infections, a diagnosis of a mental health condition in the past year, and limitations to daily activities due to their health. Employment was related to feeling well, with unemployed PLWHA rating their health worse than employed PLWHA. However, while illness may be more of an issue for many unemployed PLWHA, their high level of engagement with positive community suggests the importance of community organisations for PLWHA.

P154 WOMEN AND HEP C: WHAT HAS SEX GOT TO DO WITH IT?

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This poster outlines a project aimed at examining women's narratives about their lived experience of hepatitis C (HCV) and its relation to their sexual and reproductive histories. The impact of the HCV epidemic on women has not been well documented despite the increasing number of young Australian women contracting the virus. Gender-specific understandings of the epidemic are ever more essential. In particular, the small amount of gendered research available shows that sexual and reproductive health is an issue for women with HCV who express concerns about pregnancy, relationships and mothering and report low levels of contraceptive use. This suggests that women's roles as sexual partners and mothers may be affected by their HCV status and the wider social impact of living with HCV.

This study aims to further investigate Australian women's lived experience of HCV in relation to sexual and reproductive health though in-depth interviews about sexual and reproductive histories, access to and experience of healthcare, and relationship status.

P155

TRENDS IN UNPROTECTED ANAL INTERCOURSE AMONG SYDNEY GAY MEN

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The Gay Community Periodic Surveys conducted since 1996 in Sydney have indicated significant increases in unprotected anal intercourse (UAI) among gay men.

Repeated, cross-sectional surveys were conducted using anonymous, self-complete questionnaires with recruitment at large gay community events, gay social and sex-onpremises venues (SOPV), and clinics.

The table shows for each year, the number of men with regular partners, by seroconcordance, and with casual partners, by type of recruitment site, and the proportion who engaged in any UAI in the six months prior to survey. There were significant upward linear trends for UAI with regular partners regardless of seroconcordance (p<.001), and with casual partners, regardless of where they were recruited (p<.001). These trends appear to have stabilised for UAI with regular partners who were not seroconcordant. The trends have also stabilised for UAI with casual partners among men recruited through most sites but have declined among men recruited at SOPVs.

| | | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------------|-------|------|------|------|------|------|------|------|------|------|
| Regular | | | | | | | | | | |
| Seroconcordant | n | 677 | 815 | 847 | 1032 | 865 | 857 | 885 | 717 | 833 |
| | % UAI | 57.6 | 57.7 | 64.3 | 64.2 | 67.4 | 69.0 | 70.7 | 70.7 | 68.9 |
| Not concordant | n | 418 | 423 | 539 | 571 | 468 | 489 | 430 | 360 | 342 |
| | % UAI | 28.9 | 35.7 | 38.2 | 39.6 | 40.4 | 44.2 | 46.7 | 44.4 | 47.7 |
| Casual | | | | | | | | | | |
| Fair Day | n | 822 | 703 | 780 | 876 | 732 | 845 | 922 | 662 | 694 |
| | % UAI | 12.7 | 19.1 | 18.8 | 20.8 | 23.0 | 27.7 | 25.8 | 30.1 | 28.0 |
| Clinics | n | 266 | 416 | 510 | 441 | 509 | 371 | 226 | 219 | 245 |
| | % UAI | 21.8 | 24.3 | 26.7 | 30.2 | 36.1 | 45.8 | 44.2 | 40.6 | 44.5 |
| Social venues | n | 218 | 235 | 339 | 416 | 436 | 452 | 415 | 430 | 628 |
| | % UAI | 14.2 | 22.1 | 28.0 | 24.0 | 33.0 | 33.6 | 36.9 | 30.9 | 34.2 |
| SOPVs | n | 542 | 578 | 658 | 617 | 445 | 430 | 499 | 468 | 380 |
| | % UAI | 22.1 | 33.4 | 26.4 | 33.2 | 39.1 | 41.6 | 43.1 | 34.6 | 27.9 |

The apparent reversal of the trend in UAI with casual partners among men recruited through SOPVs may reflect the specific attention paid to interventions among these men in recent years and suggests that some gay men will modify their sexual behaviour to prevent HIV transmission. P156

STUDY OF PREVALENCE OF CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE BY MULTIPLEX PCR AMONG HIV POSITIVE INTRAVENOUS DRUG USERS IN DELHI AND ASSOCIATED HIGH-RISK BEHAVIORS

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No authentic data is available in country as best to our knowledge that highlights risky sexual behaviors of HIV positive IDUs responsible for contracting CT/NG infection. The study was taken up to determine the prevalence of CT/NG in this group and related risky factors. A crosssectional study among 290 HIV positive Participants (150 IDUs & 140 non-IDUs), aged between 18-34 years was carried out between Dec 2003-July 2004. First-void urine specimens were tested by multiplex PCR technique to detect CT/NG infection. Univariate association between sexual and substance use behaviors with STD occurrence were assessed using Chi-squre/ Fisher's exact test. Multivariate associations with the STD rate were assessed with logistic model.

The prevalence of CT, among injectors and non-injectors were found 8.7% and 4.3%, respectively. Similarly, prevalence for NG, among above groups were 14.7% & 6.4%, respectively. Rate of co-infection was higher among IDUs (2.7%) than non-IDUs (0.7%). Co-infection was found exclusively in heterosexuals and more likely in individuals of intermediate stage. The factors found significant that place IDUs at highrisk for contracting STDs: multiple sexual partners (O.R. 1.60; 95% CI; 1.23-2.08), unmarried or divorcee (O.R. 1.77; 95% CI; 0.98-2.08). Inconsistent use of condom (O.R. 2.95; 95% CI; 1.72-5.04), habitual alcohol intake (O.R. 1.59: 95% CI: 0.80-1.98), sex under the influence of drugalcohol (O.R. 7.25; 95% CI; 4.30-12.22) and present STD symptoms (O.R.1.42; 95% CI; 0.88-2.29). The results show that Sexually active IVDUs are at high-risk for acquisition or transmission of STIs because of risky sexual behaviors following drug abuse. So it is logical to include management of STIs in programs targeting drug abuse. Stress should be laid on safer sex (use of condom).

P157

ASSOCIATION BETWEEN RISK OF ACQUIRING HIV AND BELIEFS AND PERCEPTIONS ABOUT THE LIVED EXPERIENCE OF HIV/AIDS AMONG HIV-NEGATIVE OR UNTESTED MEN WHO HAVE SEX WITH MEN

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The study aim was to assess whether the sexual behaviour of HIV-negative men who have sex with men (MSM) was related to their perceptions of what it is like to live with HIV/AIDS, their beliefs or their attitudes to highly active antiretroviral treatments (HAART). HIV-negative MSM attending Melbourne Sexual Health Centre, between February and August 2004, were asked to complete a questionnaire assessing issues relevant to the study aims. Any unprotected anal intercourse (UAI) with casual partners was used as the sexual risk indicator.

The study enrolled 261 participants. A significant proportion of participants reported unprotected insertive (30% and 26%) or receptive anal sex (28% and 20%) with both regular and casual partners respectively. There were no significant differences between beliefs, attitudes and perceptions about HIV/AIDS, knowledge of PEP or exposure to the HIV/AIDS epidemic among those who had had UAI with casual partners and those that had not (P>0.12). Those who considered that low levels of viral load and withdrawing before ejaculation reduced the risk of HIV transmission or were significantly more likely to have had UAI with a casual partner (P=0.03). "Treatment optimism" among HIVnegative MSM did not play a major role in engaging in UAI with casual partners.

P158 IS A CULTURALLY AND LINGUISTICALLY DIVERSE BACKGROUND A RISK FACTOR FOR LATE DIAGNOSIS WITH HIV INFECTION?

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Late presentation with HIV, for the purposes of this study is defined as presenting with CD4 counts <200 or an AIDSdefining illness. This paper focuses on current clients of the Liverpool Sexual Health Clinic living with HIV infection and compares the dynamics of patients presenting late against others.

All patients at the Bigge Park Centre at Liverpool Hospital for whom there is clinical data at time of diagnosis are eligible for interview during one of their follow-up visits. Using a structured survey instrument, data on reasons for delaying testing, disclosure of HIV status, and general attitudes relating to HIV/AIDS in ethnic communities (if appropriate), as well as general demographic information, are being collected. After the interview, this data is linked to participants' HIV-related clinical data in order to assess whether they were late presenters.

To date, 46 interviews have been conducted .Of these, 24 were late presenters and 15 had an AIDS-defining illness. Compared with the profile of HIV infection in Australia, the group as a whole is more likely to be heterosexual, female, older and born outside of Australia. The late presenters are a diverse group in terms of sexual identity, age, marital status, and education. Slightly more were born in the Asia/ Pacific region compared with those who did not present late. Preliminary analysis indicates that most participants were diagnosed more than five years ago. Although most of the late presenters (as well as of the remaining participants) were Australian born, there were significantly more participants born in Asia/Pacific countries among late presenters. Participants who were born in developing countries in the Asia/Pacific region were less likely to disclose their HIV status and were more likely to perceive discriminatory attitudes in others than participants who were born in 'developed' countries. There were few other differences. The majority were tested because a doctor suggested it or because they were hospitalised. The majority indicated that they did not expect a positive result. The majority also believed that they were infected in Australia.

Although the sample is small and diverse, there is reason to believe that stigma and discrimination may well be issues particularly relevant for people born in Asia/Pacific countries, which may contribute to late diagnosis because people do not perceive themselves at risk of HIV infection.

P159

"LOOK, I'M FIT, I'M POSITIVE AND I'LL BE ALL RIGHT, THANK YOU VERY MUCH": COPING WITH HEPATITIS C TREATMENT AND UNREALISTIC OPTIMISM

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Hepatitis C treatment is known to produce significant physical and psychiatric side effects. Health professionals in hepatitis C treatment clinics focus on preparing people to cope with these side effects and offering medical, practical and emotional support once side effects become apparent.

Judging oneself to be less at risk of negative events has been termed unrealistic optimism (UO) and there is divergent opinions discussing UO as contributing to risky health practices and delaying in seeking help or facilitating coping with negative events. The role of UO in coping with the side effects of hepatitis C treatment has not been previously explored.

Data from semi-structured interviews with 20 people undergoing combination pegylated interferon and ribavirin treatment at three clinics in the Sydney area for hepatitis C were explored for the presence of UO in their narratives and also the impact that this had on their processing of information pre-treatment and management of side effects during treatment.

Participants in this study did narrate examples of unrealistic optimism in their approach to coping with hepatitis C treatment side effects. UO was evident in participants' accounts of immediately dismissing pre-treatment information about side effects as irrelevant to them, being 'blasé' about possibilities of side effects and making judgements of future vulnerability based on past experience (I've never had depression, so I won't have any trouble with it). Some of these participants described delays in seeking help for these unexpected and unanticipated side effects.

Evidence for UO beliefs and orientations were found in some participants' transcripts, including delay in helpseeking for side effects of hepatitis C treatment. There are divergent opinions in the literature concerning the aetiology and strategies to address UO. However, data from this study will contribute to an understanding of UO and its impacts on experience of hepatitis C treatment side effects, patients' coping styles and impact on the social support available to the patient. This understanding will contribute to the range of tools available for health care professionals to assist individual patients in coping with hepatitis C treatment side effects.

NOTES

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